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EXC - World Bank documents Samples on management and operations - Audit and Evaluation Reports

VI. Audit & Eval.Repor
Botswana--Colombia

VI. AUDIT REPORTS, EVALUATION REPORTS

Audit Reports and Evaluation Reports are written by the Operations Evaluation Division of the Bank, a division without operational status. Project evaluations are, therefore, made by those who have had no hand in the design of the project. Similarly, the division is responsible to a Bank vice president who has no operational authority. Audits of a selected sampling of projects -- to audit them all would be too costly -- occur approximately five years after loan disbursements are completed.

> A Bank Audit compares the targets and projections contained in project appraisal reports with actual performance to see if the appraisal objectives were attained. If they were not, the report asks "why not?," and attempts to find out if the deficiencies were due to the project itself.

> Evaluation Reports contain a deeper analysis of the contribution to development made by the project and by the Bank in its support of the project. The report seeks more to answer the question "Were the objectives correct and might they have been improved upon?" than to find the answer to the question "Were the objectives attained?".

As examples, one Audit Report -- the Botswana Highway Project (Report dated April 6, 1973) -- and one Evaluation Report -- Bank Operations in Colombia (Report dated May 25, 1972) -- are incorporated here.

Botswana First Highway Project (Audit Report)

This document is unusually well-written, and the findings are all reported in language remarkable for its crystalline qualities.

A summary of the findings may be found on pages 2, 3, 20, and 21.

Bank Operations in Colombia (An Evaluation)

The central purpose of this book-length report is stated on page ii of the transmittal letter from its author to Mr. McNamara. It was --

> "to assess the contribution of the Bank Group, as a whole, to the development of Colombia, and to consider how it might have been more effective than it was, with a view to learning lessons for the future."

The report is a fascinating document, free from self-serving cant, and free with sharp self-criticism. Importantly, it also contains suggestions for improvements in Bank Group operations -- not only in Colombia, but elsewhere.

On the inside cover of the study is printed --

> "Suggestions to the Reader ... who has not more than an hour or so."

What Went Right, What Went Wrong

> "... the Bank has made important contributions with regard to Colombia's fiscal performance (and its) balance of payments and administration and organization in certain areas."

Nevertheless, the report states (page 31) that:

> the Bank's "contribution in other fundamental issues -- domestic resource development and participation in the development effort -- seems, with a few exceptions, disappointing, and perhaps below what could have been accomplished with greater effort and more persistence."

This disappointment, the Report goes on to say,

> is "understandable in historical perspective and remediable."
> (Page 33.)

Remedial steps are outlined on pages 183-194.

Follow-Up

What happens to an Evaluation Report once it is written?

Copies are distributed to all concerned -- operational as well as nonoperational -- departments. They must react to the document's thrust -- by agreeing with comments or disagreeing. Within 12 to 18 months, the concerned departments must detail what they are planning to do about the Evaluation Report's recommendations. The Operations Evaluation Department then summarizes for the Bank management those measures other departments have agreed to take to comply with the report's recommendations.

Some recommendations in the Colombia Report are relevant only to Bank activities in Colombia -- or to other countries in South America. Others -- in the area of attitudes toward land distribution, for instance -- may be of world-wide relevance. In this case, the issue is taken up by the Bank's Policy Planning and Program Review Department for full-scale review.

INTERNATIONAL BANK FOR
RECONSTRUCTION AND DEVELOPMENT
WASHINGTON, D.C. 20433, U.S.A.

OFFICE OF THE PRESIDENT

CONFIDENTIAL

SecM73-187

April 6, 1973

MEMORANDUM TO THE EXECUTIVE DIRECTORS

Audit Report on Botswana First Highway Project

I attach, for information, a copy of a confidential report entitled "Audit of Botswana First Highway Project". This audit of an individual project is the fourth of its type produced by the Operations Evaluation Division of the Programming and Budgeting Department and follows the one which I forwarded to you with memorandum SecM73-25 dated January 12, 1973.

Robert S. McNamara

Distribution:

Executive Directors and Alternates
President
Senior Vice President, Operations
Vice Presidents, Bank, and Officers of IFC
Directors and Department Heads, Bank and IFC

Report No. 115

CONFIDENTIAL

INTERNATIONAL BANK FOR RECONSTRUCTION AND DEVELOPMENT

AUDIT OF BOTSWANA FIRST HIGHWAY PROJECT

April 5, 1973

Programming & Budgeting Department
Operations Evaluation Division

PREFACE

This study, dealing with the Botswana First Highway Project (IDA Credit 63-BEC to the former UK Protectorate of Bechuanaland), is the fourth in a series of individual project audits being carried out currently by the Operations Evaluation Division. Audits are intended to focus principally on the question: were the principal objectives of the project attained and, if not, why not? Because of the particular nature of this highway project in Botswana -- its close interrelation with the livestock industry and its importance as a major component of the country's development effort -- the scope of this audit, in terms of the subjects treated, is somewhat wider than in the previous similar studies.

Projects are chosen for audit on a random basis. The procedure followed by the Division in its current work program is to cover Bank/IDA projects for which disbursements ended in FY1968. The interim period of five years is considered adequate for the project's outcome to be fairly fully visible, although part of the benefits should still be in the future.

To prepare the audit relevant Bank files and documents were briefly reviewed and the project was discussed with staff who had been involved. A 10-day mission to Botswana was undertaken to update data and to gather impressions about the project from different sources in the country.

The valuable assistance provided by the Botswana Government is gratefully acknowledged.

Note: Currency Equivalent:

1964 - 1971:	R 1.00 = US$ 1.40
Jan.-June 1972:	R 1.00 = US$ 1.33
June-Dec. 1972:	R 1.00 = US$ 1.28

SUMMARY

In August 1964, IDA granted the UK Protectorate of Bechuanaland a US$ 3.6 million credit to help finance a US$ 4.6 million highway project comprising the construction of three roads (Francistown-Maun, Palapye-Serowe and Gaborone-border), betterments on the main North-South road and strengthening of the maintenance organization. The project took more than four years to prepare because the first proposals required considerable revision, and financing for the local component of the project was hard to raise. During project preparation the Bank made an important contribution in promoting a reduction in road standards to levels more suitable to the needs and resources of the country, and in helping to select the roads that appeared to have high priority.

The final cost of the project was only 1.3% higher than the original overall estimate, and almost all of the works originally envisaged were accomplished. Large overruns on a few roads were compensated by savings on other items and minor reductions in the maintenance and training program. Project completion was delayed about one year but most of the works were ready with only a few months delay. The reasons for delays and cost overruns were the unsatisfactory performance of one of the contractors and insufficient supervision by the Public Works Department; the latter was overburdened by the sudden increase in activity due to the project. The maintenance program was implemented on time without overruns and achieved all its major purposes.

Although traffic and economic returns on all roads have been rather lower than expected in the Bank's appraisal, improvements accounting for some 60% of total project costs seem to have yielded reasonable benefits relative to costs, and the maintenance program (15% of total project) was clearly worthwhile. Minor cost savings might usefully have been made in a few of these works by further reduction of standards. The roads from Palapye to Serowe and Gaborone to border, together accounting for 25% of total project costs, yield very low returns and should probably have been postponed a few years.

The trans-Kalahari road between Francistown and Maun is the largest single item in the project, accounting for more than two-fifths of total costs. It is included in the 60% which has yielded reasonable benefits, but results have been disappointing compared with expectations. It was successfully built at low cost; a major portion of this road is one of the cheapest, if not the cheapest, stretches of highway ever financed by the Bank (US$ 5,300 per mile). The road was supposed to have a large impact on livestock activities, by inducing trucking instead of trekking to the railhead at Francistown and by promoting modernization in production techniques. This change has not materialized and livestock is still trekked. The main reasons for the lack of impact are the existence of quarantine

camps to prevent foot and mouth disease, which makes trucking uneconomic, inadequate transport facilities and the lack of interest of small cattle owners in trucking.

Most of the roads, especially the Francistown-Maun one, had an important effect in reducing transport costs and providing all-weather connections in large sections of the country. However, most of the benefits seem to have been retained by traders and did not reach the final consumers and producers.

The new roads had a reduced development impact, because their influence on livestock, which is the main economic activity in the country, was very limited. Ngamiland, the area around Maun, which was for the first time connected to the rest of the territory with an all-weather road, has remained largely unchanged and some of the new developments in the region are not much related to improved transport. However, one effect of the project, difficult to quantify but apparently very important, was to facilitate the administrative and social integration of the country by simplifying contacts among regions and permitting a better performance of the new Government at Gaborone.

The outcome of this project reaffirms the need for a close examination of the interactions between transport and the productive sectors, in this case, livestock. The results of the study suggest that, in terms of broader regional development objectives for Ngamiland, an action program in livestock had a higher priority than investment in the Francistown-Maun road. Also, the large importance of the project in the country's development program required a more explicit consideration of fiscal considerations and of the allocation of resources among sectors. Finally, the capacity of the Public Works Department seems to have been a limiting factor; a project implemented over a longer period would have prevented sudden changes in activity and perhaps had a more significant institution-building effect.

AUDIT OF BOTSWANA FIRST HIGHWAY PROJECT

Background: History and Negotiations

On August 3, 1964 IDA granted the UK Protectorate of Bechuanaland a US$ 3.6 million credit for highway development (Credit 63-BEC). The objective of the credit was to finance the foreign exchange component of a project with a total cost of US$ 4.6 million equivalent and comprising the construction and reconstruction of three roads totalling 355 miles, the betterment of the main North-South road (418 miles), and the strengthening and expansion of the maintenance organization (see map at end of text). Neither the appraisal report nor the supporting documents mention an expected pattern of work completion or a disbursement schedule, but the project as a whole was to be completed by the middle of 1967.

The gestation of this project, from the time when the Bank[1/] was first approached until the credit was signed, took more than four years. This delay is understandable if we take an appropriate historical perspective. Bechuanaland, though a British protectorate since 1919, was intended eventually to become part of the Republic of South Africa. The decision not to proceed with this plan but to grant Bechuanaland independence was taken only in the late 1950s; the country became independent in September 1966. The consequence of political uncertainty in the interim was a relative neglect of the Protectorate by both the United Kingdom and South Africa. The territory remained largely undeveloped except for a few enclaves of European settlement. Even the capital was outside Bechuanaland, in Mafeking, South Africa.

Thus, when the Bank was first approached by the United Kingdom to assist in the development of the Protectorate it was faced with the absence of a development program from which to select projects, a skeleton civil service insufficient to prepare and implement complex investments, and great uncertainties about the possible sources of local financing and about the UK contribution to finance the local component of a project.

The Bechuanaland Government, aware of these factors, promoted a general survey mission of the country in July 1959, headed by Professor C. Morse of Cornell University.[2/] The Bank assumed no financial responsibility for

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1/ "Bank" refers to World Bank Group. The Bank was first approached for a loan, but IDA finally granted the credit.

2/ Basutoland, Bechuanaland Protectorate and Swaziland. Report of an Economic Survey Mission. HMSO, London 1960.

this mission and limited its assistance to nominating Professor Morse and two other members. The mission did not propose a clear economic policy for the country, but it did point out the main action areas, which were livestock and infrastructure,[1/] and provided the basis for project selection in both sectors.

In helping define the scope of the highway project and in advising during its preparation, the Bank made probably its biggest contribution, more important perhaps than the financial resources eventually provided. The highway project proposal stemming from the Morse report was composed of a series of road stretches scattered throughout the territory. The Bank considered that not all the roads included were of high priority, that the standards were too high given the expected traffic and the resources available to the country, and that the cost estimates and technical feasibility studies were very crude. Between spring 1961, when the first appraisal mission took place and October 1963, when the project took its final shape, it was modified at least three times. In the process, several road stretches of low priority, such as a trans-Kalahari road in the southern part of the country, were eliminated. Design standards were considerably reduced and consultants were used to prepare the technical feasibility in difficult sections such as that from Maun to Nata. Finally, a provision was added to improve maintenance standards.

The long negotiations related to the UK contribution to the local cost component of the project were an important reason for delay in the gestation of the project. In the first stages of the process, the Bank wanted about 20% of the total cost of the project to be financed locally, but the Bechuanaland Government had no resources of its own to speak of and the UK wished to keep its contribution to a minimum. The situation took a dramatic turn in August 1963, when the UK decided to cut its development aid to Bechuanaland to one-third of what it had originally pledged. The project had to be modified to adapt it to the new financial constraints and it took some time before the exact amount of the UK contribution became clear.

While it is unlikely that more active participation by the Bank could have shortened these delays, it is surprising that the Bank did not fully reappraise the project again after the 1961 appraisal mission, in spite of the many changes accepted. Bank staff did visit Bechuanaland twice before the signing of the credit, but they were concerned mainly with engineering problems and the updating of some of the economic data.

1/ The mission did not emphasize education, a sector which even at that time was considered crucial by the government authorities.

The Project

The project finally agreed upon (see Table 1 at end) comprised all the investments in transport planned by Bechuanaland for the 1963-68 period, representing about 14% of the country's 1963-68 development program. The project has three main parts. The first is the investments on the North-South road and on two short roads leading to it. The North-South road (418 miles) was, and still is, the main artery of the country. It runs from the Rhodesian border to the South African border and joins the country's main population centers (Francistown, Mahalapye, Gaborone and Lobatse). The improvements included in this artery were relatively minor: the replacement of 13 small bridges, better drainage facilities, and a small amount of relocation and regravelling. Nevertheless, these betterments were designed to make the North-South artery an all-weather road. The first of the two short roads leading to it was a 33-mile link from Palapye to Serowe, considered at the time to be the largest town in Bechuanaland,[1/] which was to be constructed to all-weather gravel standards. Finally, the short Gaborone-border road (17 miles), the main connection to Johannesburg, was to be paved.

The second part of the project comprised the trans-Kalahari road from Francistown to Maun (305 miles). The works programmed were paving the first two miles from Francistown to the airport, major improvements from that point to Nata and a new all-weather gravel road from Nata to Maun. The latter was the center of the relatively important cattle-raising activities in Ngamiland and the gate to the Okavango Delta area, a region of supposedly great potential.

Finally, the third part of the project was the strengthening of the maintenance organization, which was considered too weak to undertake the operations that would be required once the project was completed. The work included the construction of road maintenance depots, purchase of equipment, drilling of boreholes for water supply, and a training program. The only special covenant contained in the loan documents expressed the Government's commitment to attain higher standards in maintenance operations.

Project Implementation

The actual total cost of the project -- US$ 4.66 million equivalent -- was only 1.3% higher than estimated. The project was completed with a delay of about a year, during the second half of 1968 (Tables 1 and 2),

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1/ In the early 1960s, it was estimated that Serowe's population was about 50,000. The 1964 census showed a much lower figure, of about 15,000.

the closing date of the loan having been extended from December 31, 1967 to December 31, 1968. Disbursements were mainly concentrated in 1966 and 1967.

The aggregate figures do not reflect the differences in performance for each of the investments. The Gaborone-border road was practically completed by June 1966 with a cost overrun of 32% (23% with inclusion of proportionate share of contingencies in the base estimate). The Palapye-Serowe road was finally opened to traffic at the beginning of 1968 and it cost 34% more than estimated (25% with allowance for contingency provision). However, these two roads represented only one quarter of the total investments. Work on the Francistown-Maun road was concentrated in the 1965-67 period. New construction on the Nata-Maun section was undertaken mainly in 1966 and it was opened to traffic during the first half of 1967; the pattern was similar for the Francistown-airport section. The betterments undertaken between the Francistown airport and Nata took longer to complete and they included two rather large bridges; works were ready only at the end of 1967. The cost overrun on the Francistown-Maun road as a whole (accounting for over 40% of total project investment) was small, only 9%, but it was particularly high in the small Francistown-airport section. The series of improvements in the North-South road were completed mainly during 1968 (Table 3). The total cost of these improvements was less than what was planned (Table 1), but most of the planned physical works were successfully completed. Finally, the maintenance improvement program was kept almost exactly to the scheduled cost level, but at the expense of reducing parts of it in size.

Before examining the main reasons for these differences between estimated and actual costs and schedules, it must be noted that the performance of this project was remarkably good under the circumstances. True, we are talking about fairly easy road construction. The terrain is flat, few earthworks were necessary, no major rivers had to be crossed and building materials were readily available. Still, the results are interesting. The new 191-mile road between Maun and Nata cost about US$ 5,300 per mile (US$ 3,300 per km), making it one of the cheapest, if not the cheapest, road ever built with Bank support.

The causes of delays and cost overruns are few: (a) some changes in design; (b) difficulties with the contractor for the Palapye-Serowe and Gaborone-border roads who had serious personnel problems and mismanaged the initial stages of construction; (c) heavy rains in 1966, which slowed down all works for considerable amounts of time; (d) some price increases due to the delay in implementation. The Bechaunaland Government was particularly concerned not to exceed budgeted costs because it knew it would have to finance the overruns. This concern became so acute that one of the Bank supervision missions expressed the fear that the quality of the works was being sacrificed in order to stay within the budget; further investigations proved this fear to be unfounded.

Some of these problems were more serious than they would otherwise have been due to the limited capacity of the Public Works Department (PWD) to handle a project of the size and complexity of this one. In the early 1960s, very little highway construction was taking place; the project implied a massive jump in activity. The PWD had only a skeleton staff, most of it expatriate and subject to the vagaries of the market for engineering skills in other parts of the world, especially South Africa. The staff was also pressed by the construction of the new capital at Gaborone. Problems which would be minor for a strong public works department proved of great importance in Botswana. For example, the difficulties with the contractor working on the Gaborone-border and Palapye-Serowe roads resulted in more PWD staff than projected being assigned to supervise this work, delaying the initiation of other parts of the project. The use of consultants for supervision, as required by the Bank, may have reduced the load somewhat, but it is a question whether it was correct to bunch such a large project over a relatively short period of time in light of the institutional constraints in the PWD. The alternative -- a longer implementation period with lower annual investments -- would probably have had a more beneficial impact in terms of building the capabilities of the PWD. The only institution-building effort that the Bank attempted was directed towards maintenance, but the PWD as a whole was not considered. Most of the high positions in the PWD are still held by expatriate staff (Table 4).

The maintenance program proceeded well and budget allocations exceeded the figures planned at the time of the appraisal. However, parts of the maintenance program were reduced in size to release funds required to cover the overruns in the rest of the project: only 10 instead of 12 maintenance depots were built, and expenditure on the training program was reduced. The maintenance equipment was purchased in 1965, probably slightly ahead of what was required, since none of the roads was completed at that time. Maintenance standards have been good and in that sense the country has adhered to the main credit covenant.

Bank supervision missions were frequent -- sometimes twice a year -- and detected all problems related to project implementation. They did have some indications that benefits were not materializing as expected, but they did not raise the issue with the Government confining discussion, in accordance with normal Bank practice at the time, to matters related to project implementation.

Direct Benefits

The appraisal report provided two major justifications for the project. The first referred to its development impact: national integration and effects on the livestock sector. The second justification referred to the savings in transport costs, especially of cattle; it is discussed in this section. The development impact of the highways is analyzed in the next.

The appraisal attempted to quantify the benefits of the construction and reconstruction works and to calculate an internal rate of return. The justification of the Gaborone-border road arose from the Government's decision to move the country's capital from Mafeking to Gaborone. The rate of return was estimated at 10%.[1/] The return for the Palapye-Serowe road was 8% and for the Francistown-Maun road 20%. The latter was based on important benefits to be obtained from trucking instead of trekking cattle from the Maun region to Francistown. No return was calculated for the betterments on the North-South road.

The traffic figures available in 1972 for the 1963-72 period suggest that the base figures used in the appraisal were overestimates. As a consequence, although traffic has grown quite fast on most roads, actual levels are much lower than those projected. Thus, if we consider only the direct benefits, some of the investments have a negative or low return. The betterments on the North-South road had a return probably above 16%, even taking into account the fact that part of the improvements are already out of use because some road sections are being rebuilt following a new alignment.[2/] The reason for this high return is obvious: the betterments included minor investments designed to eliminate bottlenecks and to transform a hazardous road into an all-weather one. The Gaborone-border road has a return of only 4%, due to low traffic; only after 1972 traffic began to attain a relatively high level, about 130 vehicles per day. The Palapye-Serowe road shows a negative return, also on account of

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1/ See Table 5 for a comparison of estimated and actual traffic levels and rates of return.

2/ Our calculations of the ex-post rate of return are based on actual traffic levels and traffic composition until 1971. Traffic after that date was projected at different levels but the rates of return quoted in the text assume a 5% growth, except for the Gaborone-border road where thefigure is 10%. The economic lifetime assumed is 15 years. The vehicle operating costs used are those prepared for the Bank's second highway project, assuming that the old roads were unimproved. Time savings are not included but the benefits derived from savings in vehicle operating costs are overestimated because we have included full user-cost savings for the induced traffic. Maintenance costs were not considered because the country passed from a practically no-maintenance system to a situation in which roads are maintained; thus, no maintenance savings can be included. A recent estimate of the total annual expenditures per mile on the Nata-Maun road shows a figure of about US$ 475 , which is fairly high.

its low traffic level; the appraisal mission was apparently misled by the very high estimated population figures for Serowe and expectations of livestock development that have not fully materialized for reasons discussed later in this report.

The Francistown-Maun road requires special treatment. Traffic remains low, especially on the Nata-Maun section where it is still about 20 vehicles per day. As a consequence, the rate of return for the whole road is only about 6%. This road was justified mainly by its expected impact on the transport of cattle. Trucking instead of trekking was expected to reduce the direct cost of transport, expressed in terms of weight losses, loss of animals, lower quality and transit time. This impact on the livestock industry was expected to transform the local economy. However, cattle is not trucked but still trekked all the way to Francistown, taking several months in the process.

Our investigations unearthed three closely related explanations for this development. First, the Ngamiland region centered in Maun is subject to periodic outbreaks of foot and mouth disease because of its contact with contaminated game living in the Okavango Delta. To prevent the spread of the disease and to make the cattle acceptable on international markets, veterinary cordon fences were established on the route between Maun and Francistown. The first fences date from the early 1950s and the existing complete system, with two veterinary cordon fences and three quarantine camps, was established in 1967 after the latest outbreak. Cattle had to remain 21 days in each quarantine camp before proceeding to the next. This period has recently been reduced to 14 days. Moreover, trekking is usually done between April and July, when grazing is plentiful and net weight losses after recuperating in the quarantine camps are negligible. A special study on the subject concluded, after taking all possible factors into account, that in 1971 an average head of cattle from Maun would get a net price of 45 rands if trekked and 41 rands if trucked.[1/] Finally, time is of little value to the tribal cattle owners or those who do the trekking; on the contrary, many look forward to the trip to Francistown. Under these circumstances, it is uneconomical to truck cattle for 50 or 60 miles to a veterinary camp and load them again two weeks later for a trip to the next camp.

The second reason is the lack of adequate transport facilities. Transport of live cattle, to be truly economical, must be done in large trailer trucks carrying 25 to 30 animals, with an efficient loading and

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1/ See R. J. Hukku, "An Evaluation of the Basic Economics of Road Transportation and Trekking of Slaughter Stock along Two Important Trade Routes in Botswana," Gaborone, June 1971.

unloading system. Assuming that a minimum of 7-8 thousand head of cattle are exported yearly from the Maun area,[1/] many trucks must be readily available during the three or four months in which most of the cattle is transported to the railhead and then to the abattoir. These trucks are not available in Botswana; Rhodesian trucks transport some cattle from the last quarantine camp to Francistown, but this operation is limited and contracted only by a few big cattle owners. The reasons why this type of large truck is not available in Botswana make economic sense: the large specialized vehicles necessary for efficient transport of live cattle will be occupied only for a few months, and then without having much of a backhaul to carry. The problem will be similar even if the cattle cycle (the period in which they are sent to the abattoir) is extended. The trucks would have to remain unused the rest of the year; there just is not enough to move in the country that requires that kind of vehicle, especially since the railway carries most of the goods between Francistown and Gaborone-Lobatse at very cheap rates. The small size of the market is illustrated by the low rail freight traffic within Botswana: only 46,000 tons in 1969.

We did investigate the other obvious alternative in relation to transport services. At present, a fleet of relatively small trucks of about 10 to 12 tons serves the trade between Francistown and Maun. The trucks are small because wholesalers in Maun do not keep large stocks and frequent service is required. They carry general merchandise, especially foodstuffs, from Francistown to Maun and return practically empty, carrying only a few assorted goods and passengers. Why can they not transport the cattle, which after all moves in the direction of their backhaul, at least from the last quarantine camp? The transporters indicated that their trucks were not designed to carry cattle, and that when they tried both the vehicle and the cattle have suffered considerable damage; they also noted that the demand is small and erratic because trekking is still preferred. The transporters may be right, but one cannot avoid the impression that the opportunities of a backhaul transport are not fully utilized; to prepare a truck for cattle transport is a relatively minor investment.

The third reason why cattle are not trucked is the structure of the cattle activities themselves. In Ngamiland these activities were organized, and still are, on a tribal basis with very unclear marketing channels. There are many small owners and a few groups of cattleowners; cooperatives are just beginning. Most of these owners are illiterate, their

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1/ Based on a cattle population in Ngamiland of 155,000 in 1969 and an annual off-take of 5%. The appraisal report cited figures of 10-12 thousand for annual sales from this region in the early 1960s, and projected 15-18 thousand by 1969.

production techniques are very primitive and they continue to follow traditional marketing procedures. Producers and intermediaries are usually small operators who cannot make use of the economies of scale of a large trucking operation or, more directly, cannot afford the cost of the trucking services.

The project drastically changed transport conditions in the country. In our calculations of the return of these investments we tried to take into account the very high transport costs with the previous roads, which were really sandy trails impassable in the rainy season because of flooding, and in the dry season because of the sand. A trip between Francistown and Maun at best took 12 to 14 hours of very hard travel and, at worst, was a matter of two or three days. The technical lifetime of the vehicles engaged in the trade was not more than one or two years. Transport was also made difficult because the roads would remain closed for days or weeks at a time. With the project, reliability is perhaps one of the main effects: the roads are truly all-weather and it is possible to plan on a continuous transport flow among the different towns. Travel times have been considerably reduced: the trip between Francistown and Maun can be completed comfortably in six to seven hours and between Francistown and Gaborone in about the same time, compared with 10 or 12 before the new works.

These improvements have been reflected in a drastic reduction in vehicle operating costs, especially on the new roads (Francistown-Maun and Palapye-Serowe). Before the new road, the freight rate between Francistown and Maun was 1.25 rands per 100 pounds, apparently regardless of the type of product, the volume and size of shipment or the direction of traffic. This rate went down to 0.95 rand per 100 pounds by the time the new road was completed in 1967. Now it is 0.75 rand and there are instances of tariffs of 0.40 rand on the backhaul from Maun to Francistown. Trucks have traditionally carried passengers at a rate that has remained at three rands from Francistown to Maun and two rands in the opposite direction for at least twenty years. If we take into account that there has been a moderate degree of inflation in the last ten years, the evolution of the freight and passenger tariffs implies that an important proportion of the vehicle operating cost reductions has been transferred to the transport users. Truck operating costs have decreased at least 35% since the new road was inaugurated and freight rates by 40%. The stability of passenger fares seems to reflect the higher demand derived from the better "quality" of the service due to the new road.

We have indications that rates on the other project roads have also decreased in real terms, but probably less than on the Francistown-Maun road. To understand the reasons for the different behavior we have to deal, briefly, with two other subjects; one is the structure of the road

transport industry and the other is road-rail competition in the North-South corridor.

The country's road transport industry is the result of a small economy which requires little transport, of a completely unregulated environment and of the fact that most of the transport in the North-South corridor and the foreign trade is by rail. The consequence has been that most of the really lucrative contracts, such as those related to the mining developments, are handled by foreign companies. Also, it is almost impossible for Botswana trucking firms to operate in neighboring countries. Trucking companies are mostly regional and very small, owning only a few trucks; competition is active but highly localized. For example, it is not possible even to quote a freight tariff between Francistown and Lobatse. The only long-distance road transport is that between Francistown and Maun, and even here most truckers do not go much beyond Nata. There are no bus services on that route; most buses in the country run local services in the North-South corridor. The only section where the trucking industry has developed along traditional competitive lines is between Francistown and Maun, but this is a small market which permits the operation of only a few trucks. Some time ago an attempt was made to establish a bus service between Francistown and Maun, but it suspended operations after two or three months; there is no demand for a high quality service such as that provided by a bus.

The development of the road transport industry in the North-South corridor has been largely determined by the competition from the railway. The Rhodesian Railways line that connects the Rhodesian with the South African system (the Bulawayo-Capetown line) crosses Botswana near its eastern border and connects Francistown, Gaborone and Lobatse. The railway has traditionally moved most of the passengers in the corridor, especially long distance, and most of the freight movements, aside from imports and exports, are composed of live cattle going to the Lobatse abattoir, a few agricultural products and very little else. Traffic statistics suggest that the railways have maintained their share of the transport on the North-South corridor. Passenger transport has grown from about 400,000 in 1968-69 to 650,000 in 1972. Freight with origin or destination in Botswana grew from 300,000 tons in 1966 to 500,000 tons in 1970. For traffic within Botswana, the railway follows a policy of charging rates and fares that will cover only a little more than the additional cost of moving that traffic; intra-Botswana transport is marginal to the railway. Faced with that kind of pricing policy (which, from an economic viewpoint, is beneficial for Botswana) and with a road that, in spite of the improvements made, is still a second-class gravel road, it is not surprising that few road transport services that are in direct competition with the railway have developed in the North-South

corridor. Those that have developed are mainly complementary to rail services: feeders from the surrounding areas and between nearby towns. It is the savings in vehicle operating costs on this local traffic that provide the justification for the improvements in the North-South road. However, our impression is that these developments would have taken place even without the improvements in the North-South road because they are mainly a function of the quality of the feeder roads and the production increases in the region.

Road Design Standards and Maintenance

The low return of some of the project roads, especially that from Francistown to Maun, raises two additional issues. The first refers to the roads' design standards: was it possible to attain the same objectives with roads built to lower standards? The second issue refers to the trade-off between design and maintenance standards: would lower standards have increased maintenance expenses excessively and made the total construction-maintenance cost even higher?

This audit confirmed the Bank's original position about the need to reduce standards, and the reductions incorporated in the final project implied a considerable saving for Botswana. The question is whether further reductions in standards were possible. In some cases the standards were right, as in most of the betterments on the North-South road. One of these betterments which is strangely out of line with the general frugality of the project is a railway overpass south of Gaborone. Its cost was about US$ 50,000 . In light of the traffic levels at the time -- 200 vehicles a day and 20 trains -- and the country's other requirements, the overpass was clearly superfluous. This investment was included by Bechuanaland in one of its proposals, and the Bank did not seem to have objected during the discussions that took place to define the project. In the case of the Gaborone-border road, we consider that its low return was more a problem of timing than of standards: its construction should have been postponed altogether for about four years.

From the point of view of design standards, the Francistown-Maun road must be divided in two sections: from Maun to Nata and from Nata to Francistown. The latter section, of about 120 miles, was an adequate road during the dry season although it was poorly drained and crossed several rivers. The works included in the project to improve this section included bridge construction, drainage, improved alignment and new construction limited to a few particularly difficult stretches. Since this is the section with the highest traffic, these improvements were justified.

Thus, standards are an important issue only on the two road sections that were new construction: Nata-Maun and Palapye-Serowe. The traffic evolution on both of them makes it difficult to justify even the low expenses involved in their construction. Could the standards have been

further reduced? Apparently not very much, especially on the Nata-Maun road, unless the objective of having an all-weather road is abandoned (this point is discussed in the following section). A lower quality surface would have made the roads impassable in parts of the rainy and the dry seasons, and the same applies to the bridges and drainage works; a cheaper alignment would not have saved much because both roads traverse mostly flat terrain and the amount of earthworks is low. The Palapye-Serowe road was realigned during construction to reduce earthwork even further. The main possibility was to have built narrower roads, since both are obviously too wide for the existing traffic.[1/] The problem of stage construction does not arise because a narrower road would have been sufficient for many years hence. The savings to be obtained by narrowing this type of road a few feet are not very large, certainly not more than 10 or 15%. Still, for the two roads the savings would be perhaps US$ 200,000, a sizeable amount for Botswana.

The trade-off between initial design standards and maintenance standards is not an issue in this project. It clearly did not pay to build to higher standards in order to save future maintenance costs; standards are right for most of the works and in those cases where they are high the reductions in question, such as narrowing, are not much related to maintenance standards.

The Bank's emphasis during project preparation on reducing standards as much as possible and increasing the relative importance of maintenance was correct. The impact of the maintenance component of the project has been very positive in creating an institution and a positive attitude towards maintenance problems. Roads are, by and large, well maintained, although the good condition of some of the roads is due to their low traffic. The training program was crucial in generating a considerable number of skilled workers capable of performing the tasks required. The program, as included in this project, was expected to last for three years. It was financed with local and UK funds and was completed in August 1967 after graduating a large number of maintenance workers. The Government has continued these training efforts: there is now a full-time training school attached to the Roads Division of the Ministry of Public Works and Communications graduating about 40 trainees a year. Also, the construction of road depots has become an integral part of all subsequent road work.

Development Impact of the Project

The results of the analysis of the direct impact of the project suggest that study of the transport sector alone is not enough to understand the full implications of the investment and of the Bank's participation. Some of the investments were supposed to have a crucial impact

1/ The Palapye-Serowe road has a surface width of 22 feet and the Nata-Maun road 20 feet.

on the livestock industry, but in fact they did not. This is important, because cattle raising is the main, and almost the only, economic activity in the area of influence of the project roads. Of the country's labor force, 88% work in agriculture, most of them in livestock and subsistence crops. It is necessary, then, to explore more the interaction between livestock and transport, and the possible indirect effects of the roads.

Since the early 1960s, the Government of Bechuanaland had a clear notion that what the country required was a massive action program in livestock and infrastructure (for the sake of simplicity, we are leaving aside the problem of education). It submitted a road project to the Bank because it seemed easier to define and to process in a short period. The livestock problem was more complex and the Government lacked the capacity to prepare a project acceptable to the Bank. Nevertheless, by June 1962, when it appeared that the road project would be too small to warrant the Bank's attention, the Bechuanaland authorities proposed the inclusion of a small (US$ 250,000) rural water supply scheme for livestock. The scheme entailed the creation of a National Development Bank, to grant farmers loans for borehole drilling. The Bank opposed the water development on the grounds that it was too complicated for the amount involved and suggested that the proposal should not delay progress on the road project. The Bechuanaland Government continued through 1963 to press for a credit for livestock, adding the possibility of establishing an agricultural training college. The Bank was sympathetic to the need to do something for livestock and even got to the stage of assigning a staff member to prepare a project, but insisted on keeping these efforts separate from the road project. A loan for livestock was only made in June 1972.

One unfortunate fact that seems to have delayed the Bank's interest in livestock was the report of an FAO mission which concluded in 1963 that "the development of roads is the single most important step for the further development of the livestock industry." The report reinforced the Bank's interest in going ahead with the road project as soon as possible, hoping that the inducement provided by reduced transport costs would promote the development of the rest of the economy, that is, of livestock. For example, the Bank envisaged that the new road would bring to the Maun region cheaper industrial and agricultural products, inducing the cattle owners to sell part of their stock for cash in order to buy the goods and in the process selling animals of a lower age. The livestock seasonal cycle was expected to be lengthened through trucking. Further studies and experience have demonstrated that the main obstacles to the development of the livestock industry in Botswana are, first, the land tenure pattern based on tribal customs, second, inadequate techniques,

and only last the lack of water and transport.[1/] This diagnosis was confirmed by the Bank in the appraisal of the 1972 livestock project, which included among other measures the financing of stock routes to expand the practice of trekking within the country. Thus, it is not surprising that the livestock activities made very little use of the improved roads and were hardly affected by them.

Did, then, the Bank choose the wrong sector for financing? Taking a simple view, there is a basis for saying that some of the resources invested in transport should have been directed to other sectors, possibly to livestock, at least those resources which could have been saved by reducing design standards on some of the works, such as the approximately US$ 250,000 that should have been available from making the Nata-Maun and Palapye-Serowe roads narrower, and eliminating the overpass south of Gaborone. Also, the Bank's insistence on a local component for the project which was very large for the country's finances may have diverted resources away from investments in livestock: the local component was US$ 1 million, and Bechuanaland planned at the time to invest only about US$ 2.8 million equivalent in livestock in the 1963-68 period. It is also possible that some of the other road investments could have been postponed for several years in light of the low traffic levels. However, this conclusion must be qualified in at least three important ways. The first refers to the fungibility of the resources at the time when the credit was granted. Given the constraints in the institutions dealing with the agricultural sector in the country, it was unlikely that a livestock project acceptable to the Bank could have been prepared by 1964. Thus, to a certain extent it was a matter of getting IDA funds for roads or not getting them at all. What does seem clear from our brief analysis is that the Bank and the Bechuanaland authorities should have promoted a livestock project much faster than they did, especially if one takes into account that growth in cattle population and changes in production techniques are normally slow to materialize.

A second qualification refers to the impact of the project roads on the "administrative and political integration of the country." The concept is necessarily vague, but refers to aspects such as the possibility of increasing contacts among Government officials throughout the territory; of extending Government services and programs to faraway regions, such as Ngamiland; facilities for inspection trips. Many Government officials interviewed considered this to be the most important effect

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1/ The first Bank appraisal mission in April 1961 did raise the issue of land tenure as a major problem, but the subject seems to have been dropped in the subsequent project preparation work.

of the project. Without it, the process of setting up an independent Government and promoting a national identity would have been much more difficult and costly. We have no way to quantify the importance of this factor, but tend to agree with the Government officials. A few objective measures are available. For example, some Government services could be established in Maun only because staff were willing to move there due to better accessibility. In a special nine-day traffic count done on the Francistown-Maun road in October 1972, 28% of the vehicles turned out to be Government-owned.

Finally, the last qualification derives from the fact that we based our conclusion on the ex-post return of the roads taking into account only their direct impact. In a country like Botswana, one would expect that roads would have an important indirect or "development" impact which in part should be added to the benefits computed in the original calculation. However, the development impact of the project roads has been small.

The main road with development potential, which also accounted for the largest part of the project investment, was the Francistown-Maun one. The economic and social conditions of the Maun region and of Ngamiland in general have not changed much since the opening of the road. The great majority of the population remains dedicated to livestock and subsistence agriculture and has not been much affected by the improved transport conditions, except in terms of better supply of industrial and some agricultural products originating in Francistown. The same nine-day traffic study in 1972 concluded that of 215 freight vehicles detected, 59 were moving mainly food products, 47 fuel and oil and 29 spares; according to transporters, this freight composition has not changed much in the last years. However, we have doubts that much of the benefits of reduced transport costs really got to the final consumers in any significant way; most of the benefits seem to have been retained by the intermediaries, who are the ones who ship merchandise from Francistown to Maun. The town of Maun has experienced very few changes; there are a few new traders, and the main new activity, game processing, which occupies about 100 people, was not really induced by better accessibility. The only activities related to the road are four gas stations and two repair shops. As regards the livestock industry, cattle population in Ngamiland continues to grow, although less than in the rest of the country: in 1966 it represented 11.3% (103,000 heads) of the country's total but in 1969 only 10.7% (155,000 heads). The off-take, at 5% in 1969, continued to be below the country's low average of 7.6%. Live cattle sales to Zambia and Rhodesia, to which most of the Ngamiland cattle was destined, went down from 19,600

in 1965 to 7,400 in 1967 and disappeared in 1968. This development was not influenced much by the road; it was largely determined by Government efforts to send most of the country's cattle to the abattoir and improve marketing channels and by a conscious policy of stopping this kind of sales in favor of direct exports of carcass beef. This new marketing policy was important for the region, because prices paid at the abattoir are higher than those obtained by the cattleowners in Zambia and Rhodesia. The drought conditions in 1965 and 1966 helped to accelerate this process. Thus, the development pattern envisaged at the time of the appraisal has materialized only to a small degree and has been induced largely by the changes in livestock marketing practices.

A few sources in Botswana suggested that the rapidly expanding tourism centered in the game parks of the Okavango Delta has been induced by the new road. However, a small investigation of the subject suggested that the road has been a very minor factor. No detailed studies on tourism in the country are available,[1/] but partial estimates indicate that tourism in the area has grown considerably and reached about 5,000 tourists in 1971. Of these, over half cross directly from Rhodesia by dirt roads, without using the Francistown-Maun road. Another sizeable portion of the total arrives by plane. The arrivals at Maun airport have gone up from 1,780 in 1969 to 2,880 in 1971. Thus, only a small proportion, probably 1,000 to 1,500 tourists, use the new road. Even from these we should deduct the hunters travelling in special vehicles, who would have gone anyway. This negligible impact on tourism is partly a consequence of the Government's policy of discouraging mass tourism and concentrating on a few wealthy clients.

Very little else can be said in terms of "development impact." By a fortunate coincidence, the road was completed at the same time that several thousand refugees from Angola poured into the Okavango region of Botswana. The availability of all-weather transport seems to have prevented actual starvation of many of these refugees and has permitted the maintenance of a camp in the area for several years. Also, the existence of the road has raised the possibility that a few important projects may be located in the area. One of the fattening ranches included in the Bank's livestock project is located near Maun, and one of the possible locations for a second abattoir is in the same area. Two developments may increase the importance of the Francistown-Maun section considerably: one is a new road to Zambia starting near Nata. Finally, several schemes for developing the Okavango region are under study; if they materialize soon, traffic on the road will increase considerably.

1/ See "Development of the Tourist Industry in Botswana 1970-1975" by Edward Dommen, Technical Assistance Adviser, Commonwealth Secretariat, 1969.

Conclusions

The administrative and political effects of the project and its interdependence with the complex livestock sector make a global assessment of its final impact difficult. From a strictly economic viewpoint the betterments on the North-South road and the improvements on the Nata-Francistown road, together accounting for some 35% of total project costs, appear clearly justified. The road from Nata to Maun, inexpensive per mile built but still accounting for some 25% of total project investment, carries small traffic, yields low returns in terms of road user cost savings and has to date had very limited impact on the development of the area traversed; on the other hand, creation of a reliable transport link in the area has produced benefits that seem important, even though they are very hard to quantify satisfactorily, in the form of readier Government access, stronger national integration, better administration and greater capability to cope with emergencies. Finally, the new road from Palapye to Serowe and the paving of the Gaborone-border road, together accounting for another 25% of total project costs, both yield unacceptably low returns and appear to have been undertaken somewhat earlier than would have been desirable. Aside from road construction and improvement the project contained a maintenance component, accounting for some 15% of total costs, which appears to have made a valuable contribution to the development of the Botswana highway system even though it had to be cut back slightly in physical terms to help cover cost overruns elsewhere in the overall project.

The Bank's priority ranking of the various works was approximately correct and it seems that other highways included in the original program but rejected by the Bank would have yielded lower returns than those actually undertaken. But the overestimates of base-year traffic and of traffic growth, combined with the substantial cost overruns on the two roads on which contractor performance was poor, together resulted in the levels of economic return on the roads that were financed being systematically lower than expected.

The Bank's emphasis, during project preparation, on reduction of design standards seems fully justified in retrospect. Some additional useful savings might have been made on several of the roads. More importantly, the two roads showing low returns should probably have been postponed a few years. Even the Nata-Maun link could have been briefly postponed while effort was concentrated on preparing a suitable action program in livestock. We believe that the development of the Ngamiland region required a combined effort in transport (infrastructure and services) and livestock in order to obtain a "leap forward" which would have resulted in a few years in a substantial increase in cattle exports and in trucking instead of trekking as the most economical form of transport. In this broader sense, of the regional development objectives, the project is a case of underinvestment -- in complementary transport and livestock activities -- rather than of overinvestment.

Analysis of the reasons why project objectives were not fully attained raised three main interrelated issues. The first is the interaction between transport and the livestock industry. The Bank does not appear to have analyzed in sufficient detail the mechanisms by which important improvements in transport infrastructure would induce the expected increase in livestock production. Bottlenecks that at least now seem obvious, such as marketing channels and the influence of veterinary factors, were not taken fully into account. The conventional wisdom at the time -- that transport was the key factor in the development of the livestock industry -- misled the Bank and encouraged it to push hard for the road project although Government officials were conscious that transport was not enough. Another related aspect overlooked in the appraisal was the role to be played by the trucking industry: the Bank concerned itself only with the infrastructure and did not foresee that the transport services required for the success of the scheme would be uneconomic.

The second issue concerns institution-building. The project imposed a heavy burden on the limited capacity of the Public Works Department, which resulted in supervision of works being less than fully adequate. Its completion implied a relative reduction in activity, and the level of works is only now picking up again, with several new projects. One wonders to what extent project implementation should be staged over longer periods in order to attain institution-building objectives; at least the trade-off between institutional development and direct investment benefits should be considered. In this particular case investment economics as well as institution-building would seem in retrospect to argue for a longer phased program. The Bank's highly successful efforts to help improve maintenance are an indication that similar attention directed towards the PWD as a whole would also have probably produced good results. For instance, with regard to training, it became clear in the later 1960s that efforts in this field needed to be expanded to include not only the preparation of skilled workers and low level supervisory personnel, but also the development of future management staff.

The third issue relates to the breadth of treatment given to the project in preparation and appraisal. The program financed by the Bank comprised virtually all investments in transport over five years, a fact to be expected in small countries like Botswana. It was more crucial than usual to understand the extent of the strain on the country's fiscal and human resources imposed by the project and to consider explicitly how it would fit in the intersectoral allocation of investments. The case study reaffirms the necessity for a broad sectoral approach, including intersectoral links, if optimum results are to be obtained.

Table 1

Botswana Credit 63-BEC. Estimated and Actual Total Costs and Completion Dates
(in thousand US$ equivalent)

Description of Work	Estimated Cost	Actual Cost	% Cost Overrun	Completion date 1/
A. North-South Corridor				
1. Betterments on North-South Road (bridges, drainage, minor realignments) over 418 miles	840	787	-6.3	July 1968
2. Gaborone-border road (pavement) 17 miles	330	435	+31.8	June 1966
3. Palapye-Serowe road (new gravel road) 33 miles	450	605	+34.4	February 1968
TOTAL	1620	1827	+12.8	
B. Francistown-Maun Road				
1. Francistown-airport (base and paving) 2 miles	78	106	+35.9	January 1967
2. Airport-Nata (reconstruction to gravel surface) 118 miles	622	644	+ 3.5	December 1967
3. Nata-Maun (new gravel road) 185 miles	920	1022	+11.1	September 1966
TOTAL	1620	1772	+ 9.4	
C. Engineering	340	438	+28.8	
D. Maintenance				
1. 12 buildings for depots	110	130 2/	+18.2	September 1967
2. Maintenance equipment	280	359	+28.2	1st Semester 1966
3. Training Scheme	140	97	-30.7	mid 1967
4. Bore-hole water supplies	90	37	-58.9	mid 1966
TOTAL	620	623	+ 0.5	
E. Contingencies	400			
GRAND TOTAL	4600	4660	+ 1.3	

1/ Approximate, when each road was opened to traffic, equipment bought or programs completed. Some works went on after this date.
2/ Only 10 were built

TABLE 2

BOTSWANA CREDIT 63-BEC TOTAL COSTS [1/]

(in US$ equivalent)

Item	1964	1965	1966	1967	1968	Total
1. Gaborone-South African border road (excluding bridges)		324,760.62	82,907.43	27,440.94		435,108.98
2. Palapye-Serowe Road (excluding bridges)	151.92	1,681.92	328,407.76	217,175.16	574.60	547,991.36
3. Francistown-Maun Road (excluding bridges)						
- Francistown-airport		30,880.08	41,120.84	33,502.57		105,503.49
- airport-Nata		103,585.07	229,076.78	183,729.28	3,541.73	519,932.86
- Nata-Maun		393,900.86	547,056.23	81,127.93		1,022,085.02
Total		528,366.01	817,253.85	298,359.78	3,541.73	1,647,521.37
4. North-South Road		16.07	53,168.66	213,445.42	214,979.90	481,610.05
5. a) 10 bridges from items 1,2, 3, and 4 above		75,892.04	286,407.98			362,300.02
b) 2 bridges on Francistown-Nata road			39,073.22	85,072.32		124,145.53
6. Engineering	143,476.01	179,667.14	93,155.31	19,923.56	1,894.10	438,116.12
7. Maintenance						
a) Construction of 10 road depots		3,550.96	39,510.03	87,157.93		130,218.92
b) Maintenance equipment	32.00	150,189.20	124,871.27	84,315.91		359,408.38
c) Training scheme	73,761.07	12,716.97	10,738.97			97,217.01
d) Boreholes		11,196.33	26,188.29			37,384.62
Total	73,793.07	177,653.46	201,308.56	171,473.84		624,228.93
GRAND TOTAL	217,421.00	1,288,037.26	1,901,682.77	1,032,891.02	220,990.34	4,661,022.36

1/ As presented in the progress reports
Rate of exchange US$ 1.4 = 1 rand

Table 3

Botswana Credit 63-BEC
Betterments on the North-South Road: Completion of Works

	Work Item	1966	1967	1968	Total
1.	Relocation	1	1	1	3
2.	Improved alignment	1	2	17	20
3.	Culverts	9	5	54	68
4.	Rail crossings	-	-	3	3
5.	Bridges and approaches	1	6	7	14
6.	Others	1	-	1	2
7.	Total	13	14	83	110

TABLE 4

BOTSWANA. STAFF OF THE ROADS DIVISION OF THE MINISTRY OF WORKS AND COMMUNICATIONS, 1972-73

Job Title & Grade	Jobs	Citizens in jobs	Expatriates in jobs	Vacancies
Chief Roads Engineer	1	-	1	-
Senior Roads Engineer	1	-	-	1
Roads Engineers	4	-	3	1
Senior Eng. Asst.	3	-	3	-
Engineering Assistant	5	-	3	2
Senior Materials Off.	1	-	1	-
Inspector of Works	7	1	2	4
Engineering Draughtsman	2	-	1	1
Materials Officers	2	-	2	-
Senior Foreman	5	-	-	5
Inspector of Works (Trainee)	1	-	-	1
Junior Foreman	8	8	-	-
Senior Plant Operator	1	1	-	-
Senior Technical Asst.	7	4	-	3
Roads Section Officer	33	24	-	9
Clerical Asst/Officer	20	20	-	-
Storekeeper	3	2	-	1
Typist/Shorthand Typist	1	1	-	-
Plant Operator	4	4	-	-
Driver (C3(1.C))	1	1	-	-
Driver (C4(1.C))	11	10	-	1
	121	76	16	29

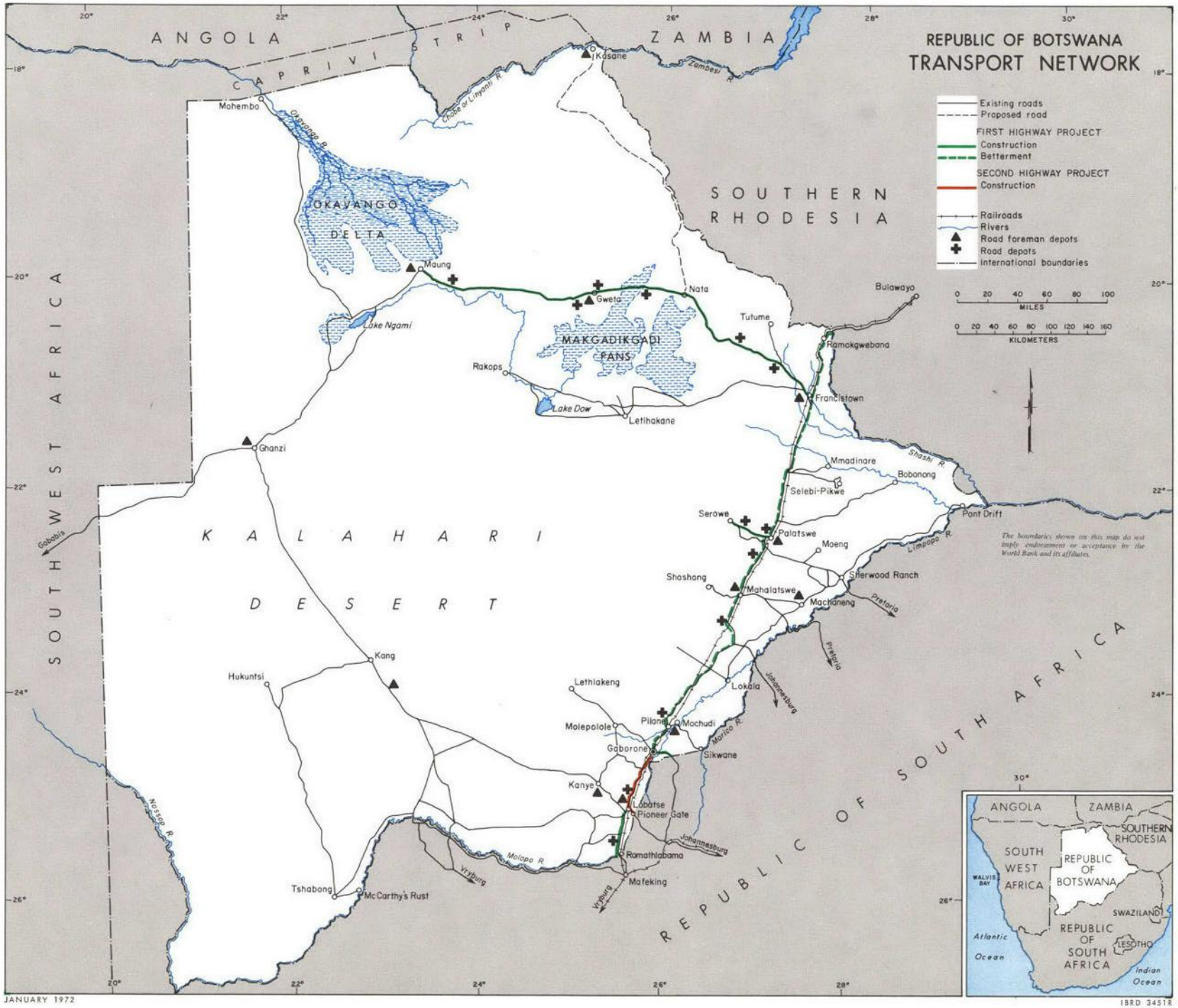
Table 5

Botswana Credit 63-BEC. Projected and Actual Return and Traffic Levels

	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	Annual rate of growth[1/]
Traffic Levels (vehicles per day)											
1. Francistown-Nata											
Projected	50	-	-	-	-	-	100	-	-	-	12.2%
Actual (at Dukwe)		14	14	18	18	22	25	27	36	32	10.6%
Actual (at Sebina)		26	26	37	36	37	37	54	44	47	7.6%
2. Nata-Maun											
Projected	10	-	-	-	-	-	30	-	-	-	20.0%
Actual		8	9	12	12	15	17	21	22	21	12.8%
3. Gaborone-border											
Projected	25	-	-	-	-	-	150	-	-	-	35.0%
Actual		16	16	22	27	37	48	52	70	72	21.0%
4. Palapye-Serowe											
Projected	50-60	-	-	-	-	-	80	-	-	-	4.9%
Actual		27	58	47	29	34	37	37	46	44	6.2%
5. North-South Road											
Projected			not done								
Actual		61	68	80	90	105	114	115	132	147	11.6%

Internal Rate of Return	Projected	Actual
1. Francistown-Maun	20	6
2. Palapye-Serowe	8	Negative
3. Gaborone-border	10	4
4. North-South Road	not done	16

1/ 1962-1968 for projected and 1963-1971 for actual.



JANUARY 1972

IBRD 3451R

Report No. Z-18

CONFIDENTIAL

INTERNATIONAL BANK FOR RECONSTRUCTION AND DEVELOPMENT

BANK OPERATIONS IN COLOMBIA

AN EVALUATION

May 25, 1972

Programming & Budgeting Department
Operations Evaluation Division

SUGGESTIONS TO THE READER

For the reader who has not more than an hour or so, the quickest way to get an initial impression of the general thrust of this report and its central conclusions and recommendations would be to read

(a) Letter of Transmittal (pp. i-ix)
(b) Overview of the Bank's Effectiveness (pp. 29-34)
(c) Chapter X - Principal Operational Implications (pp. 182-189)

A fuller view of the recommendations could be obtained by looking, in addition, at the final section of each chapter of the report other than the first and the last.

Chapter II, The World Bank and Colombia, presents, besides a brief historical review, the overall assessment of the contribution to Colombian development of the Bank and its various operations.

INTERNATIONAL BANK FOR RECONSTRUCTION AND DEVELOPMENT

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May 18, 1972

Mr. Robert S. McNamara, President
International Bank for Reconstruction
and Development
Washington, D. C.

Dear Mr. McNamara:

This report is the outcome of an experiment. The Operations Evaluation Division was established in the Programming and Budgeting Department of the Bank in September 1970 to evaluate the contribution of the Bank's past operations to development, with a view to learning how policies and procedures might be improved in the future. Since systematic work of this type had not been done before to any extent, it was decided to start with an experimental pilot phase, including a relatively small-scale comparative study of power projects financed by the Bank in several different countries and a more ambitious review of all Bank Group operations in connection with one country.

Colombia was chosen as the country for study because of the length and importance of the Bank Group's involvement with its development and because of the ready consent of the Government to cooperate with the study. Between the beginning of 1950 and the end of 1970 the Bank and IDA disbursed to Colombia some US$514 million on 40 loans and credits for projects in 11 different fields.

This is the report on the Colombia study. Principal field work was done in the first half of 1971 and the report does not generally attempt to evaluate more recent events.

The Approach to Evaluation

One approach to evaluation would be to ask whether expenditure of the US$514 million disbursed through 1970 had led to fulfillment of the specific purposes for which the loans in question were approved. This question itself could be interpreted at many levels. There is the relatively simple version: whether the loan funds were devoted to the project for which they were designated and whether the project was actually built; these questions have not given us very much concern, for the Bank has generally had a strong system for control and supervision of disbursements. At another level is the question whether the services provided by the project, when complete, found a ready demand. Was the power sold? Were the roads used? Or, as a more elaborate version of the same question, was the amount and growth of demand sufficient relative to the cost

and duration of construction of the project to make it worthwhile? Many Bank projects have had important institution-building purposes, and clearly there is a parallel set of questions as to whether these purposes were fulfilled. And another important dimension of evaluation, revolving around all these questions, is whether the objectives of the loans were accomplished in an efficient way in terms of expenditure of the Bank's own resources -- or did the Bank move too slowly, impose conditions that were unnecessary for attaining the purposes chosen or cause the project to be more expensive than was necessary to meet the country's needs?

These questions, many of them hard to answer, did concern us to a considerable extent and yet, by themselves, they constitute only a rather limited evaluation. The central purpose of the present study was to assess the contribution of the Bank Group, as a whole, to the development of Colombia and to consider how it might have been more effective than it was, with a view to learning lessons for the future. This clearly raises a much broader range of questions about the projects supported by the Bank loans. If the projects did meet a ready demand for their services, were these demands worthwhile meeting? Were the projects the right ones to select for Bank assistance? Did the Bank have a desirable effect on the composition and scope of the various projects? Were there any unexpected effects of the projects, negative or positive? Was there excessive concentration of local resources on the projects supported by the Bank, hurting progress elsewhere? In sum, were the purposes for which the Bank made the loans sound themselves?

And then there is, too, another range of questions somewhat beyond the project level, though often closely related to it. Was the Bank's advice on sector and macroeconomic policies effective and was it oriented in the right direction? Were macroeconomic policy conditions of Bank lending constructive? Did the Bank's lending supplant mobilization of domestic resources or did it stimulate it? Was the Consultative Group created by the Bank worthwhile and had the Bank led it in the most effective way? Were the technical assistance and training efforts of the Bank useful? Was the Bank wise to turn down those projects which it did turn down? Would the Bank have accomplished more by lending more? And here too there are parallel questions about techniques: for instance, would the Bank have employed its resources, including its manpower, more efficiently, by making some type of program loans rather than only project loans?

Obviously, to each of these questions there are many subsidiary ones, but this range of questions describes broadly how we interpreted our evaluation responsibilities. To approach answers to questions of the type raised in the last two paragraphs, it was clearly necessary to have in mind some definition of development -- the objective in pursuit of which the Bank's effectiveness was to be evaluated. Sometimes it may be possible to derive such definitions of what development means for a particular country from the statements of political leaders. This was not entirely adequate for our purposes for several reasons but most importantly for the reason of principle that evolution of the objectives of development is part of the very process of development itself. If this applies to Colombia, it is also true of the Bank itself. Hence our basic definition of development, broad as it is, may not be the same as has been used in the past, either by Colombia or by the Bank. We might put it as follows: movement of the whole social system in such a way as to provide increasing opportunities to a growing proportion of the population of the country to realize more fully their mental and physical capabilities. Conditioned by our own era, we have no doubt interpreted this in a manner different from what we might have done ten years ago, but since the purpose of the study is to learn for the future, not to remake history, this seemed to be the best basis.

From the preceding paragraphs it is evident that our attempt has been to use the most demanding criteria we could conceive of for judging the Bank's past activities and projects and to apply these criteria using the most up-to-date techniques available to us. Mainly we have concentrated on trying to determine, in this way, the actual contribution of the Bank's operations as they, and the pattern of Colombian development, have eventuated in practice. Within this broader scope we naturally also gave attention to whether any specific and testable objectives stated at the time of approval of a loan had been attained or not. One objective which Bank-supported projects have always had is to yield efficiency benefits at least as great as other typical investments under way in the country. For most of the projects which we studied these projected efficiency benefits had not been measured in such a sophisticated way as normally used by the Bank nowadays; hence, wherever relevant and especially where our estimates of actual benefits raised doubts about the efficiency of the investment, we recalculated the internal rate of return to the project that could have been expected according to assumptions made at the time the decision was taken to support the project; and we

compared this with our estimate of the actual rate of return. Even if an investment were to turn out a mistake, the decision to undertake that investment may in some senses not have been a mistake; what went wrong may have been an unfortunate chance that no one could have been expected to foresee at the time. Yet obviously, in retrospect, the main lesson to be learned from such a case is the need to develop means of foreseeing the occurrence of such unfortunate chances in the future.

Like other measures of a project's contribution to development, rate of return calculations, whether for the past or the future, always rest partly on judgments. For possible future investments two streams of costs and outputs have, in principle, to be estimated, representing the situation expected with the project and that expected without it. In analyses of the past, one situation is factual -- and the historical facts themselves may be more or less well defined -- but what would have happened without the project remains a matter of judgment. We have been interested not only in questions about what difference a project made but equally in questions about what difference the Bank made, and hence in trying to envisage what would have happened without the Bank. In each of the projects and sectors which we studied in Colombia, and indeed in the whole pattern of development, we repeatedly encountered obstacles of a structural and institutional nature. No doubt our perception of such difficulties was heightened by the very length of the twenty-year period under study. Where there are structural or institutional bottlenecks to change, then how efficient a particular project is rated depends partly on the flexibility that the economy and society are assumed to have, and the significance attributed to the contribution of the Bank depends in part on assessment of its contribution to easing and promoting structural and institutional change in a direction favorable to development. A comprehensive country approach to evaluation helps to improve these necessary but difficult judgments.

A few points should also be made about our approach to Colombia. The first chapter of the report serves partly to clarify our definition of development by actual operational application of it and partly to distinguish, at the broad level, what Colombia has done, covered in that chapter, from what the Bank has done, discussed in all the other chapters; for readers new to Colombia it will serve as an essential introduction, while for those already familiar with the country it will indicate the degree and nature of understanding we reached. While the report is in no sense an evaluation of the performance of the Colombian authorities

in the development of their country -- it is the Bank which is being assessed and for which we try to derive lessons -- much of it is nevertheless necessarily about problems confronted by Colombia. Although, in order to save space and avoid repetition, we have seldom made the point, we believe that very few, if any, of these problems are peculiar to Colombia. In assessing and judging the problems we have expressly tried to treat Colombia in terms of its own socio-political system and traditions. Rather rarely in the report do we make comparisons with other Latin American countries. Inevitably our judgments are probably affected implicitly by comparison with other countries. But whenever such comparisons do affect our judgments, we have expressly tried to make the perspective international, covering Bank member countries in all continents.

Some Limitations

A number of international and foreign assistance agencies other than the Bank -- particularly IDB and U.S. AID -- have been closely involved in Colombian development since the beginning of the 1960s and, though we make frequent reference to them, we never go into detail about their activities. The principal reason is of course that we had no authority to review them. We did go to some pains to familiarize ourselves in general with what they had done and the problems they had encountered, and in the course of that we developed some opinions and impressions, but we have studiously avoided conveying such mere impressions in our report. What other agencies have been doing naturally had some effect on our suggestions about what the Bank should do to increase its contribution to Colombian development. But these suggestions were based primarily on converging views from the various parts of our study about the weaker areas visible in the overall pattern of development in Colombia so that, whatever others might have done, there was clearly need for their efforts to be supplemented.

How far it would be possible and desirable for us to formulate alternative possible strategies of past Colombian development was a dilemma which concerned us throughout the study. In one sense -- for judging the retrospective validity of the Bank's advice, especially at the macroeconomic level -- it would have been very useful to have a model capturing the critical macroeconomic relationships in the economy. For instance, it would, in principle, have enabled testing alternative patterns of allocation of investment resources and foreign exchange. In practice this

was not possible because of the very poor data available on intersectoral flows in Colombia and on actual allocation of investment among sectors; even information on the sectoral allocation of public investment, for instance, is available only for the last few years. However it also seemed that the deeper potential of our study, within the time that was available, was in terms of detailed analysis of projects and individual sectors, and microeconomic and sector relationships.

Our analyses and conclusions naturally depend significantly on the quality and accuracy of the data we have had at our disposal. Scarcity of good factual information has constrained our efforts. The work of sheer collection of data, especially on some of the projects financed by the Bank, consumed very large amounts of the staff time we had available. All who worked on the study were surprised, from their previous experience in other countries, at the poor quality and quantity of Colombian statistical coverage in general. We have tried to be as careful and judicious as we could in the use of the often conflicting data available, but inevitably we have not been able to go much beyond this; and further research might well yield different answers, though we believe not at the broader and more significant levels.

Although we have tried hard to avoid it the report probably conveys a slightly exaggerated impression both of what the Bank contributed to Colombian development and of the possibilities that the Bank had for influencing actions taken in the country and Government economic policies. This is almost inevitable in a report designed to draw lessons for the Bank. Some of these lessons are basically concerned with steps that the Colombian authorities can take, but they are naturally presented here in terms of what the Bank can do to encourage or assist the taking of such steps. While it must be borne in mind that individual decisions have constantly to compromise between the desirable and the possible, nevertheless we have been impressed by the skill and diplomacy with which the Bank has developed its influence over the years and we do not feel that the suggestions we have made are unrealistic from this point of view.

Bank procedures, approaches, policies and techniques have evolved considerably over the years. Some of this becomes apparent in the course of the report. But we have not attempted, at each place where a problem is identified in some past operation, to say whether current

Bank techniques are sufficient to avoid recurrence of such a problem. At the detailed level this would have been somewhat beyond our capabilities and it would also have further increased the size of an already long report. On the other hand, our knowledge of current Bank policies and techniques has of course greatly affected the emphasis that we have given in the recommendations listed at the end of each of the sectoral chapters and in the final chapter. Nonetheless few of the problems identified in the report will be unbeknown to readers familiar with the Bank's operations, and most of the lessons drawn constitute reinforcement to various trends in current Bank thinking. Informal self-evaluation is continuously under way among the operating departments of the Bank themselves and more systematic evaluation studies, such as this one, are likely to produce mainly case material supporting changes in policies and procedures for which the need has already been seen, at least partially.

One last word of caution about the recommendations regarding future Bank action which we put forward for examination: it has not been part of our responsibilities to consider in any precise way the costs of carrying them out. Naturally, we have had budgetary limitations broadly in mind, and we do not believe that our suggestions are infeasible from this point of view, but some of our most important recommendations may have significant budgetary implications, which would need to be assessed before deciding the pace at which they should be carried out.

Acknowledgements

When the study was first being conceived a number of very useful conversations were held in Washington, particularly with Dr. Virgilio Barco, Executive Director of the Bank for Colombia, Dr. Edgar Gutierrez, formerly Chief of the Colombian National Planning Department, and Dr. Lauchlin Currie, advisor to many Colombian Governments of the past two decades. These conversations helped materially to identify some of the problems requiring review and they played an important part in the design of the study and its scope. In Bogota equally extensive discussions were held at the outset with officials of the Colombian Government and particularly of the National Planning Department (Planeacion): these helped to orient the main lines of the work.

In the early phase of the study the Economic Research and Transport Divisions of Planeacion provided some valuable assistance for short periods in the analyses of the steel and highway projects. Later, the

Energy Division of Planeacion, headed by Dr. Eduardo Barrera, made a very substantial contribution, over several months, in connection with the power simulation models used for the evaluation; almost all the work to make the models operational as well as the actual applications were carried out by this Division, and the assistance provided is very much appreciated.

During the course of the study contact was made with many parts of the Colombian Government and many institutions in the private sector. Aside from Planeacion, the most intensive contacts were naturally with the various agencies of the Colombian Government and other institutions responsible for implementation of the projects supported by the Bank. All these agencies and institutions were most helpful and cooperative. The work placed particular burdens on the Acerias Paz del Rio, the Empresa de Energia Electrica de Bogota and INCORA and, to a lesser extent, on the Corporacion Autonoma Regional del Cauca (CVC), Empresas Publicas de Medellin, and the Ministry of Public Works, and the extensive assistance provided by these organizations is particularly appreciated.

To deepen understanding of the impact of infrastructure projects on economic and social development at a detailed level, a number of short studies were contracted with Colombian research institutes. The following list shows the name of the institute and an English translation of the title of the study produced:

Centro de Estudios sobre Desarrollo Economico (CEDE),
Universidad de los Andes, Bogota:
"Investment in Infrastructure and its Impact in Small Communities: the case of Silvania, Cundinamarca."

Centro de Investigaciones Economicas (CIE),
Universidad de Antioquia, Medellin
"Comparative Study of Municipios in Colombia -- the case of Itagui, Antioquia."

Instituto Colombiano de Desarrollo Social (ICODES), Bogota:
"Physical Development and Social Welfare of Bogota."

Universidad de los Andes, Facultad de Ingenieria, Bogota:
"Investments in Infrastructure and their Relationship with the Socio-economic Development of a Municipio: the case of Socorro, Santander."

The studies proved helpful, not only in analyzing various microeconomic questions about the effects of projects but also in illustrating, for the specific areas studied, the socio-economic development accomplished in Colombia over the last twenty years.

Throughout the study, but especially in its earliest stages, much valuable advice was provided, and many stimulating suggestions were made, by numerous members of the staff of the Bank who had been concerned with the Bank's operations in Colombia. Dr. Alberto Favilla, the Bank's Resident Representative in Bogota, gave helpful orientation, and he and the staff of his office provided a great deal of invaluable administrative support for the staff of the Operations Evaluation Division and its consultants, whenever they were in Colombia.

Thus much assistance has been received from many sides in the course of the study and this has contributed to improve the quality of the study. Nevertheless the study is experimental. And full responsibility for the judgments made and the conclusions reached rests with the Operations Evaluation Division.

Composition of the Report

The first two chapters of this report are general -- the first about Colombia and its development since 1950, and the second about the overall contribution of the Bank to this development and the strengths and weaknesses of that contribution. There follow six chapters dealing in greater detail with the Bank's contribution in each of the sectors in which it has been involved. Chapter IX tries to assess comprehensively the Bank's efforts to strengthen public sector institutions in each of the sectors which it has supported. The last chapter summarizes the principal implications of the study for the Bank's work.

Yours sincerely,

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BANK OPERATIONS IN COLOMBIA -- AN EVALUATION

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LIST OF ABBREVIATIONS AND ACRONYMS

CAR	- Corporacion Autonoma Regional de la Sabana de Bogota y de los Valles de Ubate y Chiquinquira
CFP	- Corporacion Financiera Popular
CHEC	- Central Hidroelectrica de Caldas
CHIDRAL	- Central Hidroelectrica del Rio Anchicaya Ltda.
CNR	- Colombian National Railways
CORELCA	- Corporacion Electrica de la Costa Atlantica
CVC	- Corporacion Autonoma Regional del Valle del Cauca
EAAB	- Empresa de Acueducto y Alcantarillado de Bogota (Bogota Water and Sewer Company)
EEEB	- Empresa de Energia Electrica de Bogota
EMCali	- Empresas Municipales de Cali (Cali Municipal Enterprises)
EPM	- Empresas Publicas de Medellin (Medellin Public Services)
ICCE	- Instituto Colombiano de Construcciones Escolares (Colombian Institute for School Construction)
ICEL	- Instituto Colombiano de Energia Electrica
IDB	- Inter-American Development Bank
IMF	- International Monetary Fund
INCORA	- Instituto Colombiano de la Reforma Agraria
INSFOPAL	- Instituto Nacional de Fomento Municipal (Colombian Institute for Municipal Development)

ISA	- Interconexion Electrica S.A.
Lebrija	- Central Hidroelectrica del Rio Lebrija
PIF	- Private Investment Fund
US AID	- U.S. Agency for International Development
US ExIm Bank	- U.S. Export-Import Bank

COLOMBIA: Foreign Exchange Rates

	Av. Annual Rate for buying U.S. Dollars in Colombia in non-preferential official market (Pesos per US$)	Approximate Av. Annual Official Rate for imports of goods & services weighted by volume of transactions (Pesos per US$)
1948	1.76	1.76
1949	1.96	1.96
1950	1.96	1.96
1951	2.39	2.39
1952	2.51	2.51
1953	2.51	2.51
1954	2.51	2.51
1955	2.51	2.51
1956	2.51	2.51
1957	5.06	4.20
1958	6.41	6.50
1959	6.40	6.50
1960	6.65	6.60
1961	6.70	6.70
1962	6.90	6.80
1963	9.00	8.90
1964	9.00	9.00
1965	10.50	9.90
1966	13.50	13.00
1967	14.73	14.30
1968	16.38	15.90
1969	17.37	17.00
1970	18.49	18.00

CHAPTER I - COLOMBIAN DEVELOPMENT 1950-70

If development is measured by GNP increase Colombia has developed moderately over the past twenty years. If it is measured by expansion of opportunities to its population Colombia has developed modestly. If it is measured by reduction of poverty Colombia has developed marginally, if at all. As an introduction to our analysis of the Bank's contribution, this chapter delineates the development that has occurred and seeks to identify and analyze the serious obstacles that have been encountered.

Geography and Resources

The only South American country with coasts on both Atlantic and Pacific Oceans, Colombia was constituted as a Republic in 1819, after independence from Spain. Despite its equatorial location, it contains a great variety of territory -- from snow-covered peaks to Amazonian jungles. But the great majority of the 23-24 million inhabitants live in the mainly temperate western part of the country, which is traversed from north to south by three major ranges of the Andes, creating a series of valleys and plateaus at different altitudes.

Colombia's combination of equatorial location and broken topography account for many of the country's distinguishing characteristics. Due to the different climates available, there is hardly a crop which cannot be grown. A particular configuration of climate and land in the center of the country enables production of one of the highest-grade coffees in the world. The mountainous topography provides considerable hydroelectric potential, readily accessible, although difficult geological characteristics have often hampered its exploitation and greatly complicated the construction of communication lines, still leaving them subject to landslides. The country is also rich in natural resources compared to many others: it is the second oil producer in South America, the first for gold and emeralds, and it has significant deposits of many other minerals, and abundant timber stands.

Partly because of its topography, the country developed for centuries as a number of separate communities. Today there are as many as 100 towns with over 10,000 inhabitants, most of them grouped around various centers with distinctive features and strong regional traditions: Bogota, 8,500 feet up in a wide valley in the eastern cordillera; Medellin at 4,500 feet, capital of Antioquia; Cali at 3,000 feet, chief

city of the fertile Cauca Valley; Barranquilla, at sea level and dominant city of the Atlantic coastal region; as well as a number of important secondary centers, such as Bucaramanga, Manizales, Popayan and Cartagena.

Three Periods of History

Colombian history since 1950 can be conveniently divided into three periods. The first, 1950-1957, covers the boom connected with the steady run-up of coffee prices through 1954 and the extension of this boom through 1956, leading to financial collapse and the overthrow of President Rojas early in 1957. The second period, 1957-1962, starts with strict austerity which was only gradually relaxed as political and economic stability was restored. The third period, 1962-1970, covers the resumption of the development effort, at first halting but in the later years strong, with GNP growth back at the levels of the early 1950s.

Coffee accounted for some 70% of Colombia's export earnings in the early 1950s and the almost continuous rise in the international price of coffee since 1945 helped to fuel an import-substitution boom. Major public works were initiated, especially in highways and railways. Rapid growth proceeded in the cities at the same time as virtual civil war raged in the countryside. Against a background of increasing political animosity there was general relief when the Army Chief of Staff, General Rojas Pinilla, overthrew the elected Conservative Presiden in June 1953 and himself took power. The new President introduced an important tax reform in 1954 and rapidly expanded Government spending on social and economic development. Various measures were introduced to capture for the Government a larger portion of the exceptionally high international coffee prices, but they were too small and too late. Coffee reached over US¢90 per lb in March 1954 and total export receipts for the year were higher than they had ever been before; but a large deficit showed in the balance of payments for the first time in the 1950s due to the difficulties of reconciling all the conflicting forces: volatile New York coffee prices, coffee growers' demand for the 'full value' of their product, and the need to preserve domestic monetary stability. Coffee earnings fell sharply in 1955 and recovered a bit again in 1956, only to fall even more sharply in 1957. Despite these alterations in the situation, coffee producers were effectively given in 1955 and 1956 a higher share of the still high New York Price than

they had ever received before, large deficits on central Government operations were run in both years, and imports were kept at a steady high level throughout the three years 1954-1956. Against the drop in foreign exchange earnings, imports were maintained at this level only by contracting medium-term supplier credits and, more particularly, by building up commercial arrears to the extent of nearly US$500 million by May 1957 when the Rojas Pinilla Government was overthrown by a military coup.

The caretaker military Government which came into power took immediate strong austerity measures to bring the financial situation under control, while the way was prepared, with its support, for the return of democratic Government. The exchange rate was drastically devalued, imports placed under tight administrative controls, credit sharply contracted, export taxes imposed to help cover the arrears, and a large part of the arrears paid off. Coffee prices continued to fall, but balance of payments surpluses were generated; annual GNP growth fell to 2% in 1957 and 1958, and per capita consumption fell in real terms in both years. Government expenditures were sharply cut. Late in 1957 agreement was reached between the leaders of the two traditional political parties, Liberals and Conservatives, whereby each would share in power on a pre-specified basis for a sixteen year period. Under the system, known as the National Front, the parties alternate in putting up a joint candidate for the Presidency, and politically appointive posts are shared equally between the parties. The system was approved in a referendum, and Alberto Lleras, the Liberal leader, was elected President in May 1958. He re-established national planning machinery, sharply increased industrial protection in 1959, introduced an important tax reform in 1960, eased credit to reinstate growth in 1961 and issued Colombia's first comprehensive development plan. Late 1961 also saw final passage of Colombia's most important land reform law, establishing INCORA. 1/

Alberto Lleras' main achievement had been to establish the viability of the National Front system, and there were high hopes in 1962 that his Conservative successor, Leon Guillermo Valencia, might be able to lead the country into effective execution of the development plan that had been prepared. But President Lleras had been unable to introduce necessary fiscal and exchange measures before he left office, and Valencia faced a rapidly deteriorating situation which was finally met with a 34%

1/ Instituto Colombiano de la Reforma Agraria

devaluation in December 1962, with a less devalued rate for coffee, thereby generating fiscal resources. Further necessary tax measures were delayed, partly because Valencia did not have the two-thirds majority in the House needed under the National Front system, and inflation proceeded at a rapid pace, stimulated by wage legislation promoted by the Government early in 1963. Fiscal revenues, in real terms, never reached near the level required to support the General Development Plan. The economic and political situation deteriorated seriously in 1964 and by the middle of 1965 decisive measures were urgently needed. After two changes of Finance Minister, a devaluation of 38% was finally introduced in September along with related tax measures; and Government revenues and expenditures rose sharply in 1966. Within a year, however, the foreign exchange situation had again deteriorated sharply due to a drop in the coffee price, excessively rapid liberalization of imports and poor performance of minor exports. President Carlos Lleras, within a few months of taking office in 1966, had to take drastic measures, involving 100% exchange controls. Meantime, major tax measures were adopted, and a completely new foreign exchange system geared to a flexible central exchange rate was introduced in March 1967, a regime still in operation today. Under Carlos Lleras the economy began to be guided with a firmer hand. Tax revenues increased by very large amounts, minor exports were strongly promoted, interest rate and tariff structures were somewhat rationalized, important administrative reforms were introduced, very large amounts of foreign assistance were raised, and the economy grew at better than 6%.

GNP Growth and Change in Sectoral Composition

Despite these political difficulties and the country's dependence on gyrations in the international coffee market, the Colombian economy has nevertheless achieved an average growth, in real terms, of 4.9% per year, so that GNP is now more than two and a half times the level attained in 1950. 1/ This is about average among Latin American countries and developing countries as a whole, but a little below the average for countries in Colombia's GNP per capita range -- now around US$300. It is probably above any rate of growth previously achieved in Colombia

1/ In regard to all macroeconomic magnitudes reference is made to Annex Table 1.1, Colombia: Economic Development Statistics 1950-1970, at the end of this volume. It should be emphasized that the National Accounts, while internally consistent, leave a good deal to be desired in certain respects.

over such a long period. Nor does it seem that Government targets for GNP growth have been seriously missed except temporarily in the early 1960s. In the early 1950s the Government's Planning Office talked of a target of about 4% and this was exceeded. The 1961 General Development Plan, Colombia's first comprehensive planning effort, targeted 5.6% GNP growth for the first half of the decade and possibly higher for the second half. Actual growth averaged 4.4% in the first half of the decade and 5.2% over the whole ten years. Better than 6.0% growth was achieved in 1968-1970, reflecting acceleration in agriculture and industry and a considerably stronger balance of payments, and growth in the realm of 7.0-8.0% was being targeted for forthcoming years.

Gross National Income (i.e. allowing for changes in the terms of trade and therefore better representing real purchasing power of the country) has grown at 4.6% per year, less than the GNP, due to a decline since the early 1950s in the real international value of Colombian coffee exports. However, consumption has grown consistently faster than this -- at an average rate of 5%. In the last ten years, consumption growth has averaged about 6% in real terms, and slightly more in the private sector. Investment, on the other hand, has grown at only 4% (also in constant prices) over the twenty years, but much more rapidly over the last five years (more than 13% p.a.). Consumption and investment together could exceed the growth of national income and domestic output because the effects of the decline in international coffee prices were more than offset by net inflow of foreign and international grants and loans.

Growth in the 1960s was sustained with a much lower rate of investment than projected: the 1961 Plan 1/ aimed at investment of 25% of GDP but actual investment has been in the 18-20% range, the same as in the base years. Even with this lower investment rate, a much higher proportion than expected has been financed by foreign capital inflows -- about 20% in the last years of the decade; foreign assistance had been planned to peak in the mid-1960s and to decline thereafter. The much greater volume of foreign assistance has been required because non-coffee exports fell far short of projections (coffee earnings were about in line with Government projections) and because domestic savings have been very disappointing: growth of public savings was poor through 1963 but then began to recover so that by 1970, when they reached nearly 7% of GDP (almost double the level of the early 1950s), they were reasonably close to projected levels, but private savings have grown little compared with the doubling expected over the plan period.

1/ Detailed comparison between the Plan, the Bank Recommendations on the Plan and Actual Development is given in Annex Table 1.2.

Since 1950 the structure of production has shifted out of agriculture into manufacturing and services. Agriculture now accounts for about 30% of GDP, compared with 40% in 1950, the reductions in relative importance being about equally divided between coffee and livestock. Services and manufacturing have each increased their relative importance by some five percentage points. Much the fastest growing sectors have been financial services and public utilities. In agriculture and manufacturing it is mainly particular sub-sectors which account for the growth accomplished. Production of the principal traditional food crops of the country, occupying the large majority of the cultivated farmland and agricultural employment, has grown, according to official statistics, at less than 2.5%, below the rate of population growth. On the other hand, a few commercial crops -- mainly cotton and white sugar, rice, barley, sorghum, sesame and soybeans -- have shown very rapid production increases, averaging better than 7.5% p.a. and coming mainly from a limited number of larger farms. As a result total domestic food supply has approximately kept pace with population growth. Non-durable consumer goods still account for more than half of total manufacturing production and they have grown in line with the relatively small domestic market. The more dynamic industries have been paper and paper products, chemicals, petroleum refining, pharmaceuticals, rubber products, metal products and iron and steel -- and more recently electrical and mechanical machinery, although these remain small in the aggregate.

Growth and Development

Thus Colombia emerges with an economy more diversified than twenty years ago and stronger internationally, particularly in the sense of being less dependent on one commodity (coffee) and one market (the United States). It has managed to achieve an increase in per capita income averaging 1.5% per year but faster in the last few years with an investment rate nearly 50% above the levels of the early 1950s. Transportation and power facilities, the inadequacy of which were major bottlenecks to development at the outset of the period, have been greatly improved. Industrial development, which was relatively rapid in the early 1950s but limited to import substitution, has moved in a few fields towards an export orientation. Improvements have been achieved in several dimensions of welfare: health, education and household services such as electricity. Modern technology has been successfully introduced in many fields and technical skills have been developed.

The country has now much greater resources of trained people and a considerably more effective system of public administration. Foreign debt problems have been successfully avoided since the late 1950s by careful control of foreign borrowing. Foreign exchange resources are now better managed and are less of a constraint than in some years in the past. Fiscal performance has improved considerably and the public sector is now a stronger instrument to promote balanced development.

The pace and pattern of economic growth have nevertheless been such as to provide increasing opportunities only to a rather limited proportion of the population, and in some respects that proportion has fallen. Unemployment and underemployment have greatly increased. The fruits of growth have been very unevenly distributed. It is hard not to be struck by the accuracy for the last two decades of the description of the Colombian situation contained in the Bank's first major report on the country, in 1950:

> "The economic progress of the past 20 or 30 years, however, while very real, has been quite uneven. A great deal remains to be done, and there are many aspects of the situation that give thoughtful Colombians grave concern. The darker side of the picture centers about the condition of the masses of the people. The great majority are inadequately fed, clothed and housed. Their health is poor and life expectancy short. A large proportion is illiterate, and few have had more than two or three years of primary schooling. Their condition is better, no doubt, than that of the people in many underdeveloped countries, particularly in the equatorial belt. But their standard of life is far below the level that it could attain if the country's potentialities were more adequately realized." 1/

In some of the areas mentioned -- such as primary schooling and life expectancy -- improvements have certainly been made and the numbers would be different today, even though the broad statements remain true. But in some areas there has been either no improvement or a deterioration -- in particular in nutrition and housing.

The biggest problem in Colombia, to which every major Bank report on the country has pointed, has been and remains widespread, and in places desperate, poverty in the countryside. It directly affects between a quarter and a third of the national population, despite the

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1/ IBRD, The Basis of a Development Program for Colombia - Summary (Washington, D.C., 1950), p. 2.

large migration into the towns that has taken place. This group accounts for a major part of the bottom half of income earners in Colombia, which may well receive a smaller share of national income than in almost any other country -- in 1964 only 13.5%. 1/ Impressions and numbers all combine to suggest that, although a little progress has been made, this rural group may have been becoming worse off in important respects -- in housing and nutrition absolutely and in income relatively. They probably have the highest birth rate and the worst public health conditions. Nearly half the houses in rural areas (compared with less than a quarter in 1950) have three or more persons per room. Probably some 80% of rural dwellings remain without any sanitary facility (latrine) compared with 90% in 1950. Enrolment in school of children of primary school age may have increased from some 20% in 1950 to about 40% currently, but only a small fraction of these go through all primary grades. The agricultural laborer, the largest single group in the national labor force (about 20% of the total) did participate in economic growth, with real wages increasing from just over $180 a year in 1945 to about $250 2/ in the early 1960s, or by nearly 40%. But since the early 1960s agricultural wages have barely increased in real terms. At the same time, average income per member of the national labor force has doubled since 1945 and manufacturing wages have more than doubled.

Provision of employment, which was not a major difficulty in the early 1950s, became a serious problem in the 1960s. The 1961 Plan aimed at an increase of two percentage points in the rather low labor force participation rate 3/ and a reduction in productivity differentials between sectors. These targets were geared to the assumption that

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1/ This figure comes from Revista Banco de la Republica, 1970 (Urrutia and Sandoval) and compares with Brazil 15%, Mexico 15%, Venezuela 14%, Costa Rica 18%, U.S. and U.K. 23% (ILO, Toward Full Employment, 1970). Other studies covering 44 developing countries give estimates for the share of national income received by the poorest 60% of the population: Colombia 15.9%, Brazil 22.7%, Mexico 21.8%, Venezuela 30%, Costa Rica 25.4%. The figure for Colombia is lower than for any other country among the 44 except Gabon (15.0%) and Libya (1.8%). (I. Adelman and C. Taft Morris, An Anatomy of Patterns of Income Distribution in Developing Nations, 1971).

2/ Both figures in 1969 US dollars converted at official exchange rate.

3/ i.e. ratio of labor force to total population.

population was growing at 2.8% p.a. In fact, as has occurred repeatedly since 1950, the actual pace of population growth greatly outstripped the projection: it has averaged 3.3% p.a. and 1970 population was probably about 3 million above the number expected. The 1970 labor force, in absolute terms, was nevertheless below the number projected, reflecting a decline instead of the targeted increase in the participation rate. Open unemployment increased substantially from some 5% of the labor force in 1964 to a peak above 10% in 1967 since when it has probably come down to a level between 8 and 10%. Productivity differentials have not declined, but seem to have increased, between agriculture and non-agriculture, and, more importantly, between subsectors in non-agriculture: for instance, the bulk of the increases in employment in manufacturing and commerce between 1964 and 1970, by contrast with earlier periods, seem to have been in the low-productivity 'traditional' portions of these sectors rather than in the 'modern' portions. The poverty of those engaged in 'traditional' low productivity occupations is in many respects a more serious social problem than outright unemployment, affecting many more people.

The main beneficiaries of the development achieved are those who fall within the top 20% of income receivers and account for some 60-70% of total income. 1/ This group would include most property-holders, 2/ other than those owning very small farms, and most of those working in the modern sectors of the economy, such as 'modern' manufacturing and commerce, Government, financial services and public utilities; the modern skilled and semi-skilled working class which has begun to develop over the last twenty years and the technically oriented middle class that has emerged would fall in this group. About 20% of the national labor force is now covered by social security, compared with about 6% in 1950; and about 20% of the labor force now pay income tax, compared with 2% in 1950. These families would account for most of the secondary school enrolment, which has increased from about 6% of the population in the relevant age-group to nearly 20% by 1970 (about half of the enrolment still being in private secondary schools).

Most of these principal beneficiaries of development live in the larger cities, but there has been very considerable migration out of the rural areas and doubtless those who have moved into the city have also participated to some extent in the benefits of the country's development;

1/ The top 5% of income receivers account for about 35-40% of total income.

2/ It is roughly estimated that the wealthiest 10% of families own some 75-90% of all wealth in the country.

there is some evidence that, anyway up to 1965, the average income of the poorer half of the urban population increased slightly more than the national average. Since 1950 some four million people have migrated to towns and cities (especially the larger ones) so that these areas now contain nearly 60% of the population, or 14 million people compared with less than 4.5 million in 1950. Even with this extremely rapid growth, public and private facilities have been expanded fast enough to enable some 60-75% of urban families to send their children to full primary school, to have their own sanitary facilities and to have electricity, as compared with about 50-65% in 1950. Nonetheless urban crowding has also become more severe, the proportion of families living with three or more persons to a room having more than doubled, but remaining much less than in the rural areas.

How could a better pace and pattern of growth have been achieved? How could a wider development have been accomplished, increasing opportunities more for a greater proportion of the population? There seem to us to be five key issues which are closely interlinked. First, the inadequate mobilization and exploitation of domestic resources has limited the country's development capability below potential. Second, only a small proportion of the population has been able to participate substantially in the development effort, as in its benefits. Third, institutional and administrative weakness has severely hampered the development effort and its spread. Fourth, fiscal deficiencies have prevented the Government from playing a larger role in areas where a more intensive participation would have been crucial. Finally, shortage of foreign exchange and poor exchange policies have hampered the economy in many years.

Domestic Resource Development

The tendency for development in the 1960s to depend much more than planned on foreign resources and to mobilize much less than planned local resources of manpower and savings is symptomatic of a problem that runs deep in Colombian development: the difficulties of bringing domestic resources into use for development. There are many illustrations of unrealized potentials here beyond the fields of employment and savings: for instance, the need for Colombia to become the second largest recipient of nutrition assistance under the World Food Program despite its rich and diversified agricultural production potential; the failure of

many particular agricultural exports and import-substitutes such as rice, wool, fruits, vegetables, flowers, meat and cacao, to develop to the extent that might have been, and in many cases was, expected; the overall growth of agricultural production at a pace only equal to population growth; the disappointing development to date of the country's rich lumber resources; the slow progress in exploration and exploitation of mineral resources; the odd pattern whereby electricity, probably the most import- and capital-intensive urban facility, seems to have developed more in the major cities than almost any other major facility, such as housing, water supply or public health, all of which should be less bound by import constraints.

Important obstacles to a fuller exploitation of domestic resources have been weak public institutions, ill-designed incentive structures, small markets, and poor mechanisms for channelling investment in appropriate directions, but a key factor has been the structure of land tenure, in the urban areas but particularly in the rural areas. Traditionally, due to a combination of circumstances -- large land grants under the colonial system particularly in the then unsalubrious river valleys, the preference of absentee landlords for livestock rather than crop farming and the inability of small farmers in the now overpopulated highland districts to muster the resources to buy land elsewhere -- large areas of potentially good crop land have remained under extensive and rather inefficient livestock grazing. According to the Agricultural Census of 1960 more than 75% of the agricultural land, or some 21 million hectares, was in some 83,000 farms, the large majority of them showing significant underutilization. Farm studies suggest that some of these farms are earning high returns to capital, partly due to their being favored with supporting services, guaranteed prices and subsidized credit, but they have limited interest in increasing their productivity through long-term investment. The incentive to the farmers is to buy more land rather than to intensify production on their present holdings, and they may mechanize not so much because it is financially worthwhile as because that reduces the labor force. At the same time there are great numbers of small farmers crowded onto 2 million hectares or so, often getting as good or better yields than the larger farmers despite having worse land and effectively earning higher returns to their capital investment -- but unable to expand for lack of financial resources.

Redistribution of good land in large quantity seems to us essential to overcome this bottleneck, but INCORA, the agency set up in 1961 to carry this out -- by taking over land inadequately exploited, with compensation to the owner -- has not been able to operate effectively. Most of its efforts have been diverted into expensive irrigation and colonization schemes not consistent with the scope of the problem or with Colombia's financial resources. Actual parcelization of land expropriated or acquired from private owners has apparently yielded no more than about 6,000 new titles in total; much of this land has allegedly been of poor quality and ceded by its previous holders because it would be unprofitable to develop it. Price incentives and the threat of land reform have induced some reduction in the amount of land held in the largest farms, as illustrated by cadastral survey figures available for selected areas in 1960 and 1970, but the movement has been small. There are now nearly 1,000,000 farm families with less than the five hectares generally required to provide a basic standard of life; and even INCORA's supervised credit program for the smaller farmers touches less than 40,000 of them.

Wider exploitation of domestic resources has also been hampered by structural problems in credit markets, which limit the generation of savings and make credit rather unequally available and also seem to restrict competition and inhibit enterprise in the development of new projects. Numerous development finance institutions (Financieras) have arisen around the country, not competing with one another much, but rather as a means whereby local groups can obtain access to the various special credit lines available from the Central Bank, each with their own regulated interest structure. Long-term borrowing is difficult due to the inflationary environment and stock market operations are inhibited by the concentration of wealth, the importance of forced investments for financial institutions and legal uncertainties.

Participation in the Development Effort

The other side of the coin of the problem of bringing domestic resources into use for development is the problem of securing participation in the development effort. Expansion of commercial farm production has not generated very sizeable amounts of employment and it has sometimes been at the cost of the small farmer, pushing him further into subsistence production -- due to the low income levels and low effective demand of much of the population, and consequent low national elasticity of demand

for agricultural products. The concentrated pattern of income distribution has severely limited the domestic market for industrial products too. Apart from the production for export that has developed in recent years, industrial development has been largely a self-sufficient consumption-production process geared to the needs and capacities of the middle and high income groups. The integration of the country -- through improvements in transport and communications, the growing size and complexity of the economy and improved education -- has so far mainly affected these classes too.

As regards unemployment, reassessment of the 1961 Plan suggests that even if the high investment rates proposed had been attained, growth of employment in high and medium productivity sectors would nevertheless have fallen short of targets -- unless special measures had been taken. For structural reasons, connected with the system of land tenure and capital markets, incremental investment has tended to be concentrated primarily on large firms (above 200 employees) and selected large and medium farms (above 10 hectares) with high capital-labor ratios; highest returns to capital are being obtained in medium-size industry (50-200 employees) and small-size farms (5-10 hectares) but these have suffered severely from shortage of credit, technical assistance, etc. As a result new manufacturing jobs between 1958 and 1967 had an average direct investment cost of some US$15,000-20,000 equivalent. INCORA estimates infrastructure investment per farm family settled in colonization schemes at US$8,800 equivalent. But the economy has actually been able to invest an average of only about US$3,000 equivalent per new job created, 1/ and this figure includes housing, indirectly related infrastructure, etc.

An adequate solution would have required greater efforts to strengthen and foster small industry and construction, by channelling more credit to them, and land reform by parcelization, for which INCORA estimates the infrastructure investment cost per family settled at US$400 equivalent. But even with measures of this nature and rapid growth of the economy, the annual investment required over the period 1964-1969 to maintain participation and employment rates at their levels of the early 1960s would have been about US$250 million equivalent more than what was actually undertaken. This figure is equivalent to some

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1/ i.e. net domestic investment divided by increase in employment, with figures lagged one year so that increase in employment 1964-1970 is compared with investment 1964-1969 inclusive.

25-30% of combined public and private savings actually raised domestically or to about one-and-one-half times actual gross official loan disbursements to Colombia. Raising these funds would have presented serious problems. Public sector investment rose very rapidly after 1965, and it is unlikely that it could have increased much faster without major efforts in improving public institutions. Private sector investment has lagged seriously compared with the Plan, but it is doubtful how far additional external financing would have contributed to solving the problem; analysis of available data shows a negative association between capital inflows to the private sector, particularly on long term, and domestic private savings, implying the possibility that such capital inflows may have induced lower savings. Thus, from the viewpoint of resource mobilization also, reform measures would have been essential to make the solution feasible.

Our studies suggest that there is no identifiable group which has not participated at least to some extent in the benefits of development, measured in income or in welfare indicators such as education opportunities and household services. But the participation has been so unequal as to make this seeming breadth not very meaningful. Income and welfare distribution have almost certainly not improved over the last twenty years, in the sense of the lowest 20 or 30 percent of the population now receiving a bigger share of the total, and it has probably deteriorated. 1/ Taxation may have become slightly more progressive, but various studies of tax-incidence by income class and of the comparable distribution of benefits of Government activities suggest that the overall effect of Government operations is only mildly redistributive at present. Education has expanded rapidly, with students in primary and secondary schools quadrupling in absolute numbers between 1950 and 1970 and doubling (to about 50%) as a proportion of total school-age population. But the 1970 Development Plan has to point out that 643

1/ This is indicated by the latest studies of the experts on income distribution in Colombia, Miguel Urrutia and Albert Berry. Their studies also indicate the possibility that the bottom 50% of families may now receive a somewhat larger share than in 1950, at least if capital gains are left out of account. This is primarily due to their finding that, although rural income distribution has tended to deteriorate, urban income distribution (excluding capital gains) probably did improve when the economy grew slowly between 1953 and the middle 1960s. This improvement probably outweighed the deterioration in the rural areas since the urban areas were at the same time growing much faster in terms of population.

out of every 1,000 of the population presently crossing the age of 7 are not going beyond second-grade primary and are consequently "incapable of modifying the social structure and very difficult to modify themselves, due to the inertia of impermeability". 1/

The main direct measures that the Governments of Colombia have taken to broaden participation in the development effort are probably establishment of organizations and agencies such as INCORA, ANUC, 2/ FANAL, 3/ and Accion Comunal, partly as the result of competition between the traditional political parties for popular following. Such organizations have been partly a response to the demands of the poor, but they also have been an important stimulus to those demands. The rather rigid and centralized structure of traditional local Government in Colombia has not been able to cope with the situation. These agencies have been confronting the basic problems of overcoming apathy, channelling dissatisfaction and inducing responsiveness.

Administration and Organization

A problem which has persistently hampered development more broadly has been weak Government administration and organization. Reference was made earlier to the Government's failure to take decisive action in 1954-1956 to deal with the coffee problem and in 1963-1965 to deal with the fiscal problem. In some ways the National Front system made decisive action at the policy level even more difficult, especially up to 1968 when the requirement of a two-thirds majority in the Assembly began to be abolished. But behind these problems and underlying them was serious weakness in the machinery for formulating

1/ Departamento Nacional de Planeacion, Plan de Desarrollo Economico y Social 1970-1973 (December 1970), Vol. VII - p. 3.
2/ Asociacion Nacional de Usuarios Campesinos, established in the late 1960s.
3/ Federacion Agraria Nacional, established in the late 1950s.

and executing policy. The agencies and organs of the Government tend to move sharply up and down in effectiveness depending on the strength of a few key appointees, the support which they are given by the Government and the extent to which they allow partisan politics to intrude in the operation of their agencies.

Partly to limit political interference and partly to meet the needs of special interest groups there has been a tremendous growth over the last 30 years of so-called 'decentralized agencies', not generally regional but with independent constitutions, their own budgets, partially independent sources of financing, and Boards normally including the relevant Government Minister and leaders of special interest groups. There are now more than 100 such agencies. This has created considerable problems of coordination, which were partially solved by important administrative reforms in 1963 and, more especially, 1968.

Agencies concerned with the formulation and execution of major economic policies have been considerably strengthened. The National Planning Department was established in something close to its present form in 1958 and it has played a major role, especially since 1965, in improving the allocation of Government resources, in negotiating foreign assistance, and in developing improved fiscal and foreign exchange policies. The Monetary Board was established in 1963 and it has succeeded in bringing the commercial banks under more effective control and in improving interest-rate policy significantly. Tax administration by the Treasury has also been greatly strengthened in the 1960s. Sound policies on taxation of coffee and financing of inventories have been developed and applied in the last decade, and the Government of Colombia has taken a leadership role in international management of the coffee cycle.

Agencies responsible for preparation and execution of development projects and for provision of essential services to the community, such as transport facilities, water supply or agricultural services, show a much more uneven pattern -- both among one another and over time. Generally, those responsible for such services in the rural areas and smaller towns seem to have strengthened much less than those responsible for the major cities. Many agencies still suffer from political appointments, poor personnel policies and training programs, outdated accounting systems and inadequate contracting procedures. Salary

structures, which are anyway substantially below those in private enterprises, have sometimes been seriously eroded by inflation which has added to the difficulty of retaining good staff. Nevertheless these agencies, as a group, were able to prepare and execute, in the late 1960s, development projects with a total cost three or four times the cost of those undertaken in the early 1950s, which is a significant achievement.

Fiscal Performance

The weakness of central Government agencies is in part both cause and result of difficulty in collecting taxes. Shortage of resources in the public sector has been an almost permanent problem sharply limiting what could be achieved, frequently delaying execution of development projects and programs, causing loss of qualified personnel and totally preventing major programs in many areas of need.

Relative to GDP central Government current revenues, which account for most of the taxation in the country, fluctuated between 6 and 8 percent from 1950 right through 1967. 1/ In the early 1950s they rose rapidly as a result of the coffee boom and rapid industrial development. But from the Rojas tax reform of 1953 to the end of the Alberto Lleras administration in 1962 they moved up and down in the range of approximately US$250-300 million equivalent. President Valencia made the first halting steps outside this range and since 1963 Government revenues doubled to reach well over US$600 million equivalent in 1970, over 9% of GDP. Probably the most important single step in the eventual improvement of fiscal performance was the gradual introduction of withholding of income tax at source starting in 1967, after years of struggle.

Nevertheless, after all the efforts, total tax revenues (all levels of Government) remain low in Colombia, at about 13.5% of GDP. 2/

1/ For detail, see Annex Table 1.3, Central Government Operations.

2/ Comparable up-to-date figures for other countries are not available, but for 1963-1965 total tax revenues as a percent of GNP were: Colombia 11.5%, Argentina 20.1%, Brazil 21.4%, Chile 20.9%, Ecuador 16.7%, Mexico 9.9% and Peru 16.0%. (R. A. Musgrave and M. Gillis, Fiscal Reform for Colombia, Harvard Law School, 1971)

Relative to personal incomes, the total tax burden ranges between 12-14% for the lowest ten percent of income receivers and only about 20-22% for the top ten percent.

Among Government expenditures 1/ the share going to Economic and Social Development has shown a gradually rising trend over the last twenty years, mainly due to rapid increase of expenditure on education, while the share going to defense and police has fallen. Public investment has risen much faster than Government revenues, increasing from 2-3 percent of GDP in the early 1950s to 5-6 percent of GDP in the late 1960s and over 6 percent in 1970. Foreign assistance has covered about half of this increase.

With financial resources so scarce throughout most of the period under study it would probably have been appropriate to use for planning purposes an opportunity cost of public resources in excess of one, but no such figure appears ever to have been calculated. As regards the opportunity cost of capital, both public and private, an appropriate figure for the period under review appears to be about 10-11%, with a possible range of 8-12%. 2/

Balance of Payments

Colombia's foreign exchange situation changed sharply in 1957 from one of relative ease to an extreme shortage, exacerbated by the steady decline in world coffee prices from 1956 to 1963 and by the need to pay off the large arrears built up between 1954 and 1957; not until the late 1960s did the foreign exchange situation regain some degree of stability and in 1969 total merchandise export earnings for the first time exceeded the level reached at the end of the coffee boom in 1956. 3/

1/ For details see Annex Table 1.4, Distribution of National Government Expenditures.

2/ See Arnold C. Harberger, "La Tasa de Rendimiento de Capital en Colombia", Revista de Planeacion y Desarrollo, October 1969, and Alberto Musalem, Demand for Money and Balance of Payments: The Experience of Colombia, 1950-1967, Harvard DAS, 1970.

3/ For details of the evolution of the balance of payments, see Annex Table 1.5, Colombia: Balance of Payments 1950-1970 and Annex Table 1.6, Disbursements on Foreign Loans Guaranteed by the Colombian Government.

Even before 1957, but to a much greater extent afterward, it was necessary to control the demand for foreign exchange by numerous mechanisms beyond the exchange rate: tariffs, import prohibitions, import licenses, prior deposits for imports and sometimes prior deposits for import payments too. Licensing had to be particularly tight in the late 1950s after the 1957 financial crisis and in the early and middle 1960s when rapid inflation tended to put stress on the balance of payments even with the existing array of controls and effective premia for imported goods. In these periods of tightness preference was normally given to raw materials, spare parts and intermediate goods in order to keep existing industry running. Consumer goods accounted for some 20% of total imports before 1957, but only 10% after. In the last few years, with a more ample supply of foreign exchange, heavy foreign capital inflow and an expanded investment program, capital goods imports have for the first time exceeded intermediate goods imports in absolute amounts.

Despite the recurrent foreign exchange crises between 1957 and 1967 Colombia's balance of payments emerges stronger now than in 1950. A large public foreign debt has been incurred amounting to nearly US$2 billion by the end of 1970 compared with US$160 million at the end of 1949, but, due to careful debt management and large assistance on easy terms provided by the U. S., the debt structure is sound and the debt service ratio was only about 12% in 1970. Coffee has fallen from over 70% of exports of goods and services in the early 1950s to a little over 40% in the late 1960s, and now only about 40% of the coffee goes to the U. S. alone, compared with 90% in the early 1950s. Non-coffee exports as a whole have grown at an average pace of 7.7% over the period. So-called minor or non-traditional merchandise exports (i.e. those other than coffee, petroleum and gold) have grown much more rapidly -- at an average rate of 13.5%, and much faster in the mid-1950s and late 1960s. Colombia has swung from being heavily dependent on outside sources for some products to being a significant net exporter -- most notably in cotton and textiles but also in other manufactured products. Exports of manufactures rose steadily in the 1960s from less than US$10 million to a substantial US$70-80 million, with a sizeable proportion going to other Latin American countries. Over the last decade, and especially in the last five years, livestock and sugar have become important agricultural exports and considerable import substitution has been accomplished in vegetable oils.

Balance of payments evolution has nevertheless been somewhat disappointing by comparison with 1961 Plan objectives, and minor exports also failed to reach the 1970 target of US$300 million established by the Carlos Lleras Government. Over the long term, as discussed before, the main disappointment has been the poor development of many natural resource export potentials. This development lagged partly due to the unstable foreign exchange regime which prevailed and frequently overvalued exchange rates, but mainly for structural and institutional reasons -- outmoded land tenure pattern, poor Government organization, insufficient surveys, limited industrial competition and enterprise.

The exchange rate has frequently been overvalued -- in the immediate sense that it led to exchange crises, in the short-run sense that it had to be supplemented by numerous other measures to contain the demand for foreign exchange, and in the long-run sense that it (together with other measures or lack thereof) resulted in patterns of demand and of investment enabling much less full use of domestic resources for development than should have been possible. A special study to estimate the price at which foreign exchange would have had to be sold each year in order to equate demand with supply without reliance on tariffs, prior deposits, quantitative restrictions, etc. suggested that this would have been between 1.5 and 2.5 times the official price each year since 1957 and generally less before (Annex Table 1.7). Similar results were reached by the Colombian National Planning Department. Mainly because these results are based on year-by-year analyses, without allowance for the effect that actually charging such prices would have had on the structure of the economy, they probably exaggerate the real scarcity price of foreign exchange over the long term. On the basis of our analyses it would seem doubtful whether the opportunity cost of foreign exchange in Colombia at the end of the 1960s was as much as double the official rate but it would seem likely to have been at least 1.5 times the official rate. By the end of the 1960s most merchandise imports to the private sector did in fact pay a substantial premium over the official rate in the form of import tariffs and prior deposits, so that the effective rate for them may not have been very much below the 1.5 level; merchandise imports to the public sector and basic industries and imports of services were however still priced at a low effective rate, very close to the official one.

CHAPTER II - THE WORLD BANK AND COLOMBIA

Among developing countries Colombia was one of the earliest and has always been one of the largest borrowers from the World Bank. The first loan was made in 1949 and further loans have been made each year since, except for 1957 and 1965. By the end of 1970 a total of 43 loans had been made, amounting to US$750 million, of which US$730 million was from the IBRD and US$20 million from IDA. Five of these loans have been fully repaid. Colombia's outstanding debt to the IBRD at the end of 1970 (including undisbursed) amounted to US$528 million or just over 5% of the total IBRD portfolio, more than any other country except Mexico, Brazil, Japan and India. In per capita terms Colombia has been the largest recipient of IBRD loans among major developing countries; by the end of 1970 it had received US$34 in commitments, compared with US$19 for Mexico, for example, US$9 for Brazil and much less for India.

Although lending began in 1949 most of the Bank's commitments have been in the 1960s, and nearly half of the cumulative total in the five years 1966-1970. New lending averaged US$15 million per year in the 1950s, but US$60 million in the 1960s as a whole and US$90 million in the last three years. Gross disbursements ran about US$10 million annually in the 1950s but US$35 million in the 1960s. Nonetheless, relative to total foreign lending to Colombia, the Bank has been much less important in the 1960s than in the 1950s. Leaving aside the special medium-term credits obtained after the 1957 financial crisis, the Bank accounted for well over 50% of all medium and long term lending to the country between 1949 and 1960; the only other important foreign lender was the US ExIm Bank. But for the period 1961-1970 the Bank and IDA accounted for only slightly more than a quarter of the US$2.1 billion total loans obtained from official sources. Two-fifths came directly from the United States (through AID, ExIm Bank and PL 480), one-fifth from the IDB and the remaining 15% from the European countries, Canada and Japan. However, even in this period, the Bank has remained the most important single source of foreign finance and, as Chairman of the Consultative Group which it established for Colombia in 1963 and to which these other countries and agencies belong, it has taken a lead in encouraging them to support the Colombian development effort.

In addition to loan finance and coordination of foreign assistance efforts, the Bank has also provided Colombia considerable technical assistance, in the form of major missions visiting the country and reporting, as

well as resident advisors. It has devoted substantial effort to strengthening institutions to which it has lent. And it has offered considerable advice about development policy and negotiated policy agreements in connection with Consultative Group lending operations. The purpose of the present chapter is to analyze the Bank Group's overall contribution to Colombian development, particularly in relation to the five critical issues discussed in the first chapter, and to identify its strengths and weaknesses.

The Widening Scope of Bank Action

The Bank's work with Colombia began in the middle of 1948 when the Colombian authorities requested assistance for a number of tentative projects and an economic mission visited the country for a first review. The Bank decided that it would go ahead with a loan to finance import of agricultural equipment and several possible small power loans, but that further lending, particularly for certain transport projects proposed by the Colombians, would have to await the outcome of a major planning effort. The Bank suggested a large Survey Mission, which it would sponsor, to help the planning effort.

The General Survey Mission, under the leadership of Dr. Lauchlin Currie, spent the latter half of 1949 in Colombia. Its extensive and comprehensive report, broad in outlook and confronting all the issues important in today's development thinking, was sent to the President of Colombia in July 1950. It proposed a "coordinated attack on poverty," mainly in the form of a public investment program, with related tax measures which were also intended to encourage rural land owners to intensify production and to discourage speculation in urban real estate. To convert the program into a real Colombian plan Dr. Currie suggested creation of a bi-partisan Committee for Economic Development, composed of prominent Colombians. The President appointed such a Committee, which worked for about a year with a secretariat consisting of Dr. Currie himself and others suggested by the Bank. The Committee played an important part in formulating monetary policy measures, in setting up some new institutions and preparing revised versions of the recommended transport investment programs. But it firmly rejected the proposed tax measures and it was unable to convince the Government not to go ahead with the proposed Paz del Rio steel mill. The Committee eventually disintegrated due to tensions between the political parties.

The Committee's work on transport led to the Bank's first two major loans to Colombia -- one in April 1951 for a large highway program and another in August 1952 for the construction of a railroad down the Magdalena Valley to 'integrate the country' by interconnecting the various existing railroads and also to ease export/import traffic between central Colombia and the Atlantic coast. Both projects ran into serious delays and cost overruns. For the highway program supplementary loans were made in 1953, just after General Rojas Pinilla had become President, and again in 1956. For the railroad a second loan was made in 1955, to extend the line into a complete link to the coast and make it the so-called Atlantic Railroad. Other loans in the mid-1950s were small follow-ups to earlier loans for farm equipment and for power development in the Cauca Valley.

A great deal of effort was put into arranging technical assistance in this period, although some of the resultant assistance was of poor quality and much of it had only quite limited effect, partly due to political instability at the time. Planning advisors were provided to help set up a Planning Office and provide policy advice. Individual engineers were found to help the Ministry of Public Works with the road program and maintenance. Large teams were provided by Madigan-Hyland, an American engineering firm suggested by the Bank, to assist the railroad work. Several missions were carried out to advise on establishment of a regional corporation for development of the Cauca Valley. A major Agricultural Survey Mission, headed by Sir Herbert Stewart, was undertaken in 1955. Other requests for technical assistance -- on public administration, government finance, livestock development, urban planning, for instance -- were turned down for various reasons, and considerable argument was evoked by the Bank's repeated refusal to finance water supply expansion, mainly on the grounds that it would not have the direct effect on production of goods and services that it sought for its projects. Bank staff themselves gave considerable assistance in drafting basic legislation -- for instance for control of foreign borrowing, for establishment of the National Railways Corporation (CNR) and of the regional development corporation for the Cauca Valley (CVC).

In face of the deteriorating financial situation and build-up of import arrears in 1955 an important Bank mission was sent, by agreement between the Bank and the Government, to help bring order into public investment plans and to advise on the Paz del Rio steel mill, recently completed after vast cost overruns but performing poorly. The mission itself had to inventory public investment plans. It found them much larger than

the resources that would be available with sound financial practices, and some of the projects of dubious feasibility. The Bank informed the Government that it would work on a large program of possible highway and power loans provided that the Government would take steps to restrain investment, limit other foreign borrowing, liquidate import arrears, and expedite construction of the Atlantic Railroad. The Government was offended, but an appropriate letter of response was eventually worked out between the Finance Minister and Bank staff. The Bank made its third highway loan, but by the middle of 1956, in view of the Government's lack of action and the ineffectiveness of what action was taken, the Bank decided to suspend further lending. Negotiations continued spasmodically until the overthrow of General Rojas in May 1957, but no solutions were reached.

Assistance in coping with the financial crisis was provided mainly by the US ExIm Bank and the IMF, and the Bank proceeded slowly with resuming lending, partly for concern about the country's creditworthiness and partly because the Government, extremely short of resources and having to channel much of them to completion of on-going projects, did not wish to borrow for the foreign exchange component of new projects. The Bank formally lifted the suspension of lending in April 1958. A number of loans ensued, mainly in 1959 and 1960, for power projects; the principal ones were for Bogota and Medellin which were beginning to suffer power shortages since planned lending to them had been caught in the 1956 suspension. Work also proceeded at this time on preparation of an expansion project for Paz del Rio. A Bank staff member was assigned to help the Planning Office, reestablished by President Alberto Lleras. A small emergency loan was made to buy rolling stock for the Atlantic Railroad, finally nearing completion. But the breadth of Bank action in support of Colombia was much narrower in this period than it had been.

An important new phase began in 1961 when the Bank, with the support of the Colombian Government and the United States, decided to form some machinery to coordinate its own efforts with those of the newly established IDB and US AID and to encourage the Europeans, Canadians and Japanese, initially somewhat reluctant, to provide more financial assistance to Colombia. As a preface to such an effort it was decided that a Bank mission should review the Ten Year General Development Plan then being completed.

This important Bank mission, which visited Colombia early in 1962, reported generally favorably on the Plan and supported the growth targets proposed. It stressed two measures which it felt the Government would have to take to put the economy on a sound footing for reaching plan targets: raising taxes more than had been projected in the Plan and reforming the exchange rate system so as to raise the effective price of imports. It also recommended greater foreign assistance, on easier terms, than implied by the Plan and proposed establishment of a Private Investment Fund (PIF) in Colombia to obtain foreign loans and channel the resources on to the private sector, with whose dynamism it was particularly impressed.

The Colombian Government delayed action on the exchange and fiscal measures and was finally forced to take more radical steps, in a crisis situation at the end of the year. These steps met the Bank's main concerns, and the foreign governments and agencies met in the first formal meeting of the Consultative Group for Colombia, as it had come to be called, in January 1963. Meantime, in Summer 1962, the Bank had established a Resident Representative in Bogota, mainly to assist on Consultative Group matters and the coordination of foreign lending. Bank staff also worked intensively with the Colombians on the proposed PIF, which was established in March 1963; it has never obtained foreign financing of the size envisaged by the Bank mission but it became important in channelling into the private sector part of the Peso counterpart of US AID program loans -- which had not been envisaged by the Bank mission but began late in 1962 and were in some respects a substitute for the PIF.

Except for a major loan for highways in 1961 the Bank's lending since 1960 had continued to be concentrated entirely in power. But 1963 saw commitment of a larger volume of loans than ever before, some US$75 million, including further loans for power and large loans for the Paz del Rio steel mill and for railroad rehabilitation. A small technical assistance mission to help CVC regional planning was also undertaken at this time.

Only one more loan was to be made -- a large operation in power early in 1964 -- before lending was once more effectively, though not formally, suspended due to deterioration of Colombia's financial and economic situation. Early in 1964 the Bank gave serious consideration to urging a further devaluation but in the end decided not to press the issue in view of the extreme unpopularity of devaluation in Colombia after

the 1962 experience and the considerable political difficulties faced by President Valencia. But in May 1965, by which time action had become essential, the Bank informed the Government that it would recommend to the Consultative Group members the full desired amount of lending only after the Government had taken fiscal and exchange rate action and established non-inflationary sources of finance for the coffee stabilization fund. There followed a long series of negotiations between the Colombian Government and the Bank, as Chairman of the Consultative Group and representing in particular the two Group members other than itself who were intimately interested in macroeconomic policy performance (US AID and IMF).

Appropriate policy measures were finally taken in September 1965 and in December the Finance Minister signed a Memorandum of Understanding with the Bank, which specified quarterly targets for the Government's current account surplus and for net foreign exchange reserves for the forthcoming year and committed the Government to a certain minimum of import liberalization and a comprehensive review of public utility tariffs -- which had not been adjusted in a timely manner to keep pace with inflation and had consequently caused Bank power borrowers serious cash flow problems. US AID provided a further program loan on the basis of the Government's commitments to the Bank. The Bank's lending for 1966 was in the form of two loans in May for sectors in which it had not previously been involved -- livestock and Financieras. In its fiscal aspects the stabilization program agreed in 1965 proved highly successful but on the foreign exchange side it failed for various unexpected reasons, and this led to the renewed foreign exchange crisis of November 1966.

Although the effective devaluation in March 1967 -- none for imports and only 15% for minor exports, on initial introduction of the flexible rate system -- was somewhat less than the Bank and most of Colombia's foreign advisors considered desirable, the Bank accepted the system as a satisfactory basis for further cooperation with Colombia in its development effort and for negotiation of a new Memorandum of Understanding. The system of such Memoranda and quarterly performance reviews, almost unique to Colombia in the history of the Bank, became in fact more standardized during the Lleras years. A Memorandum was negotiated each Spring in 1967-1970, providing an opportunity for the Government to express its development aspirations and to define its specific plans and for the Bank to indicate its concerns about the development

effort or development policies. The primary focus of the Bank remained on a few key items -- principally import liberalization (especially initially), National Government savings and investment, growth of minor exports, and reform of the public utility tariff system. Specific targets identified in the Memoranda have generally been reached or nearly reached, except in the case of minor exports where there was a slight shortfall.

The Consultative Group, which had become inactive shortly after its second meeting, in 1964, due to the deterioration of the economic situation in Colombia, was revived and held a third meeting in June 1967, shortly after the exchange reform had been adopted. A fourth meeting took place in January 1969, and further meetings were held early in 1971 and 1972. Interest in Colombia's development and readiness to help finance it appear to have increased with each meeting. The United States has remained the principal lender, but lending by the other members, mainly in the form of supplier credits but on 8-12 year terms, has shown a rising trend. In 1967 the Bank negotiated special joint financing arrangements for combining such supplier credits with its own funds for three projects, and some US$15-20 million of bilateral credits were eventually raised in this way.

An important instrument of Consultative Group operations has been the Project List, a concept initially developed by the 1962 Bank mission. This is a comprehensive list of development projects, prepared increasingly and now principally by the Planning Department but in close cooperation with the Bank's Resident Representative in Bogota, for which financing is sought from Consultative Group members. Lists have generally been prepared shortly before the main Consultative Group meetings, and since 1969 annually, and the pressure to get the List prepared has helped the Planning Department to some extent in persuading agencies to define their development plans. First drafts of the List have generally resulted in aggregate amounts of financing requested much larger than was likely to be available and Bank staff have assisted in cutting it down to more manageable proportions, not generally on the basis of the intrinsic merits of the projects but rather their readiness for execution. The Bank and the Planning Department have followed up the first issue of each List with periodic, generally quarterly, reports on the status of financing arrangements for each project.

The major part of the financing both requested and provided has been for projects in electric power and transportation, in both of which the IBRD and more recently the IDB have bulked large in terms of amounts. Large amounts have also been requested for industry, but these requests have been met less quickly. Smaller amounts were generally requested for agriculture, telecommunications, water supply and education and also much less has been raised, both in absolute amounts and relative to amounts initially sought. Overall, some US$200-300 million of project financing has been raised on the basis of each of the five Lists prepared through 1970, except for the one covering 1964-1965. Shortfalls from requests, which have generally been about 33-50%, have been due in the overwhelming majority of cases to delays in project preparation and shortage of domestic public resources for investment purposes. Availability of foreign credit does not appear to have been a serious constraint on the pace of the development program, and there has sometimes been more credit available than the Colombian authorities could actually use; there have been serious delays in utilization of some of the credits provided, though partly this was because some were on not very favorable terms, especially by comparison with the terms available from the Washington agencies.

In the last five years of the 1960s the Bank's own lending became not only much larger but also more diversified than it had been before. Lending for highways, railways and electric power continued. Follow-up loans were made to the initial commitments in 1966 for livestock development and the Financieras. In 1967 the Bank entered the fields of telecommunications and irrigation for the first time, and in 1968 it began lending for water supply and education. Preparation of projects in these new fields took some time, the typical gestation period being 3-4 years, but longer (about 5-6 years) for education and only about 1 year for livestock. The new fields for lending were largely selected by the Bank rather than taken up in response to requests from the Colombian authorities. Two important initiatives were taken in 1968-1969 which have not yet resulted in lending, but may do so later -- review of family planning efforts in the country and assistance in the preparation of a possible project in that field and, secondly, initiation, with UNDP financing, of a major study of alternative future patterns of urban development in Bogota. Total lending in one year reached over US$100 million for the first time in 1968.

Overview of the Bank's Effectiveness

The Bank has made major contributions, both directly and indirectly, to raising resources for application to development in Colombia. Not only has the Bank loaned a large amount itself but it has also done important fund-raising among Consultative Group members; both have helped to relieve the balance of payments constraint on Colombian development. The Bank has also played an important role in helping to raise funds internally in Colombia for public sector investment. It has sometimes made its own project loans conditional on specific steps to charge more adequate prices for services rendered (e.g. in power and water supply). By helping to strengthen and make more efficient major Government spending agencies, such as the Ministry of Public Works, it has probably helped to some extent to overcome traditional Colombian reluctance to pay taxes. Most importantly, the Bank has helped over the last six or seven years, by means of written agreements with the Government, to obtain more timely Government decisions about tax-raising. These efforts on multiple fronts, in Colombia and among foreign lenders, have been mutually reinforcing: the availability of foreign credit has enabled the Colombian authorities to expand the size of their development program substantially over the last decade, and there is no evidence that foreign credit to the public sector has substituted for domestic tax effort.

Through its own lending, which has been principally for large individual infrastructure projects, the Bank has helped sustain the growth of the modern portion of the economy, concentrated chiefly in the larger cities. Mainly through some US$400 million of loan disbursements, but also through efforts to strengthen the responsible institutions and through advice on policy, it has played a crucial role in eliminating major bottlenecks in the trunk transport network and in power supply to most of the major centers in the country. It has disbursed funds for both power and transport development every year since 1951, but particularly heavily in the early 1960s. The transport investments assisted in the economic integration of the country's diverse regions and the power lending in the 1960s was oriented to creating the nucleus of a national transmission network, linking the major cities. Through its involvement in transport and power the Bank helped to meet the huge investment requirements implied by rapid urbanization and indirectly to sustain the moderate pace of industrial growth attained. In the 1960s it also assisted industrial growth more directly through its loan for

the Paz del Rio steel mill expansion and through several loans to five Financieras for on-lending to the industrial sector. Not all the projects, and especially not those in railways and steel, have proven very efficient means of meeting the requirements they were designed to meet and there has been some over-investment, but the projects are generally better than they are likely to have been had there been no Bank participation, and the outcome of the whole investment package is reasonable in terms of efficiency benefits. In recent years the Bank has lent for projects in other fields, but they are at too early a stage to be clear about the outcome; generally, the projects in agriculture do not look very promising while those in education and water supply do.

In its work in Colombia, the Bank has developed rather an effective combination of its orginal investment bank approach to channelling capital from foreign private capital markets into development projects and a much broader recognition of the importance of policy and structural factors in determining patterns of development and the effectiveness of foreign capital assistance. One illustration of this is in the institutional sphere. In the 1950s the Bank displayed unlimited confidence in foreign consultants, without close control and guidelines, and in legal and constitutional measures to create an institution which would operate effectively. In the 1960s, the Bank's best institution-building work has focussed much more on the way an institution really works, rather than simply on its legal and constitutional form. The Bank's contribution has been in the form of conceiving a basic idea, suggesting studies, and, when they proved favorable, pressing for implementation, the actual legal arrangements being left entirely to the Colombians: this was the pattern with the Power Interconnection, the Utility Tariff Board and, to some extent, the National Highway Fund. In other cases the Bank's contribution has been at a much more detailed level but it has followed rather the same philosophy. Particularly at these two levels -- basic concepts and organizational essentials -- the Bank has made very useful contributions to institutional development in Colombia in some of the fields in which it has been involved.

Another illustration of how the Bank has refined its techniques is in the field of sectoral and macroeconomic policy. Initial success in the provision of advice in this field in 1950 was short-lived due to political change in Colombia and the Bank's decision, in the circumstances of the day, to confine its main effort to individual development projects

with the hope they would have demonstration effect. Attempts in the middle 1950s to go beyond this, by providing more general advice and negotiating broader policy agreements with the Government, were rather ineffective; although it tried, the Bank was unable to prevent the build-up of the 1957 financial crisis. Another effort in the early 1960s foundered on the rocks of Colombia's inaccurate fiscal projections and the Bank's inadequate knowledge of some of the complexities of the Colombian economy. But in the middle 1960s the Bank was able to help Colombia's recovery from renewed crises and to negotiate policy agreements to form the basis for provision of considerable foreign financial assistance. Key elements in these delicate negotiations were fiscal policy and foreign exchange policy, and the commitments made were fairly effectively fulfilled. Another important commitment was to bring utility tariffs approximately into line with costs, a step which would cope -- in a way that mere one-shot provision of outside finance could not -- with a serious constraint on the development of smaller towns in Colombia: perennial inability of the utilities to keep up with demand due to lack of cash flow.

If, with these tools, the Bank has made important contributions with regard to fiscal performance, the balance of payments constraint and administration and organization in certain areas, its contribution on the other fundamental issues -- domestic resource development and participation in the development effort -- seems, with a few exceptions, disappointing and perhaps below what could have been accomplished with greater effort and more persistence. The Bank has concentrated practically all its loans on urban or urban-oriented projects. It has displayed quite a negative attitude toward land reform, treating it as merely a social welfare matter unrelated to the country's productive potential or even destructive of it, urging the authorities to protect farms covered by its farm credit loans from land reform, and supporting INCORA projects which were a substitute for land redistribution and seemingly incommensurate with the country's problem and resources. It has left most projects of a difficult nature, except for education, to other agencies for support. Even in those areas where it has considerable expertise it has concentrated its attention on large-scale capital-intensive projects. It has not financed feeder roads, although there is considerable evidence that expansion here and improvement in the Colombian agency responsible is badly needed. The Bank has concentrated on relatively capital-intensive agricultural schemes rather than take the initiative to help prepare projects in fruit, flowers and vegetables, with considerable employment and

export potential. It has not consented to finance experimental projects -- for instance in livestock, where that was urged several times since 1952 -- finally taking instead, in that area, a fairly large-scale project which has yet to introduce substantial innovations. It has had to refuse many of the Colombians' requests for assistance in other areas which seem to have merit, particularly from the point of view of stimulating use of local resources and wider participation in the development effort; possibilities in housing and public health have had to be turned down, within the framework of its lending policies. It has not been able to help realize the potential of the lumber/furniture industry, noted in Bank reports for two decades but still largely latent. For the industrial sector in general it has provided rather unconditional support through the Corporaciones Financieras, although the policy environment in which they work does not seem to be conducive to channelling their funds towards the most efficient producers or those most constrained by lack of credit.

The Bank seems to have fallen short of its potential in these areas mainly due to a number of weaknesses, understandable in historical perspective and remediable. The Bank has rightly sought to use its financial and technical resources to help maximize the Colombian GNP growth rate, but on the basis of a rather short-term perspective, and with much more effort devoted to minimizing risks on individual projects it would finance than to maximizing their development impact. Infrastructure projects were chosen as the initial main channel for support to Colombian development, and they remain predominant in terms of financing provided. Much progress has been made in tightening control of them as investment bank projects; the huge cost overruns on the early highway and railway projects have not been repeated and the major shortcomings in design of the steel project would probably not recur. But two problems relative to development impact remain, both related to undue concentration on the risk minimization aspect, important though this may be. First, projects have been selected with a view to being readily controllable and to yielding at least a threshold rate of return. In utilities this has tended to mean giving strong preference to projects designed to meet so-called 'established demand,' which is more easily predictable. Whether the projects were of the type or in the place that could have the most impact was given much less attention, provided that the threshold rate of return was met; this applies to the steel and irrigation projects, for instance, as well as to power and transport. Second, appraisal of the project has tended to concentrate on checking that the threshold rate of return would be met,

to the exclusion of what complementary measures would be needed to get maximum development benefits from the project in question, especially in the region affected. This applies particularly in transport, but also, for example, in power and steel.

Early in the 1960s, as a complementary technique to its financing of infrastructure projects, the Bank began to work towards provision of more direct support to commodity producing sectors and this eventually materialized in large loans in 1966 and following years for on-lending to private sector industry and agriculture. The Bank had always had considerable faith in the efficiency, as well as efficacy, of financial guides to development, as indicated by its earlier efforts to induce Colombian utilities and railways, for instance, to simulate private sector operation. Lending to private sector intermediaries, at a time when the Bank was also negotiating annual policy agreements with the Government, gave the Bank the opportunity to learn much more about, and to deal with, some of the deficiencies in the structure of the Colombian capital market and other incentives working against most efficient use of the country's resources for development; since most development in Colombia is in the private sector, which still accounts for two-thirds of investment, this could be of prime importance. Yet apart from urging more rapid devaluation of the Peso, discouraging excessive tariff protection, and supporting Colombian moves toward higher interest rates on loans out of Bank funds, the Bank did not generally pursue these issues beyond an occasional discussion in an economic report. At the same time private investment has grown at a disappointing rate and private saving has hardly grown. The Bank seems to have had too much confidence in what the private sector could achieve in terms of efficient resource development, irrespective of the framework of public policy in which it was working.

In the latter part of the decade the Bank moved into financing various projects which it considered to be an important contribution to solving the problem of poverty in Colombia -- particularly the INCORA irrigation and colonization projects, and to some extent, the projects in social infrastructure such as education and water supply. In the 1950s, to the extent that it had recognized the problem of poverty, the Bank did not feel that it was particularly its responsibility to help cope with it. In the early 1960s it urged the Colombians to build up the modern sector of the economy as rapidly as possible and to allocate more of the resultant income to social welfare measures in aid of the poor. Then it began to support a few projects aimed explicitly at

increasing the opportunities of the poor -- provided each project met its standard financial and economic criteria of efficiency. The difficulty is that some of these projects have been expensive and have benefitted relatively few of the poor -- partly because they have sometimes tended to subsidize the rich as well as the poor -- and, more importantly, as an apparent solution to the problem of poverty, they may even have discouraged the measures, such as land redistribution and improved incentives to employment of people, that are required to get a fuller application of Colombia's resources to development. The extent of poverty and its full implications in the economic structure have been too little seen; its elimination has naturally been considered a desirable end, but as resulting from a more rapid expansion of the modern economy (which may in fact exacerbate it at present) rather than critically interdependent with a more efficient use of the country's human and physical resources.

These problems in the Bank's viewpoint stem from an insufficiently broad and long-range basis for decisions regarding project selection and lending conditions and shortage of time on appraisals. They can be overcome with application of more attention to the basic resources of Colombia and the way they can best be combined to maximize development. Then, against this background, more effort could be devoted to identification and preparation of projects, chosen because of their potential contribution to Colombian development rather than because they fall within the conventional definition of a bankable project. Lending to Colombia, especially over the last 5 or 10 years has shown sharp fluctuations from year to year, and especially in some years such as 1966 and 1967 the low level of lending has resulted mainly from shortage of projects. More effort on project preparation, by the Bank or by the Colombians at the advice of the Bank, could have resulted in more lending. Both Colombia's debt service ratio and the Bank's share of the country's foreign public debt have declined since the early 1960s and well-chosen projects and policy measures could have left these ratios about their earlier levels, while helping to reduce the problem of poverty and attain more rapid growth.

The Development Projects Supported by the Bank

The principal effort of this evaluation, as of the Bank's own past work, has been on the various development projects for which the Bank has made loans. It was possible to subject 33 out of the 43 total number

of loans to reasonably thorough evaluation, the particular emphasis varying in each case according to the issues raised by the loan and the time when it was made. The only field of lending omitted from review was telecommunications, and this was entirely due to lack of time.[1/] Table 2.1 classifies the Bank's lending into three major groups and shows disbursements and commitments through the end of 1970.

Electric power has been much the most important single field in Bank lending, accounting for some 40% of the total. The Bank's power loans have gone to six out of the seven largest cities in the country (the omission is Barranquilla) but they have been heavily concentrated on Bogota, Cali, and Medellin, the three largest cities together accounting for some 20% of national population and 60% of industrial production and installed generating capacity. The principal contribution of the Bank was to enable the companies responsible for power supply in the various cities to expand more rapidly than they would otherwise have been able, with plants of larger size and lower unit cost than would otherwise have been possible. The Bank has helped finance about half the power generating capacity installed in Colombia today, and the majority of the capacity it has financed is hydroelectric. Mainly due to the difficult topographic and geological conditions there have been quite long delays in completion of almost all these hydroelectric plants and there have been cost overruns on most; delays and cost overruns have been less on thermal plants. Generally the construction delays tended to occur along with slower than expected load growth, so that eventual supply of power kept reasonably well in line with demand. Only in two cases does it seem that some savings in costs of bulk power generation might feasibly have been made by selecting development plans other than those actually followed: the Calima hydroelectric plant, financed in 1960, on which the incremental investment was expected to be some US$5 million yielding at least 15% return but in fact turned out to be about US$20 million yielding only some 7-10%, and the relatively small Zipaquira 2 thermal plant, financed in 1962, which probably made total system development costs some US$2-3 million more than they might otherwise have been.

Highways account for about 20% of the Bank's lending to date, and the Bank has played an important part in the creation of Colombia's trunk highway network. Cost overruns on the Bank's first highway project approved in 1951 were enormous; final costs were between three and four

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1/ The other nine omissions were the four loans made in 1970 (education, water, power and highways) due to their recency, the highways & railways loans of 1968 and the livestock loan of 1969 for the same reason, and the two small agricultural credit (mechanization) loans to the Caja Agraria in the early 1950s due to lack of data about performance under them.

Table 2.1

IBRD/IDA Lending to Colombia through 12/31/70
(amounts in US$ million)

	Disbursements	Commitments
Infrastructure and Basic Industry		
Electric Power (17 loans 1950-70)	220.5	294.1
Highways (6 loans 1951-70)	96.0	135.6
Atlantic Railroad (2 loans 1952-55)	40.9	40.9
Railway Rehabilitation (3 loans 1960-68)	41.4	53.7
Steel Mill (1963)	29.1	30.0
Irrigation and Land Reclamation (1967)	2.2	9.0
Telecommunications (1967)	8.8	16.0
	438.9	579.3
Private Sector		
Agricultural Credit to Caja (1949 and 1954)	9.9	10.0
Development Finance Companies (3 loans 1966-69)	42.9	62.5
Livestock Credit (2 loans 1966-69)	11.1	35.0
Agricultural Credit to INCORA (1969)	0.4	17.0
	64.3	124.5
Social Infrastructure		
Water Supply (1968 and 1970)	7.9	32.5
Education (1968 and 1970)	3.3	14.1
	11.2	46.6
GRAND TOTAL	514.4	750.4

NOTE: The classification of projects in this table is made for convenience of the discussion which follows and is affected by historical factors; it is for this reason that water supply is distinguished as 'social infrastructure.' Equally the steel mill loan of 1963 was to a private sector company, Paz del Rio, but for our discussion it is more convenient to classify it by its 'basic industry' characteristic.

times original estimates, although a sizable, but unknown, part of this increase was due to upgrading of standards. Repeated supplementary financing had to be provided, and many of the roads were not completed until the 1960s. Nevertheless they seem to have been very worthwhile. Our analysis of the 24 roads accounting for most of the financing provided under the Bank's first four highway loans and costing a total of about US$125 million equivalent indicates an average rate of return in terms of road user cost savings (excluding time savings) of 25%, which is very high. On many highways vehicle operating costs have come down by 50% or more over the last twenty years. As in the case of power, and as might be expected, there are one or two highway projects which may well have a return below the opportunity cost of capital -- particularly Cali-Popayan and Buga-Buenaventura -- but again, as in power, these are rare cases.

There are four projects in the infrastructure and basic industry category, together accounting for about another 20% of Bank lending, which seem disappointing compared with expectations: the Atlantic Railroad of the 1950s, the Railway Rehabilitation of the 1960s, the 1963 Paz del Rio steel mill expansion and the small Atlantico Irrigation and Land Reclamation project of 1967. Delays in construction have been a major problem on all, postponing realization of benefits from the investments made and hence reducing the rate of return; all the projects have been characterized by cost overruns too, but these appear to have had a major effect on the rate of return only in the case of the Atlantico Railroad for which they were particularly large. It ultimately cost about twice as much as originally expected or some US$120 million equivalent; the economic rate of return technique was not used at the time loans were made for the project in the 1950s, but recalculations on the basis of the assumptions then used suggest that it would have been above 10%, whereas the actual outcome is less than 5%, according to our best estimates. The Railroad Rehabilitation investments, well conceived but poorly implemented and utilized, seem to be yielding efficiency benefits of only some 6-7%; a quantified estimate was made at the time of loan appraisal only for the dieselization component, some 16%, but actual returns appear to be in the range of 6-10%. The Paz del Rio expansion project was appraised only in financial terms; recalculations suggest that, as appraised, it should have yielded some 7-14%, whereas actual returns are only 4% although they may be raised to the range of 5-11% by addition of equipment in the coming years. The Irrigation and Land

Reclamation project has been too delayed for any actual rate of return to be calculated, but crop yields have been disappointing so far.

The loans to financial intermediaries for on-lending to the private sector are harder to evaluate satisfactorily. They are rather recent, but, more importantly, information about how the sub-loans were actually spent and what impact they had on production is sparse. The Bank has placed major emphasis on the intermediaries and financially their operations with Bank funds appear to have been sound -- except in the case of one of the Financieras where measures have been taken to restore the situation. Commitments of sub-loans and disbursements have proceeded very rapidly on the Bank loans to the Financieras and fairly rapidly, particularly initially, on the Bank loan for livestock; they have been very slow to date on the credit for crop farms. Presumably the funds disbursed added to the level of investment. Certainly they did directly in the sense that they were spent on individual investment projects -- for the Financieras, predominantly in the man-made textiles and cement industries but also in other fields. However private investment was not at a very high level through 1970 -- it fell substantially short of earlier plans -- and statistically there is evidence of a negative association in the 1960s between inflows of long-term capital to the private sector and domestic private savings.[1/] The data are not very strong and it would be a long and unwarranted step from our

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1/ Analysis of balance of payments and national income accounts data for the period 1960-1969 yields the following results:

$$\text{Private Saving} = 0.159 - \underset{(1.4)}{0.5526}\ \text{STP} - \underset{(3.9)}{1.3248}\ \text{LTP} \qquad R^2 = .69$$

$$\text{Family Saving} = 0.040 - \underset{(3.8)}{0.7835}\ \text{STP} - \underset{(5.8)}{1.0043}\ \text{LTP} \qquad R^2 = .85$$

Where: STP = gross short-term capital inflows to the private sector,

LTP = gross long-term capital inflows to the private sector.

Figures in brackets beneath the coefficient to which they refer are "t" values; social scientists vary in considering a "t" ratio of 1 or 2 as the level indicative of statistical significance for the variable in question. R^2 is the standard regression coefficient, indicating the goodness of fit of the equation as a whole.

findings of a broad association to say that the particular IBRD component of these capital inflows has had the effect of reducing domestic savings. But the availability of foreign loans on long terms, with the Government taking the exchange risk, may have affected savings within the country, and this needs investigation. Some doubts arise also about the efficiency of allocation of the funds. They have tended to go mainly to larger producers who were on the whole best supplied with credit already and who do not generally seem to be the most efficient either financially or economically, according to the statistical evidence available. The tentative nature of these various findings, due to the paucity of relevant information and the still fairly early stage at which most of the projects are, must be stressed; but they do raise doubts which will need to be resolved in the Bank's future action with the crucially important private sector.

The social infrastructure projects, for which loans were made in 1968, are still under execution and so it was not possible to study them in the same way as the highway and power projects. Nevertheless we reviewed their performance through early 1971 and found both projects rather promising. Both have suffered delays, but these were being overcome. The education project, providing for ten comprehensive secondary schools, was beginning to introduce many innovations to the Colombian educational system, in respect to both syllabus and teaching techniques; several studies undertaken in the last few years indicate a rate of return to expansion of secondary education in Colombia (merely in terms of increased earnings likely) of around 20% currently. The water supply project, for Bogota, has been connected with major improvements in the organization and management of the company responsible and will relieve deficiencies in the quantity and quality of water supply for the city; expansion is being achieved at a fraction of the unit cost envisaged by the company before discussions with the Bank began.

Domestic Resource Development

Some Bank activities have made useful contributions to the crucial task of mobilizing domestic resources for development. The agricultural credit projects of the 1950s helped to bring extensive new lands under cultivation, and improvement of the trunk transport network seems to have been connected with some reallocation among regions, in accordance with comparative advantage, of production of commercial crops such as cotton

and sugar. Improved public power supply seems to have been significant in enabling expansion and improved efficiency of the more labor-intensive small-scale industry that could not possibly afford its own power plant; several instances of this were encountered. Design and construction of Bank-supported highway and public utility projects has been important in the growth of the domestic contracting and consulting engineering[1/] industries; all regular highway work in the 1960s under the Bank projects has been done by domestic contractors. The Bank acted as executing agent for a UNDP study of Cauca Valley coal resources in the early 1960s, but limited development ensued. Technical assistance required by the Bank for Paz del Rio at that time helped importantly to improve use of the company's rather poor raw materials, and some elements of the subsequent project also contributed. In the late 1960s the Bank played a useful role in persuading the Government to adopt a foreign exchange rate applicable to oil exploration activities which would give the international companies the necessary incentive. More generally, the Bank's emphasis in the last five years of the 1960s on reducing overvaluation of the exchange rate and relieving the financial constraint on the expansion of small-town utilities is helping to overcome two important obstacles to local resource development.

The Bank has not however been able to make much contribution to resolving the two key problems in this area -- the concentrated pattern of land tenure and the uncompetitive nature of capital markets. In respect of land tenure, indeed, its effect may have been rather negative. In the 1950s it supported tax measures to intensify land utilization which, when finally introduced, proved largely ineffective. In the 1960s, after the Colombians had adopted legal measures to the same end, the Bank took a very reserved position, never adequately analyzing the execution of these measures, and encouraging INCORA to move along other lines which proved expensive and incommensurate with the size of the problem. In connection with the capital market problem the main role of the Bank has been, in the 1950s, to promote the foundation of private Financieras and, in the late 1960s, to support them with advice on institutional improvement and substantial financing. But the Financieras have so far made very limited contributions to capital market development, mainly due to deficiencies in the policy environment in which they work. But neither in connection with the loans to the Financieras nor in negotiations for the Memoranda of Understanding has the Bank pursued the crucial issues -- the principle of imposed interest rate ceilings, heavy forced investment

1/ One engineering firm, for example, has grown between 1960 and 1970 from 47 engineers and billings of US$0.6 million equivalent to 186 engineers and billings of US$4.3 million; 80% of billings over the whole period have been for Bank-supported projects. The Bank has included in some loans special provisions for coverage of Peso engineering costs.

by financial institutions, lack of market for speculative shares, general fractionalization of credit markets.

On several occasions the Bank has urged emphasis on development of the capital goods industry, which is surprisingly small in Colombia, partly because of the very weakness of the capital market and relatively low tariffs on capital goods imports, amongst other reasons. Yet sometimes its own lending tended to work against this. Several instances came to our attention where the Bank's borrowers appear to have purchased abroad equipment which they could have obtained at home. And the reason for this was not the often encountered preference of utilities for imported equipment or the limitations of the Bank's 15% preference margin, but simply the fact that long-term credit was not available for domestic purchases, combined with the Bank's limitation of coverage to foreign currency expenditures. A case in point was various parts for the Paz del Rio sinterization plant, which definitely could have been obtained locally but were purchased from Germany simply for this reason. Zipaquira 2 thermal plant is in part a similar case. The immediate difficulty could of course be remedied by the greater readiness the Bank now has to finance local currency expenditures, but more constructive to Colombian development would be greater effort to deal with the root problem of weak local capital markets.

In the selection and design of infrastructure projects also the Bank seems to have made less contribution to solving the key resource mobilization problem than it might have done. Its infrastructure projects have been concentrated on the main cities and links between them. There is some evidence that design standards have been too high: the fact that trucks, the bulk of the inter-urban traffic in Colombia, cannot attain the high speeds allowed by the new roads; the practical case found where trucks were sticking to a road of old design rather than transfer to a newly opened parallel road (with a small toll) partly because the design of the latter (long slow gradient) was unsuited to the typically small overladen Colombian truck; provision, in some sections, of duplicate modes of transport where one would seem to have been sufficient; more investment than necesary in power generation and distribution in Bogota. Savings on these projects could very usefully have been devoted, for example, to feeder roads and small town power development, which have been serious bottlenecks and where Bank institution-building efforts could have made an important contribution. The Bank has not

assisted in these areas, and it explicitly refused assistance to small-town power development, mainly because such projects would require too much staff time. The IDB has assisted in both areas in recent years, but both seem in need of additional effort. Weakness here has in fact limited the positive impact of the Bank's own large-scale projects. In project selection and appraisal, effects on the region traversed by the major transport investments were either neglected or assumed to be automatic. Unplanned, the impact of the Atlantic Railroad on the previously undeveloped region through which it passed appears to have been costly in social and human terms (for the farmers who settled in the area) and in destruction of natural resources (fish, lumber, soil erosion) and to have resulted in less than potential traffic generation. Positive regional impact of the highway projects has been severely limited by financial weakness of the local agencies and Governmental units responsible for other services, by lack of feeder roads and by poor organization of agricultural marketing and extension services.

Participation in the Development Effort

The concentration of Bank support on urban and urban-oriented projects, of relatively capital-intensive nature, in a context of weak public institutions, has also limited the effect of the Bank's activities on the breadth of participation in the development effort. Within the major urban areas some Bank projects have directly benefitted large numbers of people. Our impression with regard to public utilities is that funds would somehow have been obtained to maintain reasonable services for the better-off but that, with Bank financing, more complete programs have been possible, with greater expansion of the distribution systems; the total number of people with electricity service, for example, has increased from 3 million in 1950 to 10 million in 1970, of which some 6 million were served by Bank-financed generating stations. Moreover utility tariffs are generally heavily subsidized for the poor in the major cities -- although the effect of this is somewhat offset by the fact that, at least in some cities, the consumption of wealthy private consumers is even more heavily subsidized. The improvement on trunk transport facilities has probably made food prices in the cities somewhat lower than they would otherwise have been, and price fluctuations have diminished, although here too it is unclear how much of the cost savings resulting from actual transport improvements have in fact been passed on to final consumers by merchants. Though the Bank has not been explicitly concerned about distributive implications of its policy advice, the fairly sustained pressure in the 1960s for tax increases has probably tended slightly to improve welfare distribution over what it would otherwise have been: the impact of the sales tax introduced in the early 1960s is likely regressive, but the

effect of the more important improvements in tax administration of the later 1960s, introduction of withholding at source and increases in the gasoline tax is almost certainly progressive.

However the positive effect of Bank activities on the productivity of the poor seems to have been minor -- partly due to the neglected constraint to the development of domestic resources imposed by some of the factors discussed in the last section. The education project, beginning to provide opportunities to families which could not have afforded secondary school before, clearly has potential here. And the devaluations supported by the Bank have probably helped to generate more jobs than there would otherwise have been (and the import component of the consumption of the really poor is very minor). Information is not available on jobs actually created under Financiera sub-projects, but the evidence suggests they have been relatively few, as in the modern manufacturing sector more generally. The more labor-intensive small and medium industry and small farms have continued to suffer severely from shortage of credit, and the programs supported by US AID and the IDB seem to have met only a fraction of the need. More rapid expansion of the power distribution systems into marginal areas could probably have opened productive opportunities but this was constrained by rigidities in the tariff structure and the Bank did not give attention to the potential of Accion Comunal for mobilizing self-help efforts. Wider expansion of regional transmission from the main centers would have helped upgrade small-town power supply more effectively and more cheaply than has actually occurred. The lag in secondary and feeder roads meant that the beneficial impact of the improvements of the trunk highway system on the rural population was limited.

Generally the Bank's loans to the commodity-producing sectors which we have evaluated have probably had a fairly negative impact on income distribution, not because the more efficient commodity producers were already wealthier, but because of the particular institutional arrangements for channelling the loans and, more importantly, because of broader weaknesses in the institutional structure. Even in the INCORA Irrigation and Land Reclamation project much of the land is likely to stay with former landowners and the number of small farmers settled will be much less than originally envisaged. It is quite possible that at least part of the credit provided by the Financieras to large enterprises has effectively been passed on in the form of trade credit to the benefit of smaller enterprises, thereby easing their credit shortage, but the substantial interest differential (10 or more percentage points) will still have accrued to the larger firms.

Administration and Organization

In most areas of the economy where it has been actively involved the Bank has made useful contributions to strengthening administration and organization and in some areas it has played a crucial role. Most of the more successful contributions have occurred in the 1960s after the Bank had gained experience and the political situation in Colombia had become more stable. Especially noteworthy examples of different types of institution-building work have been the Bank's long effort with the Ministry of Public Works (including formation of the National Highway Fund), establishment of the Utility Tariff Board, creation of the Power Interconnection Company and the detailed work with the Bogota Water Company. Creation of the Interconnection Company (ISA), in 1968, for example, followed five years of sustained diplomacy by the Bank to overcome the main centers' distrust of one another and desire to keep their favorable power sites for themselves. Without this diplomacy and persistence of the Bank it is unlikely that the interconnection, which enables substantial savings in bulk supply costs of electricity, would have been achieved till at least several years later. By refusing to finance further expansion of a power supply structure which studies proved clearly would become inefficient the Bank assisted structural change.

It does not seem that institutions supported by the Bank have positively hurt other institutions, especially those responsible for other priority areas of development, by draining away talented personnel. Entities supported by the Bank have generally become stronger than others in the same field not so supported, but not at the cost of the latter. Much institutional improvement, especially in the 1960s, has been in the form of strengthening internal organization (including training) rather than recruiting many additional personnel or particularly talented personnel from outside. The education project did of course involve recruitment of large numbers of teachers, but there is no evidence of this having depleted the quality of teaching staff in other schools; many teachers who benefitted from the training courses provided stayed with their old schools. In general, due to the rather adequate supply of university graduates in Colombia, the intrinsic attraction of the major cities, and the weakness and small size of the public sector relative to the private sector, it is unlikely that such talent as was attracted to Bank-supported institutions would otherwise (i.e. in the absence of Bank support) have gone to institutions (or consultant firms, etc.) concerned with fields

where development has lagged, without special efforts for development of the latter.

On the other hand the demonstration or spread effect which the Bank hoped its projects would have also seems to have been very limited, except where special efforts were made to amplify it. There is no evidence of utilities not financed by the Bank imitating those which were so financed. Both the Ministry of Public Works and the Financieras seem to maintain one standard of project preparation and supervision for works financed under Bank loans and another standard for others, although in the case of the Financieras the Bank has made considerable efforts to avoid this. The only example of automatic spread effect arises in connection with ISA where the utilities in the north-eastern Departments do appear to have begun co-operation with one another in order to exert greater influence. Induced spread effect has occurred as a result of recent special efforts -- for example, creation of the Utility Tariff Board and the Bank's emphasis on regional planning in connection with the Bogota water supply projects.

Fiscal and Foreign Exchange Constraints

Obviously the Bank Group's own resource contribution has helped to ease fiscal and foreign exchange constraints on Colombian development. Every year except 1959 it has made positive net transfers to Colombia, averaging US$7 million annually in the 1950s, US$26 million in the 1960s and reaching US$40 million in 1970; most of this has been to the public sector. These net transfers were equivalent to between 1 and 2 percent of Gross Domestic Investment in the early 1950s and between 2 and 3 percent in the late 1960s but reached nearly 5 percent in 1963-1964 when investment fell so far short of earlier expected levels. Beyond its own contribution the Bank has also played a significant part through the various mechanisms of the Consultative Group in enabling the large bilateral capital transfers which have been made in the 1960s.

The importance attached to the fiscal and foreign exchange constraints in the Bank's diagnosis of Colombia's problems and the particular solutions recommended in policy advice to the Government have varied over time. The General Survey Mission of 1949 stressed both, but not quite so much as some of the other problems discussed before, especially the weakness of public administration. In 1951, foreseeing the end of the coffee boom, the Bank urged a major effort on minor exports. But by 1954 this emphasis was dropped, presumably reflecting the import-substitution ideology that was sweeping Latin America, and the Bank even

advised against further tax increases, probably due to concern about the way in which the Government then in power was spending its resources. After 1956 the foreign exchange constraint naturally received the main emphasis, and the need for austerity in use of imports and greater import substitution was urged. 1962 was the next time that the Bank took a comprehensive look at the Colombian economy and on this occasion, as for the rest of the 1960s, overwhelming emphasis was given to both fiscal and foreign exchange constraints. An important change came, however, in 1966 when, reflecting the thinking of the new Lleras administration, minor exports began to be given pride of place in discussions about foreign exchange instead of the price at which imports would enter the economy.

To identify distinctly what difference the Bank's advice on these topics made to Colombian policy is virtually impossible. Individual Bank advisers were intimately concerned with some of the policy measures taken in the 1950s, but these were seldom sustained and many of them were of limited effectiveness partly due to poor executive machinery. In connection with fiscal performance, stress was placed in loan negotiations on more adequate prices for power and railway services and a gasoline tax was proposed, but the latter was not introduced and the value of the price increases obtained was quickly whittled away by inflation. With the formation of the Consultative Group in 1962 and a substantial increase in staff devoted to work on Colombia, the stage was set for more effective participation in policy discussions. In 1965 the Bank's position gained further strength as a result of US AID's decision to start conditioning its program loans on agreements between Colombia and the Bank. Since that date Colombian fiscal performance has been close to the targets annually agreed. The Bank, because it obtained written commitments and because it was urging policies that were of course very much in line with Government desires, probably did have an effect in causing more timely action on tax measures than would otherwise have occurred. Foreign exchange policy has been a more disputed area, and the Bank felt that the devaluation of March 1967 was less than optimal and that the pace of devaluation under the flexible system was sometimes too slow. The targets set in this area were minor export volumes, and they were on several occasions missed. But the Bank's consistent emphasis on this topic may well have led to a slightly faster pace of devaluation than would otherwise have taken place.

Reducing the overvaluation of the exchange rate has been politically very difficult, as it is in most countries, but perhaps especially in Colombia for a number of reasons, particularly the very great comparative

advantage that the country enjoys in coffee. It has been a major achievement of the past 15 years to bring the coffee farmers to accept a rather stable, and quite low, proportion (about 56-57%) of the New York value of their crop. Nonetheless the Bank might have been able to contribute even more effectively to movement in the desired direction by, for instance, undertaking or commissioning a factual and objective study on the distributive effects of devaluation (unclear but often used as an argument against the step) and by urging more uniformity in import tariffs or, in their absence, greater use of shadow prices in consideration of major public investments.

Bank Assistance Strategy

By the late 1960s there had evolved, in the relations between the Bank and Colombia, a complex and delicately balanced pattern of lending and condition-making. Essentially the conditions have been at three levels. The annual Memorandum of Understanding covered major policy matters. Initially developed in connection with US AID program loans, it began to be the macroeconomic base for the Bank's own lending program and for its advice to Consultative Group members. Second, there were a few broad sectoral policy matters dealt with partly through the Memorandum and partly through discussions relating to individual loans: for instance utility tariff policy and taxation of road users. Thirdly, there have been the more traditional project-related conditions, mainly of institutional and financial nature, taken up with the borrower and the Government in connection with negotiations for each loan. There are potential internal contradictions in this system (conditions at any one level cannot be too difficult, or they will destroy the effectiveness of conditions at other levels as well) but, carefully handled as it has been, it can be very useful: the Bank can assist and expedite improvements at all these levels.

Over the years consideration has been given to various broad patterns of assistance, and the question arises whether the Bank could have contributed more to Colombian development by following these. In particular there are two proposals which have been put forward on several occasions. One is that the Bank should commit itself for a multi-year period to a certain level of lending, for which projects would then be gradually appraised; in return the Colombians would commit themselves to full implementation of agreed policy measures and sector development programs. This was suggested both in 1951 and 1962, following the Bank's two major missions. The second is that the Bank should provide part or all of its lending in a program form, not attached to individual projects and available

for general imports; as regards conditions, specific agreement would be reached about certain broad policy parameters -- such as taxation, credit control, foreign exchange rate -- within the framework of a broadly agreed overall development plan. Specific requests for lending of this sort were made by the Colombian Government in 1958 and in 1968 but both were rejected on grounds of inconsistency with general Bank policies at the time.

There is a fairly widespread feeling at some levels of policy-making in Colombia that project-lending of the IBRD-type, while it has advantages in terms of assistance to institutional development, also has disadvantages in terms of distorting the development pattern; and that the latter have tended to outweigh the former, even though large amounts of program lending have been provided by US AID and much of the Peso counterpart has gone to cover the local costs of projects for which the foreign cost is financed from other loan sources. Several of the major projects reviewed in this study have not lived up to their original promise -- the railway schemes, the Paz del Rio expansion, the Atlantico agricultural project, Calima dam and the Cali-Popayan highway mainly -- but it is most unlikely that these would not have gone ahead had the Bank provided its financing in a program rather than a project form; only the Zipaquira 2 thermal power scheme might have been avoided with the Bank lending on a program rather than a project basis.

In fact the alleged distortions to which reference is made by those who hold this point of view are different. They arise partly from the difficulty of obtaining project loans for certain types of projects -- for example, rural education or public health -- and partly from problems of timing: for instance, the national investment budget has to be cut, perhaps because of a fall in the price of coffee or a lag in raising taxes, and priority has to go to the projects to which capital inflows from foreign assistance agencies are tied, while other projects which happen not to be receiving foreign assistance are pushed into the future or production capacity existing in the country is left idle for lack of imported spare parts and raw materials. Hence projects proceed at a speed determined by the size of their foreign exchange component and sponsorship from a foreign agency anxious for rapid disbursements rather than by their intrinsic priority to development.

There is one period when it is fairly clear that distortions of the type described did occur and when provision of additional program assistance could probably have reduced them. This was in 1957-1959 when there

had been a sudden sharp shift in the foreign exchange situation and imports of parts and materials were badly needed to use equipment installed in the boom years through 1956. The Colombian authorities were able to raise program assistance only on rather short term and in limited amounts from the US ExIm Bank and commercial banks. The development effort had to be severely cut back and heavily concentrated on completing on-going projects, in particular the largest, the Atlantic Railroad. The latter alone accounted for some 16% of total central Government expenditures on Economic Development in these three years; disbursements out of Bank loans were heavily concentrated on the railroad, to the extent of some 60%.

With hindsight, it seems that the Bank should have reconsidered the whole situation, including its on-going projects, in light of the total change in Colombia's foreign exchange situation and prospects between 1955 and 1957; had it done so it might well have been able to convince the Colombians to agree to cancellation of the 1955 railway loan. It is precisely the section of the Atlantic Railroad covered in this loan which seems to have yielded particularly low returns. Elimination of this project on grounds of budget stringencies raising the opportunity cost of public capital, and the coffee problem and debt arrears raising the opportunity cost of foreign exchange, would have saved some US$30-40 million equivalent of capital expenditure over these and later years and might have left the Atlantic Railroad yielding more than 10% rate of return. Had the Bank been able to convert the 1955 loan into a program loan or provide additional resources this could have made an even more useful contribution; it was just at this time that protective policies were adopted which encouraged import substitution even in fields where the Colombian market was much too small to enable competitive efficiency and which have caused substantial problems since; availability of additional unattached foreign exchange resources would have made the case for such policies less pressing and program loan negotiations might have been able to develop sounder solutions. None of this was considered at the time, and the Bank maintained only a very limited relationship with Colombia for several years, so that in one sense this is only of historical interest; but it clearly has lessons in case of any recurrence of such a situation.

We have not been able to identify other situations in the period under review where it would clearly be true to say that distortions arose in the development pattern and that these distortions could probably have

been significantly relieved by additional program lending. Serious distortions arose in 1963-1965 but these were mainly due to deterioration in a number of key public agencies, lack of project preparation, failure of the Planning Department to make any revision of the Plan, and the very serious fiscal shortfall; additional lending, unattached and for local currency expenditures, could have eased the last constraint but, even assuming that the other constraints were not binding, a serious question would have arisen whether the Bank was justified in increasing the foreign debt of a country so little willing to help itself. After 1965 the situation improved substantially as a result of the technical assistance in sectoral planning that had been provided, mainly by US AID, in the interim and the improvements that took place in fiscal performance, along with the greatly strengthened role of the National Planning Department. One useful move has been to get the Project List onto a longer term basis so that it now covers more than the current year. Even more important have been technical improvements in Government accounting and budgeting, so that more accurate figures on expected expenditures and receipts, etc. are available in a more timely manner. Bank staff have played a useful role in reviewing the public investment estimates and helping to make them more comprehensive.

Nevertheless there remain large differences between 'Gross' and 'Net' Project Lists and these differences are not evenly spread among sectors; and the same seems to be true, though to lesser degree, of public investment plans as a whole. In view of the sharp fluctuations that have occurred in resource availability in the past there may well have been a need to alter the composition of development projects in course of their execution, to adjust them better to new priorities. One reason why this has been difficult, at least on a coordinated basis, is the almost complete lack of information flows to the Planning Department on actual project execution and operation. Had the Planning Department been in a position to propose such adjustments it might still have faced difficulties from the reluctance of foreign lenders to change their projects in mid-stream. Also there do seem to be difficulties in raising foreign financing for particular sectors, such as public health. But the dominant reason for the distortions from Plan that have arisen would seem to be difficulties in project preparation -- greater in some fields than in others -- or, in other words, uneven institutional development in different sectors.

The critical importance of the institutional factor is one reason why we think that the Bank would not have contributed more to Colombian development by providing program loans additional to, or as a substitute

for, its project lending. Without the knowledge derived from close and direct association with the individual borrowers and without the impact at this level obtained by project lending, the Bank would not have been able to make the key contribution that it has made, in this respect, in the areas where it has been involved. A second reason is that project discipline as regards both preparation and implementation of projects is important in Colombia and is recognized to be so by many Colombians as well as others. There is a widely noted problem of lack of persistence, partly related to frequent political change, and the antidote of project financing is recognized as useful. Third, after 1965 the Bank had the annual Memorandum of Understanding and thus discussed with the Government any matters that were envisaged as conditions for a program loan. It is not clear that the Bank would have been able to persuade the Colombians to do more -- for instance to raise taxes or devalue the Peso faster -- by concentrating all its negotiating efforts on these matters rather than spreading them between these and project issues. Fourth, as regards the alternative possibility of making a program loan essentially channelled to the private sector, our doubts about the efficiency of allocation of past lending to this sector and finding of a negative association between long-term capital inflows to the private sector and domestic private savings give us concern.

If program lending was not the solution there are clearly other measures that the Bank could take to help the Colombian authorities to secure a better pattern of development. It could show more recognition of the problem of uneven institutional development and help to prepare projects and develop projects in the lagging areas -- such as housing, lumber/furniture industry, labor-intensive agricultural schemes, public health, and feeder roads. It could work towards a sector-lending technique in some fields, which would be consistent with the need identified earlier for more attention to sector policy conditions, for instance in lending to industry. It could assist the Planning Department in getting better information flows about projects under way. Although the Consultative Group members have not been prepared to make pledges, let alone multi-year pledges, the Bank could pursue the Project List more intensively, encourage the members to commit themselves firmly on individual projects and seek with the Colombians to get a sectorally more even pattern of project assistance. Only if the Bank is unable to shoulder the heavier task of project preparation and institutional assistance in more difficult areas would sustained program lending seem an appropriate vehicle for its own support to Colombia; though better than concentrating lending on institutions which are already relatively strong, it would nevertheless be second best.

CHAPTER III - THE TRANSPORT SECTOR

The Bank has played a crucial role in the development of Colombia's transport sector. Since 1950, it has lent a total of US$230.2 million. Bank disbursements account for 9% of total investment for highways and 29% for railways over the period 1951-1969. But these amounts do not reflect the role of the Bank in helping to improve highway planning and maintenance, in promoting the integration and improvement of railway services, and in rationalizing Government transport policy.

The Bank started financing transport investments as a result of the findings of the 1949 General Survey Mission, which found the transport system in very bad condition and beyond repair with normal maintenance procedures. Since then, the Bank has made eleven loans to the sector, which have been concentrated on three major projects (Annex Tables 2.3 and 3.1). The first was the construction and upgrading of the trunk highway network, which connects the main populated centers in the country (six loans and one IDA credit totalling US$135.6 million). The second was the construction of the Atlantic Railroad, from La Dorada, near Bogota, to Fundacion, near the port of Santa Marta, a distance of 672 kms (two loans for US$40.9 million). The third is a railway rehabilitation program, including provision of rolling stock for the new Atlantic Railroad, designed to renew and modernize the railway's rolling stock and track (three loans for US$53.7 million). Construction of the Atlantic Railroad was completed in 1961, but the other two projects have been a continuous activity since the early and mid-1950s.

The Bank has also played a central role in promoting a rational approach to transport planning and policy. It has tried to keep an overall sector perspective throughout the last 20 years, although the issue of intermodal competition has had to be treated in a very general way because of lack of supporting data or studies. The Bank proceeded in the early 1950s with a major highway and railway program in the belief that road and rail were complementary rather competitive modes, a belief that remained unchanged until recent years. In the late 1950s, when the original projects were being completed, the Bank asked the Colombians to commission a fresh study of the sector.[1/] This very worthwhile study served as a basis for the identification of new projects but, more importantly, provided the framework for a transport policy aimed at attaining a workable level of transport coordination.

1/ Republic of Colombia, Ministry of Public Works: "Plan for Improvements in National Transportation". Prepared by Parsons, Brinckerhoff, Quade and Douglas, Bogota, 1961.

For the first time, issues such as the levels of subsidy to road and rail transport or the tax structure of the trucking industry were explicitly considered in the design of policy. The study also proposed the increase in gasoline taxes and the creation of the Highway Fund, both of which materialized during the 1960s. Finally, the Bank has also been heavily involved in institutional development in Government agencies dealing with transport; this subject is discussed in Chapter IX.

Colombia's Transport Sector Since 1950 and Bank Participation

Colombia's transport sector has been profoundly transformed since the early 1950s. The road and rail networks at that time were either largely regional or oriented toward foreign trade, connecting each of the main populated areas (the regions around the cities of Bogota, Medellin and Cali) with the coast. The Magdalena River was the only workable route between Bogota and the Atlantic coast, but with serious navigational problems during the dry season. Since 1961 the Atlantic Railroad has provided an all-weather connection between Bogota and the port of Santa Marta, and joined as early as 1958 the Western (Medellin, Cali, Buenaventura) and Eastern (Bogota, Girardot, Neiva) rail systems. The trunk highway system was practically completed in the early 1960s with the construction and upgrading of the Western Trunk Road (Cartagena, Medellin, Cali, Pasto), the Eastern Trunk (Santa Marta, Bucaramanga, Bogota, Neiva) and the main transverse roads that connect Cali, Medellin and Bogota. In addition, the construction of secondary and feeder roads was speeded up during the 1960s.

The effort to complete the basic transport network has required a considerable proportion of the country's total investments. Transport has represented between 10 and 15% of total domestic investment, and about half of central Government investment; the latter proportion reached more than 60% in the late 1950s, when major efforts were made to complete the Atlantic Railroad and the trunk highway system.

As a consequence of those investments, road transport has emerged as the only mode that is truly national. Even in the early 1950s it accounted for 43% of total freight transport (Annex Table 3.2), but these movements were mainly regional. The growth to about 53% of total freight transport in 1966 reflects an important increase in inter-regional, medium- and long-distance movements. The relative importance

of river transport decreased considerably (from 31% to 17% of the total between 1951 and 1966) and that of the railways declined somewhat (from 20% to 17%). As regards passenger traffic, the impact of road transport has been enormous, resulting in a very sharp reduction in rail traffic in absolute terms. Generally, intermodal traffic shifts seem to have been more pronounced in the 1950s and early 1960s than in later years. In contrast with the evolution of road-rail competition in other countries, the railways have not lost the transport of industrial goods, mainly because of their comparative advantage in moving foreign trade, an advantage that increased with the construction of the Atlantic Railroad.

Road-rail competition has developed in a largely unregulated environment. The central Government has financed a large proportion of the railways' investment program, including the construction of the Atlantic Railroad, it has serviced the related foreign debt and does not collect taxes on the railways' operations or duties on equipment imports. In road transport, the Government for many years recovered a fraction of the costs of highway construction through the gasoline tax system, but since the mid-1960s taxes have represented a sizable proportion of total highway investments. At the same time, it has levied very high import duties on vehicles and spare parts, heavily limited vehicle imports during a few periods, and taxed trucking operations. A few toll roads were attempted during the 1950s but a more elaborate system was only started in the mid-1960s. The impact of these Government actions on intermodal allocation is difficult to assess. This evaluation does not deal with the fundamental problem of transport coordination and road-rail competition, but our impression is that the overall degree of distortion created by Government actions is not substantial because many distortions cancel out. The traffic shifts from rail to road that have taken place do not seem to result in an uneconomic traffic pattern.

Highways

Bank involvement in highway construction in Colombia falls clearly into two time periods. The first covers the years from 1951 to 1961, encompassing the first three loans and covering the rehabilitation and upgrading of the trunk highway system envisaged under the first loan. The roads covered were those included by the Government in its First

Highway Plan. In the second period, from 1961 to the present, the loans were for the construction and upgrading of limited sections of the trunk system, such as the Cali-Popayan and Neiva-Espinal roads. During the second period, the concept of a highway program loan, such as the first loans during the 1950s, was abandoned. The new loans were more suited to Bank preference for tight and clearly-defined projects, better managed, completed more expeditiously and to defined standards.

The roads reappraised here are all those financed with the first three loans and all the roads financed with the 1961 loan except for four -- Buenaventura-Buga, Pedregal-Tumaco, Chusaca-Fusagasuga and Rio Negro-Malpaso -- which could not be reappraised due to incomplete data.

Costs of the roads financed with the first three highway loans were much greater than originally expected and implementation much slower. Cost increases were particularly serious in the early part of the period. Table 3.1 shows the original estimate of kilometers to be covered and of costs and our current estimates of actual kilometers covered and costs.

Table 3.1

Colombia: First Highway Plan: Original and Actual Coverage and Costs for Roads Financed with Loans 43-CO, 84-CO, 144-CO and 295-CO
(All costs in 1968 Pesos: US$1.00 = Ps. 15.9)

	Original Highway Plan			Actual Achievement			% Overrun
Sector	kms	Ave. Cost per km ('000 Ps)	Total Cost (mln Ps)	kms	Ave. Cost per km ('000 Ps)	Total Cost (mln Ps)	in Cost per km
Eastern Trunk	1,051	132	138.3	507	684	347.0	418
Western Trunk	1,437 a/	145	207.3	1,437	348	500.8	140
Transverse	573	155	88.7	774	647	501.1	317
Other b/	-	-	-	484	454	220.0	-
Total	3,061 c/	144	434.3 d/	3,202	490	1,568.9	240

a/ Including 155 kms of new construction.
b/ Mainly roads to the Venezuelan border and in the Atlantic region.
c/ Estimate of project kilometers raised by 1953 to 3,211.
d/ A 15% contingency allowance brought total estimated cost to Ps. 499.4 million.

It was not possible to determine exactly what work was done on each link, but in general the roads were raised to substantially higher standards than originally envisaged. This accounts for a part -- how great a part is virtually impossible to say -- of the very large cost overruns experienced; final costs were in real terms more than three times what was originally envisaged. The First Highway Plan, originally intended as a three-year emergency program, eventually continued ten years through 1961 and in some respects beyond.

What are the reasons for these cost overruns and delays in construction? The problem of project definition -- mainly scope and standards -- plagued the first three highway loans. The First Highway Plan was an emergency program, and the initial 1951 loan and the two following were made without detailed economic or engineering feasibility studies. This process involved ad hoc engineering and ad hoc setting of standards -- unknowns which made project supervision as well as cost projections most difficult. In addition, the Minister of Public Works at the time never genuinely accepted the highway program as agreed with the Bank. Once having signed the loan, he seems to have reverted to his original, larger program, with higher construction standards and more roads.

The greatest single cause of delay was the shortage of Pesos, due to difficulties in raising taxes, a very large highway program, and little if any allowance for inflation in cost estimates. As a result, the Ministry was unable to carry out the projects on schedule or to pay contractors on time, which in turn resulted in contractor bankruptcies, misuse of equipment, and frictions between the Bank and Colombian authorities. It also aggravated the neglect of proper maintenance, correction of which was one of the major aims of the loans.

A second major problem was Colombia's physical environment. The landslides, washouts and mountainous terrain presented vagaries which initially made accurate projections of costs and completion dates very difficult. By 1961, the contractors had learned to live with the Colombian environment, and cost estimates became more accurate, but nature still causes high reconstruction and maintenance costs.

Thirdly, the organization and procedures of the Ministry of Public Works were a problem throughout the history of the highway loans. Particularly under the early loans, the Ministry's cumbersome administrative system, as well as its poor budgeting, led to frequent delays in

payments to contractors. Substantial delays were also caused by the requirement in Colombian law that all Government contracts be signed by large numbers of officials, a problem that has been solved only recently, at Bank insistence.

Lastly, general economic considerations were important. The deteriorating economic position of Colombia due to the coffee crisis held up the third loan for a year between 1955 and 1956 and was a major cause of local currency shortages.

The direct impact of road projects, measured in terms of savings in total transport costs, was analyzed through the application of parts of the Harvard Transport Simulation Model[1/]. The application of this model in Colombia was initiated in 1967, financed with some undisbursed funds of IDA Credit 5-CO, of 1961. The version used in this study was greatly modified and improved, and its application proved to be quite useful. This technique is especially suited for investment analysis, but its use for the study of the operational characteristics of each mode is limited and the conclusions derived from it in this regard should be considered indicative.

In spite of the delays and cost overruns, the highway projects proved to be, on the whole, very successful investments. The average internal rate of return (IRR), based on road user cost savings but omitting time savings, of the 24 road sections that were individually analyzed, is 25.1% (Table 3.2).

The estimates of benefits were based on figures for vehicle operating costs which assumed a high level of operating efficiency. Given the way these calculations were made, a change in some of the assumptions or in the imprecise data available may shift the IRR a few points up or down. Sensitivity analyses were made, for different assumptions as to traffic levels, economic lifetime and vehicle operating costs, the general conclusion being that the results included in Table 3.2 are a reasonable representation of the returns to the investments. Explicit consideration of a shadow foreign exchange rate (at double the official rate) and of time savings would increase those returns even further. These returns were obtained using actual traffic volumes on the roads. Adjustments for possible distortions in traffic allocation between road

1/ Harvard Transport Research Program, An Analysis of Investment Alternatives in the Colombian Transport System. Final Report. Harvard University, Cambridge, Massachusetts. September 1968.

Table 3.2

Colombia. Economic Return of Highway Investments Financed with Loans 43-CO, 84-CO, 144-CO and 295-CO

Road Section	Internal Rate of Return (IRR)	IRR Using Shadow Foreign Exchange Rate [a/]	IRR including time savings	IRR considering 70% of traffic volume	IRR considering 70% of traffic volume and including time savings
A. Western Trunk Road					
1. Cartagena - El Carmen	(				
2. Sincelejo - El Carmen	(17.6	20.4	28.8	12.0	20.2
3. Sincelejo - Caucasia	14.6	17.7	21.8	9.2	14.7
4. Medellin - Caucasia	29.3	32.7	42.7	19.7	29.3
5. Cali - Medellin	35.6	38.4	47.5	25.5	33.9
6. Manizales - Anserma	22.5	24.7	34.8	15.9	25.9
7. Cali - Santander	17.6	19.9	26.2	11.6	18.3
8. Santander - Popayan	10.1	11.9	17.4	5.3	10.9
B. Eastern Trunk Road					
9. Gamarra-Bucaramanga	16.3	18.1	26.4	8.8	16.5
10. Bucaramanga - Barbosa	14.0	15.6	22.8	7.4	13.8
11. Tunja - Bogota	49.8	50.0	+50	31.9	53.3
12. Bogota - Girardot	34.3	37.6	50.6	23.5	34.7
13. Girardot - Neiva	34.9	41.3	51.4	24.1	34.7
C. Coastal Transverse Road					
14. Barranquilla - Cartagena	24.8	32.3	29.4	16.8	22.5
C. Central Transverse Road					
15. Bogota - Honda	41.9	45.2	+50	27.7	45.7
16. Honda - La Dorada	34.1	38.3	52.9	23.5	35.7
17. Honda - Manizales 18. Manizales - Pereira 19. Pereira - Cartago 20. Uribe - Armenia 21. Armenia - Ibague 22. Ibague - Girardot	18.1 26.3	19.8 29.9	28.2 39.5	11.3 17.6	15.6 26.9
E. Other Roads					
23. Gamarra - Cucuta	13.1	15.3	18.0	9.0	12.9
24. Bucaramanga - Cucuta	21.4	24.3	37.0	11.7	21.9

a/ Assumed to be twice the official rate. Only direct foreign component in construction costs have been considered.

and rail could change the results for some of the roads, but seemingly not much. Finally, we did not attribute the increase in average truck size that has taken place in the last 20 years -- from 5.5 to 7.0 tons on average -- to the improved highways; had we done so, the project benefits would have been even higher, since the larger trucks permit additional economies in truck operating costs of about 10%.

Some of the roads show a marginal return, in the sense that minor changes in a few of the assumptions would push the IRR below the 10-12% range. These roads are Santander-Popayan (part of Cali-Popayan), Sincelejo-Caucasia, Gamarra-Cucuta and Bucaramanga-Barbosa.

Several factors explain the wide differences in return among the roads. The most important are traffic levels and rate of traffic growth; construction costs, reflecting the type of terrain; the type of improvement, whether it was earth to gravel or gravel to paved and whether it implied reduction in gradients or distance; and finally, congestion levels in the "without investment" situation, which means high operating costs, and consequently higher benefits from the improvement[1/]. The low return on the Santander-Popayan road is largely explained by very high construction costs; on the other roads it was mainly due to the relatively low traffic volumes that materialized. The only one of these roads that appears clearly as a marginal investment is that between Cali and Popayan.

The road program had a considerable impact in reducing vehicle operating costs and improving operational conditions. Truck operating costs have decreased, on average, about 45% since 1956. For some roads, cost reductions have been by more than one half. Operating speeds have risen considerably, between 50% and 100% on most roads.

The reductions in vehicle operating costs have in part been passed on to the truck users through reductions in freight rates, although these reductions may also reflect to some extent rail competition. Time savings were almost completely absorbed by the users of truck services.

1/ Benefits have been defined as the difference in total vehicle operating costs between the "with" (actual) and "without" situations. The latter is supposed to represent the situation had the road not been built. Road maintenance costs in the "without" situation are considered constant, but vehicle operating costs would tend to increase because of deteriorating conditions.

It is not clear how far truck users (usually commercial middlemen) have in turn passed on the cost savings to producers and consumers. The marketing process continues to absorb a large proportion of the total price of goods traded, and there is some evidence that the spread of benefits has been limited. But in some cases better access reduced the number of intermediary levels in the marketing structure and increased competition among merchants, resulting in producers' receiving a higher share of consumer prices.

Because of the emergency nature of the first three highway loans, no forecasts of operating costs or traffic are available for comparison with the actual figures. For the same reasons, no returns were calculated on those roads at the time of appraisal. The estimates made of a first year rate of return for the roads financed with the 1961 loan proved to have been accurate in some cases, such as the Neiva-Espinal road, but too optimistic in others, such as Cali-Popayan. Although the Buga-Buenaventura road was not reappraised in this study, the partial cost estimates available, the very long construction period -- it was opened to traffic only at the end of 1970 -- and the results of other roads all suggest that its final return will be low.

Several issues revolving around the highway investments have arisen between Colombia and the Bank since the early 1950s. The question of highway design standards is one of the most important[1/]. In the early and middle 1950s, road traffic began to increase at an accelerated pace, due to a booming economy and higher vehicle imports. This increase was attributed to the highway improvements and the Government assumed that the growth experienced in those years would continue in the future. Standards were considered inadequate and were continuously raised during the late 1950s. The Bank opposed the raising of standards, but for the 1961 loan it finally accepted the high standards, based on U.S. practice, adopted by the Ministry of Public Works. The Parsons Study concluded in 1961 that standards proposed for future construction were also too high in light of traffic projections.

Highway standards were not analyzed in detail in this evaluation, and the results of applying the highway model can only be indicative. They suggest that on a few roads, especially some of those financed with the 1961 loan, trucks were not able to make full use of the higher

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1/ By standards we mean here aspects such as width of lane, type of curves, gradients accepted and sight distance. Other technical variables, such as type of base and pavement, drainage, etc., are not considered.

standards because they could not attain the high speeds allowed by the new roads. In one case (a recently-opened section between Bogota and Girardot) truck drivers still prefer at present to use the old road; the new road has a small toll, but truckers also indicate its design (long, slow gradient) as one of the main reasons for not using it. Furthermore, application of the model suggested that only a small proportion of the theoretical capacity of many roads is likely to be used even at the end of their economic lifetime.

In a country like Colombia, highway design standards should be drawn up so as to optimize the truck and bus operations which comprise a large proportion of total traffic, rather than copied from countries where the main purpose is to speed up car movements, especially since these high standards are particularly costly to attain with Colombia's topography. In other words, vehicle composition should be a key factor in defining standards. New technological alternatives in highway design may be needed1/. Finally, with the standards used at present, a sizable proportion of the benefits of new roads go to private car owners because cars can attain the high speeds allowed by the new roads, increasing their time savings. Admittedly, the country's topography makes it impossible in many regions to build roads which can be successively improved, and in flat regions, costs of roads designed for 120 km per hour are not much more than those with 80 km per hour design. But the matter needs attention.

The issue of design standards raises another point, which is the need for a proper balance between investments in infrastructure and in vehicles. In Colombia, vehicle imports have been determined more by balance of payments than by transport considerations, following an erratic course that has adversely influenced the evolution of road transport services. Colombian transport policy and Bank participation have been essentially infrastructure oriented. Although no detailed analysis has been attempted of the interrelations between type of vehicle and road design standards, it is likely that a more balanced combination than actually attained would reduce road transport costs considerably.

Another issue that deserves attention is the interrelation between trunk highways and secondary and feeder roads. The appalling condition

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1/ The Economics and Transportation Projects Departments have undertaken a major study on highway design standards that will surely clarify many of these points.

of the trunk system in the early 1950s and the clear need to complete it meant that most available funds at the time were concentrated on this task. Also the balance between trunk and feeder roads was unfortunately confused with the issue of excessive dispersion of funds in many projects; concentration on a few projects became synonymous with concentration on the trunk system. Although the Bank's insistence on this approach eliminated projects that were probably uneconomic, it had the negative side effect of reducing the effort put into feeder and penetration roads. Feeder road construction was speeded up in the 1960s by Caminos Vecinales, a Government agency, and the IDB has financed part of the expansion in secondary and feeder road construction that has taken place in recent years; 11,500 kms of secondary and feeder roads were constructed and reconstructed between 1953 and 1969. Nevertheless, our studies suggest that lack of secondary and feeder roads is still a major transport bottleneck -- which is not to say, of course, that there are not some deficiencies outstanding in a few sections of the trunk network.

The issue of feeder roads is related to the development impact of road improvements. The Bank never considered this type of impact in its appraisals in a formal way. Our studies on this aspect suggest wide variations in the development impact of the different roads. The Cali-Popayan road played a minor role in inducing new activities in the region adjacent to it, although it helped in the integration of agricultural production among the Departments of Valle, Cauca and Narino. The impact of the upgraded road between Bogota and Villavicencio is unclear but relatively modest. The increased production in the region centered in Villavicencio appears more related to feeder road improvements in the region than to the upgrading of the highway to Bogota, and the transport cost between Bogota and Villavicencio is in any case a minor part of the total producer-consumer transport cost. The new road between Medellin and Cartagena did have a major impact in the development of the region around Caucasia and helped to open up large areas suitable for cattle raising. Other case studies, focussed on small towns, suggested that the development impact of the trunk roads on those towns was minor, and in some instances negative, mainly because many economic activities previously located there moved elsewhere and development of new ones to replace them was limited.

The Atlantic Railroad

Construction of the Atlantic Railroad is the most important single transport investment financed by the Bank in Colombia. Two loans were made for this purpose, in 1952 for the section between La Dorada and Gamarra, and in 1955 for the section between Gamarra and Fundacion, with rehabilitation Fundacion-Santa Marta (see map). The initial purpose was to connect the Bogota and Medellin regions with each other and also with the port of Gamarra, on the Magdalena River, eliminating the navigational problems presented by the river south of Gamarra. Additional purposes were to join the old Eastern and Western Rail Systems and to create the conditions for a viable, financially sound national railway undertaking. In 1955, it was decided to extend the line to Fundacion and have an all-rail connection to the Atlantic coast.

The decision to build this railroad was also based on the findings of the 1949 General Survey Mission, which recommended the construction to Gamarra. In doing this, the Mission helped to kill other very expensive construction plans, particularly two links through the mountains, one (Ibague-Armenia) to join the Eastern and Western Systems and the other separately via Bucaramanga to link the inland systems with the coast. These clearly would have been major mistakes because of engineering problems and the high costs involved.

The 672 km railroad took eight years to build, compared to five years originally estimated, and cost US$98 million equivalent, 70% more than what was calculated (Annex Table 3.3). The overrun was almost entirely on the Peso element, on which it was 160%. If we take into account that after 1961, when it was officially inaugurated, construction continued until 1968, especially ballasting and the rehabilitation of the old line between Fundacion and Santa Marta, the total cost goes up to US$116 million equivalent (Annex Table 3.1) and the total overrun to 98%. Most of the delays and cost overruns were caused by the extra work and modifications required in the section between La Dorada and Gamarra. The major flaw was proceeding with the initial loan on the basis of only an aerial survey which was not corroborated on the ground to indicate the true nature of the terrain. Other technical problems also raised costs. For instance, earth moving costs were greatly underestimated throughout (Annex Table 3.3). Administrative expenses, which proved to be considerable, were not allowed for in the original estimates.

The Bank bears part of the responsibility for proceeding with a project based on poor cost estimates. Responsibility for overruns and delays stems also from the Bank's close reliance upon, and support of, the general consultants to the Colombian National Railways (CNR). CNR and the consultants (Madigan-Hyland) were often in conflict, and the consultants were to some extent considered an arm of the Bank. This had deleterious effects not only because of the damage it did to the normally delicate client-consultant relations but also because the poor judgment and performance of the consultants were a major cause of the slow execution of the project.

Other factors were also significant, such as administrative problems during construction, difficulties in the provision of local funds, failures of some contractors and, last but not least, the political turmoil in the country, especially in the region where the railroad was being built. The construction of the Atlantic Railroad was a most painful and lengthy process.

The main conceptual problem in analyzing the railway's ex-post feasibility was to define reasonable courses of action had the railway not been built. In the end, two main alternatives were tested, one based on the possibility of using highway transport, especially the Bogota-Santa Marta and Medellin-Cartagena roads, and the other based on the possibility of using waterway transport (the Magdalena River). The highway transport alternative was worked out in great detail, specifying possible routes for all traffic using the Atlantic Railroad. The waterway alternative was analyzed in a more simplified way, since the railway and river are practically parallel and correspond to exactly the same transport corridor. For this last reason, the waterway alternative was also used to evaluate individual sections of the railway.

The benefits were defined as savings in direct transport costs attributable to the new railway, elimination of the need for transshipment from waterway to railway or highway, time savings and reduction of losses. It was also assumed that all passenger traffic was induced traffic, entirely attributable to the railway. We made three sets of calculations of the internal rate of return, in order to test the range in which it may fall. The first set assumed realistic conditions in roads and waterways, that is, representing the operating conditions of these modes in the last ten years, but assuming that the waterway

would remain open all year round. A second set implied that the waterway would be closed for a few weeks; the impact of this closure was quantified by assigning a monetary value to the time savings. Finally, a third set of calculations was made assuming increasingly deteriorating conditions in highways and waterways.

The first set of calculations resulted in negative rates of return in all cases, as shown in Table 3.3. Although even these cases are to some extent weighted in favor of the railroad (for instance by attributing a high value to time savings) the comparisons with the waterway are unrealistic insofar as the waterway is normally closed for a few weeks each year. On the other hand, the second set of calculations, explicitly allowing for this and indicating a rate of return of 3.7% for the whole railroad, exaggerate the yield of the investment insofar as highway alternative routes have existed since the late 1950s, before the railway line came into full operation.

Table 3.3

Internal Rate of Return of the Atlantic Railroad

Section	Initial calculation: Normal highway conditions and waterway open all year	Assuming waterway closed part of the year %	Assuming waterway closed part of the year and deteriorating conditions in waterway and highway transport %
Whole Atlantic Railroad (La Dorada-Fundacion)			
1. Highway as alternative	Negative	-	9.3
2. Waterway as alternative	Negative	3.7	6.8
Sections of Atlantic Railroad (waterway as alternative)			
1. La Dorada-Puerto Berrio	Negative	12.3	21.7
2. Gamarra-Fundacion	Negative	6.8	10.8
3. Puerto Berrio-Fundacion	Negative	1.4	5.1

The third set of calculations indicates that the return of the Atlantic Railroad will not rise over 10% even under the most favorable assumptions. The analyses show that the section between La Dorada and Puerto Berrio probably had the highest return in the whole railroad. Another calculation of the IRR using the estimated instead of the actual construction cost, but actual traffic and rail operating costs, gave a figure of 9.9%, as compared with the 3.7% actual cited above.

These results have to be interpreted with caution. The decision in 1951 was to proceed with the Atlantic Railroad, part of the Eastern Trunk Road (Bogota-Bucaramanga) and the Medellin-Cartagena road (which is an alternative to the Atlantic Railroad for the traffic with origin or destination in Medellin) simultaneously. In the 1950s and 1960s the Government continuously upgraded the Bogota-Santa Marta road. Traffic evolution in the last 20 years suggests that the Bogota-Atlantic coast corridor did not warrant investment in both roads and railways. Most of the traffic on the Atlantic Railroad could be moved either on the Bogota-Santa Marta or Medellin-Cartagena roads. Which one was, then, superfluous? If one looks at the internal rates of return, it seems that it was the railway. But in the calculation of the railway's return, we have assumed that the highways would have been built anyway. Had the decision in 1951 been to build the railway only, traffic would have been higher and its construction justified (although this course of action would have also implied a much larger rehabilitation program; the railway has at times barely been able to move the traffic that has been offered to it). Our impression is that the highways were justified largely because of the local traffic, especially in the Bogota-Bucaramanga section. Given this fact, and the nature of other road investments, which also connected Bogota with the Pacific coast, it seems, with hindsight, that the right decision in 1951 would have been to proceed with the road and not the railway construction. But this cannot be proved conclusively.

In terms of more direct explanations, the low returns seem to have been caused by a combination of three factors: first, the very high construction cost overruns and long gestation period; second, CNR's low operating efficiency, which has kept rail operating costs at high levels; finally, the relatively low traffic volumes. Freight traffic has increased, but passenger traffic has declined sharply since 1961-1962.

The Atlantic Railroad had an important impact on the development of the Magdalena Valley. The railway was instrumental, even during its construction, in opening up the valley and providing new areas of settlement. The colonization process was spontaneous and had a high social cost in terms of the living conditions of the colonizers and in terms of a widespread misuse of the region's natural resources. Nevertheless, some increases in agricultural production took place in the region that are important from the viewpoint of the foodstuffs supply at the national level; these increases relate mainly to rice, corn and cattle production. The railroad also helped in promoting the strong increase in cotton production in the Cesar Valley. The main conceptual problem is to determine to what extent those increases can be attributed to the Atlantic Railroad only or to other factors, such as the influence of Government agricultural agencies or demand pressures. An additional calculation allowing as benefit the value added by the increases in rice and corn production, developments that could be more or less safely attributed to the railroad, and considering also the additional benefit just mentioned of an all-year connection due to the railroad (with waterway as alternative), raises the IRR from 3.7% to 6.6%. Allowing for these developmental benefits, the related developmental costs in the region and the sensitivity analyses for railway operations themselves described earlier, our final impression is that the Atlantic Railroad probably had a positive, but very low return, somewhere between 0 and 5%.

Explicit consideration by the Bank or the Colombian Government of the railway's regional impact might have increased the benefits of the project and other regional investments, and reduced the social cost of the colonization process. The Bank indicated in the appraisal for the first loan that building a highway might be the proper solution if the task were the development of the Magdalena Valley's agricultural resources, but it considered at the time that the true problem was to provide Colombia with a through-route for her foreign trade.

The Atlantic Railroad had limited impact in connection with its two other original purposes. The building of a financially autonomous and well-run corporation was one of the key aims of the Bank. However, CNR is still not a financially viable undertaking and there is considerable room for operational improvements (see Chapter IX). The integration of the Western and Eastern Systems had a minor impact on traffic. In 1966, only 8.8% of rail freight traffic and 3.4% of passenger traffic were movements between the two old systems.

Railway Rehabilitation Program

The need to rehabilitate and modernize the system was emphasized by the Bank from the beginning of its involvement with the railways. The 1952 and 1955 Atlantic Railroad loans already contained a rehabilitation component, for example the reconstruction and upgrading of the Bogota workshops. This was a crucial investment given the poor maintenance standards, but in the event it was dropped from the program in order to release funds for the Atlantic Railroad. The latter absorbed so much of CNR's energies that no attempt at producing a serious rehabilitation program was made until 1961-1962. The 1960 loan was an emergency measure destined to finance urgently required equipment because of the opening of the Atlantic Railroad in 1961. Real rehabilitation efforts were made only with the 1963 and 1968 loans.

The evaluation study reappraised the investments that took place between 1958 and 1968. Total investments amounted to US$70 million equivalent. Most of the items in the program fall into four categories: new diesels destined to replace old steam engines; acquisition of rolling stock, mainly freight cars; acquisition of shop equipment; and a vast track renewal program (see Annex Table 3.4).

The quality of the data on costs and construction schedules does not permit us to compare estimated and actual figures. Annex Table 3.4 summarizes rehabilitation expenditures year-by-year. Local expenditures on shops and track rehabilitation for this period amount to US$30 million equivalent. Of the foreign exchange costs of the program, 73% were used for rolling stock acquisitions.

The rehabilitation program was also reappraised with the help of the Harvard Transport Model. Its use permitted a better quantification of the system effects of investments and an analysis of operating conditions in different parts of the network and for different types of services. As in highways, the model results about detailed operational conditions are only indicative.

In order to obtain an ex-post internal rate of return for this rehabilitation program, several assumptions had to be made, in light of available data, about the evolution of railway operating conditions without the rehabilitation program; we assumed a progressive deterioration. The resulting internal rate of return is 7% for the whole rehabilitation program, and 6% if a shadow foreign exchange rate is used. An

attempt was made to estimate the return of the investment components separately, but this cannot always be done because several components generate the same kind of impact, and it is impossible to separate the influence of each of them. For example, both the new diesels and the track renewal program have an impact on operating speed. A calculation of the return on the dieselization program, without considering the track renewal program, showed an IRR of 10%, but only 6% if a shadow exchange rate is used. The estimate made in the appraisal, of a return of 16%, proved too optimistic. Several additional calculations were made to test the sensitivity of the results to changes in some of the assumptions, such as the economic life of the investments and the evolution of the benefits after 1970. The analyses indicate that the general conclusion, that the rehabilitation program has had a relatively low return, would remain unchanged, although the actual IRR may be slightly different.

Three factors appear to be the most important in accounting for these results. The first is the inefficient use that the railway has made of the new investments, which has meant that part of their potential benefits have not materialized. The whole rehabilitation package should have had a significant impact on certain operational characteristics. The appraisal report indicated that:

> "The programmed rail renewals would reduce the number of costly derailments, lower maintenance of way expense, improve the reliability of service, and permit the use of heavier and faster freight trains, which would improve efficiency and attract traffic. The new freight cars would permit the retirement of over-age, obsolete cars now in use, reduce maintenance of equipment expense, and increase car availability. This would permit a greater volume of traffic to be moved."1/

Unfortunately, those operational characteristics have remained largely unchanged or have improved very marginally, mainly because of management problems. The only benefits that have materialized are direct savings in operating costs derived, for example, from replacing several old steam engines with one new diesel. Inadequate track maintenance has been a constant problem throughout the 1950s and 1960s.

1/ Loan 343-CO, Appraisal Report, page 25.

Railway rehabilitation investments were well conceived and the Bank presumed that they would be well used, but it never specified, in terms of operational targets, what a "good" use of the investments meant and, more importantly, never supervised in detail what was being done with them. Bank appraisal and supervision work had a heavy bias toward financial aspects. The Bank was seriously concerned about those problems that revealed themselves plainly in the construction delays and poor overall financial performance. It took many measures to help deal with them, as described in Chapter IX. But many of these steps appear to have been rather ineffective and none of them got to the heart of the problem of operational efficiency. A major consultant technical effort was started in 1965 when SOFRERAIL began to work on traffic costs and tariffs, followed in 1967 by assistance in workshops, track rehabilitation and track maintenance. The employment of operations consultants was a condition of the 1968 loan to CNR. There was some initial reluctance on CNR's part but after continued insistence by the Bank, the consultants finally started working in early 1971. Selected technical performance indicators are given in Table 9.1. Although comparing quite favorably with other railways in Latin America and showing signs of improvement in some cases, they remain far from ideal.

The second factor is the low traffic level and its slow growth. Although freight traffic has increased, passenger traffic has declined very sharply and the total is much below forecast. This trend is in part explained by CNR's poor quality of service, another reflection of its low operational efficiency. Even with freight, the only sections really growing are the Atlantic Railroad -- although its growth has tended to become smaller after the big increases in the early and mid-1960s -- and the line between Cali and Buenaventura. In the rest of the system, freight traffic has declined. The reason why the railway has kept its position in the Atlantic and Cali-Buenaventura sections is the lack of parallel first class highways. The opening of the Buenaventura-Buga (Cali) road will have a major impact on rail traffic in that region.

A third reason for the low return is the delay in completing parts of the rehabilitation program. After all, there is a certain balance that must be maintained. To buy new diesels without renewing the track so that the locomotives could be used at an adequate speed generates low returns on the diesels. Certain parts of the program were delayed for a variety of reasons: inadequate planning, lack of funds, damage to

equipment in transit, poor quality of rails supplied, landslides, administrative difficulties. Many of these factors reflect the same basic management problems discussed above. In this evaluation, we did not consider the impact of the rehabilitation program on derailments or track maintenance, because it was impossible to determine whether, for example, derailments would have been higher or lower in the "without investment" situation, or to obtain accurate information about types of derailments, their location or their cost.

Impact on National Integration

One of the expected effects of transport improvements was integration of the main regions in Colombia with one another. This impact was measured through integration indices, designed for this study on the basis of the principles of international (and interregional) trade theory. Analysis of the agriculture and livestock sectors for the 1955-1969 period strongly supports the hypothesis of a movement toward national integration. The Departments have tended to specialize in a certain number of crops, and the national production of each crop has tended to be concentrated in fewer Departments. Confirming that result, evidence was found of a significant trend toward price equalization among regions for agricultural products. Rather surprising results were found in the area of industrial production. Most industrial groups, including textiles, clothing, furniture and electrical equipment, show a trend toward regional diversification and not toward concentration. This is contrary to what would be expected from improvement in communications among the regions and the availability of scale economies in many industrial activities.

It appears that some of the overriding factors in determining industrial location are regional interests and a long tradition of independent regional development. Each region wants to industrialize, and all Departments try to have all kinds of industries, independent of any possible national strategy for industrialization. With regional pressures for industrialization playing such an important role, the reductions in transport costs permit the movement of raw materials from more distant places and enable some industries to locate closer to their markets. Conversely, this kind of regional pressure seldom exists in relation to agricultural production, and the sector was free to respond to the new pattern of incentives brought by the reduction in transport costs. What we have not been able to establish is whether the trend toward regional diversification in industry is in fact inefficient, even though we suspect it may be.

The evidence suggests that transport played a significant role in the process of national integration in agriculture and of regional diversification in industry, although this role seems to have been in different directions for each. Most of the increased inter- and intra-regional trade and contacts were caused by the improvements in road transport. The role of the railways in the integration of the regions centered in Cali, Medellin and Bogota was negligible. The main development impact of the railways was to integrate the Atlantic region more closely with Bogota and, to a lesser extent, with Medellin.

Two additional types of development or integration impact are worth mentioning. First, there is evidence that better transport has helped to increase the availability of imports throughout the country. The regions in the interior, far from the coast, are now receiving a much larger share of total imports. However, exports do not seem to have been affected. Exports originating near the coast are now relatively more important than twenty years ago. Detailed studies of a few minor exports concluded that transport improvements had had a minor role in their development. Secondly, better inter-regional communications have helped to break regional isolation and make people more aware of the possibilities of inter-regional trade and contacts, although this effect cannot be quantified.

Conclusions

The Bank's achievements in helping to improve Colombia's transport sector are impressive, but uneven. After twenty years of Bank participation the country has an almost complete trunk highway system and an integrated rail system operated as one undertaking. This process of transport improvement has had both positive and negative aspects.

The highways program financed by the Bank up to 1968 proved to be highly successful, with most of the roads showing a very high return. Highway planning has been greatly improved, and the Ministry of Public Works is now better prepared to handle complex highway projects. On the railways, although the creation of CNR in 1954, at Bank insistence, and the unification of all rail operations under it was a useful measure, the investment program has had dubious results. The Atlantic Railroad showed a very low return and the sizable resources used in rehabilitation produced marginal returns. If the development impact of these investments

is taken into account, the success of the highway investments and the low return of the railway projects become more accentuated. Highways were the real promoters of national integration and some of them seem to have had an important impact in the regions adjacent to them.

Why were the highway investments more successful than those in railways? What was the Bank's role in these results? To start with, there is an engineering angle to the problem. Highways are technically an easier transport mode in mountainous terrain than railways, and Colombia is definitely mountainous. Railway costs increase sharply with high gradients, and under competitive conditions good equipment, high operating efficiency and large volumes -- all three, and not one or two of them -- are required to make railway operations profitable.

A central issue has been transport coordination and the evolution of road-rail competition. As regards the investments in the Bogota-Santa Marta corridor (the Atlantic Railroad and the Eastern Trunk Road), the critical decision was made in 1951 to proceed with both road and rail investment programs. A detailed engineering study of the Atlantic Railroad would probably have settled the issue in favor of the highway program, but we cannot quite prove this. Duplication of facilities seems to have occurred also in other regions, for example, between Cali and Medellin. But once the investments have been made, transport coordination becomes the most important issue. Although Government policy towards road and rail has been inconsistent, many of the effects cancel out and, on the whole, no major distortions seem to have occurred. Nevertheless, this judgment may not apply for certain periods. In the mid-1950s, the large imports of trucks probably distorted the balance in favor of the roads, but the import restrictions starting in the late 1950s and the sharp increases in gasoline taxes in the 1960s must have helped the railways. These distortions and the corresponding increases in traffic, as on roads in the mid-1950s, were used as justification for further road investments, thus compounding the confusion. In retrospect, what was required in the early 1960s, after the First Highway Plan and the Atlantic Railroad were completed was a fresh look at the sector, taking into account all the new capacity and studying ways of making the best possible use of the duplicate facilities available. The Parsons Report discussed the issue, but it was unable to provide a clear answer to it.

The Bank's role in relation to transport coordination was weak during the 1950s but the issues became increasingly prominent in Bank activities during the 1960s. The problem was raised at the time of the 1949 General Survey Mission, but in very general terms and without major analysis. The transport deficiencies at the time suggested that road and rail were complementary rather than competitive modes. This notion remained throughout the 1950s and was partially confirmed by the Parsons Report in 1961. As a consequence, although the Bank was conscious of the problem, it continued during many years to appraise road and rail projects independently from each other. The Bank never officially raised the problem of the erratic vehicle imports policy. Only in the last five or six years has it begun to tackle intermodal competition seriously and initiated several attempts to study it in detail -- among them the development of the Harvard Transport Model. Nevertheless, knowledge on the subject is far from adequate.

Yet other reasons explain the difference between the results in highway and railway investments. In highways, the poor initial condition of the network and the kind of improvements made meant that vehicle operating cost savings, and consequently the benfits, were very substantial. In contrast, the railways' low operational efficiency meant that the potential benefits of the rehabilitation program and, to a certain extent, of the Atlantic Railroad, did not materialize in the way predicted. Low operational efficiency was also reflected in low quality of rail services, which in turn affected traffic volumes, further reducing the return of the investments. Finally, the railways' management and institutional problems also distorted the implementation of the program. The delays in the track renewal program compromised the use of the new diesel locomotives and other rolling stock acquisitions.

Another element that influenced the final return on the investments quite heavily was the cost overruns and delays in construction. The difference between highway and railway investments is that they were compensated by the very high level of benefits in the case of the former. The evolution of this aspect over time is a good representation of the Bank learning process. No detailed engineering or accurate cost estimates were available for the investments initiated in the early 1950s. Most of the major problems encountered during construction were unforeseen. Under later loans, in the 1960s, cost estimates became more accurate and few problems of this nature recurred.

To be fair, some of the problems discussed above may not have been possible to tackle in past years, especially during the 1950s. And the difficulty was not conceptual -- the problems were well known at the time -- but rather lack of a proper statistical basis. When this evaluation work was started, the major surprise was the lack of the most basic knowledge about the working of the transport sector. Data that are crucial, and which should be available in a country like Colombia, such as highway traffic counts, or composition of the vehicle fleet, were partial and unreliable. The Bank has demonstrated surprisingly little interest in promoting the establishment of an information system that would allow a sound decision making process. It has sought to improve the situation somewhat, particularly with regard to traffic counts, but unfortunately with only limited success. There has been too great a tendency in Colombia to regard the collection and analysis of statistics as something to be done only for Bank projects. An adequate information system is still not available.

One last word of caution. The fact that past railway investments show a low return does not necessarily mean that, now in 1972, railways should be discontinued. The fact that now the Atlantic Railroad is the most profitable section of the rail system illustrates this point. The study of the railways' future role requires a different type of analysis, which treats the expected evolution of the Colombian economy and considers the existing assets as sunk investments, without alternative uses.

Recommendations

1. The Bank should promote the setting up of an information system in Colombia to produce the data required for a reasonable appraisal of highway and railway projects, for sector studies and for a better understanding of the interactions of transport with other sectors: for example, reliable road traffic counts, detailed costs and tariffs, capacity utilization figures, efficiency indicators and vehicle fleet composition. Data problems are especially acute in relation to road transport. Since the information used by the Bank is no different from that required for the country's own transport planning purposes, the best way to obtain it would be to ensure that Colombia's Transport Planning Office operates effectively, and makes full use of the data collected by different agencies. The Bank could provide technical assistance and perhaps financial resources to help establish an efficient information system.

2. The Bank should have a better understanding than it now has of the impact of transport on the rest of the economy, especially when it is involved in massive improvements in transport over a long period, as in Colombia. To attain this objective, the Bank can follow three courses. First, it can accelerate the testing of techniques, such as the Harvard Transport Model, that will allow the kind of overall view required. Second, it can actively promote such comprehensive transport planning in selected countries, perhaps providing technical assistance. Third, it can give more emphasis to the interactions of transport with the other sectors in its transport sector reviews.

3. The Bank should include in transport project appraisals a quantification of the regional impact of investments, and some review of the capability of other sectors to respond to the opportunities opened by the transport improvements, including possible institutional constraints. From a practical viewpoint, the issue is to find workable ways of incorporating these aspects into normal project appraisals. Resource underutilization could be detected in several ways, from simple economic indicators (unemployment levels, land use, production techniques) considered at the project selection stage, to a full-scale regional development study. The method to be followed will depend on data availability in each region. The same procedures could be used to evaluate whether the potential benefits of transport investments will materialize.

4. When the Bank participates in a railway investment program it should insist, as it has begun to do in the last two years, on a parallel operational program, specifying in detail the way in which the new investments are going to be used and containing detailed management and operational targets. Project appraisals should take institutional inefficiencies explicitly into account, by assuming that certain operational standards will not materialize until a later date.

5. There should be incorporated in the selection and appraisal of highway projects a number of tests or indicators to show whether the benefits of the project, in terms of transport cost savings, will be passed on to the truck users (middlemen) and by them to consumers and producers. Some of these tests or indicators could be based on the structure of the trucking industry, tariffs, nature of services, and so on.

6. The Bank should encourage the simultaneous consideration of design standards and the type of vehicles to be used. Even if this is not

done, vehicle composition should be a crucial factor in defining design standards.

7. Highway sector lending -- lending to help finance a highway program at a national (or regional) level -- is an alternative that warrants serious study. The sector focus would help to avoid imbalance between trunk and secondary and feeder roads, and highway overdesign. A highway program will provide a clearer set of priorities at a national level and more flexibility. The advantages from the viewpoint of control (construction, contracting procedures, procurement) of the project approach can still be maintained for specific roads or parts of the program, as necessary.

8. Whether as a separate project or as part of such a sector program, the Bank should carefully consider provision of assistance to Colombia for feeder roads, which seem to be a serious transport bottleneck now. The principal agency responsible for feeder roads, Caminos Vecinales, is weak and it is partly because of this very weakness that the Bank's assistance is needed.

CHAPTER IV - THE POWER SECTOR

Ever since 1948, when the Colombian authorities requested assistance with various small hydroelectric schemes, the Bank has been involved in the Colombian power sector. Over the period 1950-1970 as a whole it has provided almost 75% of total foreign loan financing to the sector. Its role became particularly important in the decade of the 1960s during which Bank funds accounted for some 30% of total investment in power. Through the end of 1970 the Bank had extended 17 loans to Colombia for power, totalling US$294.1 million, of which 13, totalling US$160.8, were fully disbursed. The loans have been made to various companies, mainly responsible for electricity supply to six out of the seven largest cities (the exception is Barranquilla). By the end of 1970 total IBRD-financed generating capacity installed amounted to 1,066 MW, or about 51% of total public sector capacity, supplying approximately 6 million people out of the 10 million total connected to the public system.

The Bank has also provided important policy advice in connection with power development and it has made efforts to strengthen the institutional and financial structure of the sector, particularly of borrowing companies, and in the 1960s more broadly. The Bank's principal initiatives on the institutional side are evaluated more fully in Chapter IX. This chapter discusses the overall evolution of the power sector and concentrates mainly on technical, financial and economic aspects of the projects financed and the Bank's contribution to the sector's growth.

Overall Power Development 1950-1970

Over the last two decades the Colombian power sector has expanded at about the same rate as the average of all developing countries, but faster than most Latin American countries. Electricity production has increased at an average rate of 11%. Growth was particularly fast between 1962 and 1970 when public sector generating capacity tripled to reach about 2,100 MW, although in per capita terms, at just under 100 watts, it remains below the Latin American median. The proportion of the population connected to the public power supply system has increased from about 26% in 1950 (some 3 million people) to about 45% in 1970 (10 million), but electricity supplies remain poor in quantity and quality in most places outside the main urban centers. Rural electrification is virtually non-existent except in parts of the Cauca Valley and the environs of some of the main cities.

Of the two main inhabited areas of the country one has great hydroelectric potential and some fossil fuels, while the other has fairly abundant fossil fuels but almost no attractive hydroelectric sites. The Andean region, with about 65% of national population, has hydropotential estimated at 30,000 MW, of which some 1,500 MW is currently exploited. The northern (coastal) region, with about 22% of the country's population, has oil and natural gas as well as some coal and relies entirely on thermal generation. The Llanos, which represent about half the country, have a relatively small population, and large potential power resources there remain virtually unexploited.

Growth of public power supply has been characterized by important regional discrepancies, heavily affected by the institutional complexity and weakness of the sector. There are two large and relatively strong municipal companies, enjoying the best markets and excellent local hydroelectric sites -- EEEB in Bogota and EPM in Medellin. Three entities (CVC, Chidral and EMCali), with overlapping and conflicting responsibilities, are responsible for power supply in Cali and nearby towns. Most of the remaining cities, as well as other populated areas of the country, are served by the fifteen regional subsidiaries of ICEL (formerly Electraguas), the national power holding company; much the strongest of these subsidiaries is CHEC, serving Manizales and various surrounding towns in the main coffee-growing region of the country.

Despite some efforts to make Electraguas a strong national agency with responsibility for collecting statistics, planning on a national basis and implementing plans, it remained poorly organized, inadequately staffed, and subject to political interference. In general, the quality of statistics on hydrology, fuel availability and cost, energy demand patterns, etc., has been insufficient to allow effective long-term planning and ensure optimal choice between alternative construction programs. Also, the choice of equipment, construction methods, maintenance and operation policies was generally not bound to suitable pre-established specifications. The isolation and overly emphasized independence of the various systems, coupled with inadequate delineation between the jurisdiction of the power companies, has led to a proliferation of small entities serving areas of uneconomic size, and to some misallocations and inefficient uses of resources. New local generating plants have been built in cases where power requirements could have been met much more economically by extension of transmission systems from the major centers;

in some instances plants were started, only to be discontinued when this became clear. While cities like Bogota, Medellin, and Manizales have enjoyed efficient electricity service, most other centers have continually suffered from major shortages and were forced to adopt short-term emergency solutions to cope with the growth of demand. The effects of improvments in the main cities have generally been narrowly circumscribed to their immediate environs, plus, in more recent years, a few secondary towns. Renewed efforts to strengthen ICEL in recent years have yet to show much success.

Between 1950 and 1970, the combined generating capacity of EEEB, EPM, CVC/Chidral and CHEC has grown at an average rate of some 13.6% p.a., rising from 46% of the public sector total of 241 MW in 1950 to over 70% of the 2,078 MW total in 1970, as shown in Table 4.1. Capacity of the remaining companies has increased only at 8% on average.

Table 4.1

Growth of Installed Generating Capacity in the Public Sector (1950-1970)
(as at December 31)

	1950		1960		1970	
Four Main Central Systems	MW	% of Total	MW	% of Total	MW	% of Total
Bogota	46.0	19.1	128.0	19.1	587.5	28.3
Medellin	51.5	21.5	137.0	20.4	443.0	21.3
Cali	11.1	4.6	95.1	14.2	248.1	12.0
Manizales	2.8	1.2	22.8	3.4	187.8	9.0
Sub-total	111.4	46.4	382.9	57.1	1466.4	70.6
Rest of Country	129.6	53.6	287.1	42.9	611.6	29.4
TOTAL	241.0	100.0	670.0	100.0	2078.0	100.0

Installed capacity per capita in the service area of the four major systems (27% of total population) was about 242 watts in 1970, compared with the national average of about 92 watts. This expanding gap reflects the generally disproportionate rate of economic development in the country, which has traditionally favored the regions of Bogota, Medellin, Cali and Manizales. In the rest of the country, only the Department of Atlantico

with the seaport of Barranquilla can be compared to these four regions in terms of economic development and electric service. In 1970, the five departments of which these cities are capitals accounted for about 50% of the country's population and 82% of total value added in the manufacturing sector.

Financing power expansion has been a major problem. Colombia has been successful in raising long-term credits to cover foreign exchange costs from the Bank, the US ExIm Bank, and IDB, but most of the companies have faced considerable difficulties in generating local currency resources for long-term investments. Earnings on past investment have generally been low; in 1969 only the seven companies in the seven largest cities had positive financial rates of return even on non-revalued assets and only for two of them (EEEB and EPM) were returns on revalued assets greater than 5%. Tariffs have seldom kept up with inflation. Domestic borrowing has always been difficult because of the country's weak capital market and has accounted for only about 5% of total investment in the sector. Increasing financial support from the national Government budget has had to be extended to most of the companies except EEEB and EPM. Budgetary allocations to ICEL/Electraguas rose from US$8 million equivalent in 1965 to US$22 million in 1970.

These financial difficulties have added greatly to the institutional obstacles to effective long-range planning. Inadequate system expansion and low operating efficiency have tended to result. As might be expected with the acute local currency shortage, investment has tended to be unduly concentrated on generation. Between 1965 and 1970 subtransmission and distribution networks accounted for only about 39% of total sectoral investment. The poor physical condition of these networks has resulted in losses between energy generated and energy sold being large, ranging between 15% and 25% of total generation and sometimes higher; only in Bogota have losses been held below 12%, a more reasonable figure.

Nevertheless important measures were taken in the last five years of the 1960s which may result in the gradual emergence of a more balanced pattern of development. The National Planning Department played an important role in connection with many of these measures. The Utility Tariff Board was established in 1968 and activated in 1969-70 and partly because the Planning Department, in which it is located, has to approve all foreign credits guaranteed by the Government, it may gradually be able

to secure more adequate price levels for electricity. 1968 also saw the creation of the two interconnection companies -- ISA for the main systems in the central part of the country and CORELCA for the three large cities on the north coast. These two companies are expected to plan, build and operate the major new generating plants, which will consequently enjoy scale economies, and serious consideration is being given to interconnection between them. The local companies will be able to concentrate more effectively on sub-transmission and distribution. The Government has begun to give greater emphasis to regional transmission development and has also secured a US$25 million loan from the IDB to launch a nationwide distribution rehabilitation and extension program for the ICEL subsidiaries for 1971-1974. ICEL has created a National Rural Electrification Fund. The Planning Department contemplates a possible major realignment of the sector to combine the weak ICEL subsidiaries in regional groupings which would be led by stronger companies such as EEEB and EPM.

IBRD Policy Advice and Project Selection

The General Survey Mission of 1949 gave considerable attention to electric power and made important policy recommendations. Many of these recommendations have eventually been followed, at least partially, but often only after delays of 10-20 years. It emphasized the need to make Electraguas a strong national agency to prepare and implement plans, but in fact the 1954 and 1964 National Electrification Plans prepared by foreign consultants for Electraguas seem to have affected the sector's development little. It urged that power utilities be made financially viable so that foreign loans might then be raised to assist their expansion, and it gave priority for power expansion to eight of the largest cities, of which some have subsequently managed to maintain a reasonable balance between supply and demand and others have not.

Most Bank loans for power have originated with requests from the various companies. The requests of 1948 led to small loans for Cali (Chidral), Manizales (CHEC) and Bucaramanga (Lebrija) in 1950-1951, after the priority of these projects had been verified by an economic mission and the General Survey Mission. The Bank was in touch with various other companies at this time and also established the policy that it would only consider projects that had prior approval of the national planning authorities. But only one further power loan -- to

Chidral to meet urgent needs resulting from the unexpectedly rapid growth of the city of Cali and lack of prior planning -- was actually made before the suspension of lending in 1956-1958. A further small loan to Chidral, for another emergency unit, reinitiated lending to Colombia in December 1958. By this time the national authorities were giving top priority to power development, especially in the major cities, to catch up with past delays, to support the industrial import substitution strategy of development that was being applied, and to help cope with the very large influx of population from the countryside and smaller towns that had been occurring. Lending to Medellin was initiated in 1959 when a second loan was also made to CHEC. Lending to Bogota was initiated in 1960 when a further loan was also made to Chidral, this time in combination with CVC, which was to be responsible for plant construction. Lending to Bucaramanga and Manizales was not resumed in the 1960s (IDB made a loan to the latter in 1965), but further large loans to the main cities, Bogota, Medellin and Cali, rapidly followed earlier ones in view of the shortages that had occurred in 1959-1962 and the expectation that load would grow very rapidly once the shortages were relieved.

The early 1960s also saw two initiatives by the Bank departing from the previous practice of responding to requests put forward by the companies themselves. First, an effort was made to develop relations, either through Electraguas or directly, with some of the smaller companies. But this attempt was quickly abandoned, as requiring too much staff time to deal with the difficult financial and institutional problems, and only one loan finally resulted -- to Cartagena on the north coast in 1963. The Colombians' requests for assistance in preparing projects for these companies, even if not in financing them, were also turned down. The IDB eventually came to fill part of this need, making a number of loans for specific small projects in 1964-1966 and other larger loans later, but serious institutional and financial problems remain. The other initiative, discussed more in Chapter IX, concerned interconnection among the major companies which had been borrowing from the Bank, and this was to determine the pattern of Bank power lending in later years, eventually leading to the creation of ISA and the provision of loans to it in 1968 for the transmission interconnection and in 1970 for its first major generating plant (Chivor).

Apart from the matter of interconnection the main issue in Bank policy advice in these years concerned tariff levels -- first for the

companies to which it had lent and then, when overall policy agreements were being made with the Government (from 1965 on), much more broadly. Initially the Bank was chiefly concerned about the delays to its borrowers' projects that resulted from their lack of cash flow, due to the Government's failure to approve tariff increases under inflationary conditions. Later it became concerned as well by the increasing amounts that were having to be diverted from the national budget to support and subsidize power undertakings. The Government was urged to approve applications for tariff increases more expeditiously, then to study the whole matter of tariff regulation and finally to establish the Utility Tariff Board.

From time to time, mainly in 1956 and 1962 and more frequently in connection with Consultative Group operations the Bank helped to prepare lists of forthcoming power projects that would need foreign support. But the Bank's various reports never dealt with the fundamental issues involved in the growth of the power sector and its large financial support to it -- such as regional balance, power distribution problems and policies, appropriate system reliability standards, urbanization trends and policies, potential development impact of power.

All the Bank's loans (except that for the transmission interconnection) have centered around generating stations, mainly hydroelectric, but many of them have also included some provisions for transmission and distribution facilities. Only in two cases has any significant provision been made for extension of the borrowing company's network into the area surrounding its main market: in 1960 for a transmission line from Cali up the Valle Department to link with Manizales and connect on the way many small towns in CVC's area of responsibility, and in 1962 for sub-transmission and distribution in rural areas to the north and east of Bogota under the charge of another regional development corporation, CAR. These provisions were included at the request of the companies and regional corporations. Generally the Bank has not in fact found it necessary to suggest significant changes in the expansion programs proposed by the companies. The two main exceptions to this were the Bank's recommendations to build and expand EEEB's Zipaquira station in the early 1960s, and its refusal in the middle and late 1960s to finance various expansions proposed by CVC; the latter seems in retrospect wise since less expensive solutions have been found, but the former is partly questionable, as will be mentioned below.

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Project Execution

Virtually all of the power projects financed by the Bank in Colombia have suffered from major construction delays and cost overruns. Out of the 22 generation projects covered by the Bank's 17 loans, 16 were delayed by one year or more; the remaining six were the three thermal units at Yumbo (Cali), the La Insula hydroelectric plant (construction of which was already well under way at the time of Bank appraisal) and the second stage of the Anchicaya hydroelectric project. Details are shown in Table 4.2. Five projects had delays of two years or more: these were the first stage development of the largest hydroelectric plants undertaken, namely El Colegio, Troneras, Guatape I, La Esmeralda and Calima. Delays on the first stage of Guadalupe III, another major hydroplant constructed by EPM, were about one year and a half. The two thermal units at Zipaquira were both commissioned about a year behind schedule.

The reasons for such delays are numerous. In the case of the large hydroelectric plants, technical difficulties mainly related to foundation conditions and quality of the rock have clearly played a predominant role. Most of the hydroelectric plants built are of the high head type and have required the construction of long pressure tunnels which often gave rise to major technical difficulties. Also, in several instances, landslides affected construction sites, requiring changes in the original design. Such difficulties arose in connection with the five projects mentioned above which were subject to delays of more than two years. In some cases, mediocre performance by the contractor hampered progress in project implementation: this was especially true for Salto II, Calima and Troneras. Contractors on these projects were underequipped and poorly directed, but also handicapped by price increases on imported equipment and internal inflation of prices and wages. In the case of Guatape I, Zipaquira 2 and Yumbo 1, inadequate relative timing between progress in the construction of civil works and provision of equipment, due to either late shipments from the supplier country or difficulties in obtaining import permits, contributed to delay project completion.

Expanded construction periods resulted in major cost overruns, mainly in connection with the local currency component (see Annex Table 4.1). Expressed approximately in constant price terms, total cost overruns on the various generating plants varied from 4% of the originally

Table 4.2

CONSTRUCTION PERIODS FOR GENERATION PROJECTS
FORECAST AND ACTUAL

Loan No.	Date of Agreement			Start Construction	Commissioning Date	Construction Period (months)	Construction Overrun (%)	Total Delay in Commissioning [a] (months)	Project	Scope
EEEB										
246-CO	1960	Laguneta unit 4 [i]	Forecast	Mid 1959	June 1960	12			1x18.0 MW	hydro
			Actual	Jan. 1960 [b]	Mid 1961	18	50.0	12	1x18.0 MW	hydro
246-CO	1960	Salto II units 1 and 2	Forecast	Mid 1959	end 1961 [c]	30			2x33.0 MW	hydro
			Actual	Feb. 1960 [b]	Mid 1963 [c]	40	33.0	14 [e]	2x33.0 MW	hydro
246-CO	1960	Zipaquira unit 1	Forecast	early 1961	Mid 1962	18			1x33.0 MW	thermal
			Actual	end 1960	May 1963	32	77.8	14	1x33.0 MW	thermal
313-CO	1962	Zipaquira unit 2	Forecast	May 1962 [d]	Dec. 1963	19			1x33.0 MW	thermal
			Actual	May 1962 [d]	Dec. 1964	31	63.2	12	1x37.5 MW	thermal
313-CO	1962	El Colegio units 1,2, and 3	Forecast	May 1962	end 1965 [c]	43			3x50.0 MW	hydro
			Actual	May 1962	May 1967 [c]	60	39.5	24 [e]	3x50.0 MW	hydro
537-CO	1968	El Colegio units 4,5 and 6	Forecast	Mid 1968	end 1971	42			3x50.0 MW	hydro
			Actual	Mid 1968	July 1970	25	- 39.5	-17 [f]	3x50.0 MW	hydro
537-CO	1968	Canoas	Forecast	Mid 1968	end 1970	30			1x50.0 MW	hydro
			Actual	Mid 1968	Dec. 1971	42	40.0	12	1x50.0 MW	hydro
EPM										
225-CO	1959	Troneras unit 1	Forecast	Mid 1959	Mid. 1962	36			1x16.0 MW	hydro
			Actual	Jan. 1960	Dec. 1964	60	66.7	30	1x18.0 MW	hydro
282-CO	1961	Troneras unit 2	Forecast	Mid 1961	Sept. 1963	27			1x18.0 MW	hydro
			Actual	early 1962	Jan. 1965	34	25.9	17	1x18.0 MW	hydro
225-CO	1959	Guadalupe III units 1 and 2	Forecast	Mid 1959	early 1961 [c]	21			2x40.0 MW	hydro
			Actual	Oct. 1959	Nov. 1962 [c]	38	81.0	20	2x45.0 MW	hydro
282-CO	1961	Guadalupe III units 3,4 and 5 [g]	Forecast	early 1962	Dec. 1965 [c]	45			3x40.0 MW	hydro
			Actual	Jan. 1963	May 1966 [c]	41	- 8.9	12 [e]	3x45.0 MW	hydro
369-CO	1964	Guatapo units 1 and 2	Forecast	Mid 1965	Mid 1969	48			2x66.0 MW	hydro
			Actual	end 1966	Aug. 1971	59	22.9	29 [e]	2x66.0 MW	hydro
CVC/CHIDRAL										
38-CO	1950	Anchicaya units 1 and 2 [h]	Forecast	1951	Aug. 1953	30			2x12.0 MW	hydro
			Actual	1951	Mid 1955	54	80.0	24	2x12.0 MW	hydro
113-CO	1955	Anchicaya unit 3	Forecast	early 1955	Nov. 1956	20			1x20.0 MW	hydro
			Actual	early 1955	June 1957	27	35.0	7	1x20.0 MW	hydro
113-CO	1955	Yumbo unit 1	Forecast	early 1955	end 1958	45			1x12.5 MW	thermal
			Actual	early 1955	May 1958	38	- 15.6	- 7	1x10.0 MW	thermal
215-CO	1958	Yumbo unit 2	Forecast	Dec. 1958	Feb. 1960	15			1x10.0 MW	thermal
			Actual	Dec. 1958 [b]	Feb. 1960	15	0	0	1x10.0 MW	thermal
255-CO	1960	Yumbo unit 3	Forecast	Mid 1960	Mid. 1962	24			1x33.0 MW	thermal
			Actual	Mid 1960 [d]	June 1962	24	0	0	1x33.0 MW	thermal
255-CO	1960	Calima units 1 and 2	Forecast	Mid 1960	early 1964	45			2x30.0 MW	hydro
			Actual	Mid 1960 [d]	Jan. 1966 [c]	67	48.9	22 [e]	2x30.0 MW	hydro
339-CO	1963	Calima units 3 and 4	Forecast	June 1963	Dec. 1964 [c]	18			2x30.0 MW	hydro
			Actual	June 1963	Aug. 1967 [c]	50	177.8	30 [e]	2x30.0 MW	hydro
CHEC										
39-CO	1950	La Insula units 1 and 2 [h]	Forecast	Dec. 1950	May 1951	6			2x10.0 MW	hydro
			Actual	Dec. 1950	Sept. 1951	10	66.7	4	2x10.0 MW	hydro
217-CO	1959	La Esmeralda units 1 and 2 [h]	Forecast	Jan. 1959	end 1961	36			2x13.3 MW	hydro
			Actual	Jan. 1959	Jan. 1964	72	100.0	36	2x13.3 MW	hydro
LEBRIJA										
54-CO	1951	Palmas units 1 and 2 [h]	Forecast	n.a.	n.a.	n.a.			2x4.4 MW	hydro
			Actual	n.a.	1954	n.a.	n.a.	10	2x4.4 MW	hydro
ELECTRIBOL										
347-CO	1963	Cospique units 2 and 3 [i]	Forecast	early 1963	end 1965 [c]	30		18	2x12.5 MW	thermal
			Actual	n.a.	1966	n.a.	n.a.		2x12.5 MW	thermal

a/ Includes delays in start of construction
b/ Bids had been received and awards recommended by consultants by this date
c/ Date last unit was commissioned
d/ Bids had been received and letters of intent issued by this date
e/ Time between actual and planned commissioning of first unit
f/ El Colegio was originally planned to be built in two stages, but it was later decided to combine the two stages
g/ Due to savings on units 3,4, and 5, a sixth unit was ultimately installed but is not included in the construction period
h/ Construction period includes only work done during Bank's participation.
i/ Addition to existing plant.

Sources: Companies
IBRD

forecast cost in the case of Yumbo 2 to a maximum of 209% in the case of the second stage of Calima; the overruns were generally much greater in current prices, due to the inflation prevalent. The second stage of Anchicaya, the first stage of El Colegio, and Troneras also suffered serious cost overruns, estimated respectively at 141%, 45% and 141% of the forecast amount. On four occasions (Yumbo 2 and 3, Zipaquira 2 and Guatape I), actual foreign costs were lower than forecast but, in all the other cases, foreign currency overruns were at least 10%, reaching high values in connection with Calima, the second stage of El Colegio and especially Troneras (141%).

All of the seven generation projects for which actual local expenditures are available have experienced dramatic local cost overruns even in constant prices, ranging from 86% to 579% of the amount originally forecast. Local cost overruns have probably been the greatest problem usually faced by the power companies in the course of project construction. The difficulties of securing additional local resources during project construction have contributed to expanding delays, which, in turn, tended to increase local costs further.

Overruns on project construction schedules have shown no particular tendency to diminish over time, but there may have been some improvement in cost estimates. There are a number of instances in the early years when out-of-date cost estimates seem to have been accepted, and seldom did financial forecasts include sufficient (if any) contingency allowances for inflation; physical contingency allowances generally proved too small in view of the difficult geological conditions encountered in Colombia. In the case of Cali the most serious cost and time overruns were those experienced on the Calima project financed under the fourth loan of 1960. Supplementary Bank financing had to be provided by the Bank for this project in 1963 and by the Government and the contractor in 1965. Supplementary Bank financing was also required for Medellin in 1961. As for more recent years, the two main Bank-assisted generating plants completed in 1971 were substantially behind schedule -- Guatape by more than two years and Canoas by one -- but, although final costs are not available, indications are that they will not show very great overruns. Moreover the interconnection network, ISA's first project, was completed on schedule late in 1971 and with an overall cost saving equivalent to 15% of estimated costs. There has been a problem of increase in cost-estimate for the Chivor plant shortly

after construction was started, but fortunately it was possible to raise financing from the IDB to cover most of this along with equipment for the project (complementing the Bank's loan for civil works).

Financial Performance

To help deal with the problem of local currency shortages the Bank gave approximately equal emphasis in the 1950s to increases in tariffs, on the one hand, and increases in share capital and credits from local banks and Government funds, on the other. Almost all loans from the first involved some kind of agreements affecting tariffs, but often these were rather vaguely worded and it is unclear how far the companies lived up to them; in some cases, they were clearly not observed, and the promised subscriptions to additional share capital sometimes failed to materialize. Late in the 1950s greater emphasis began to be placed on tariffs. In particular, the principal loans to EEEB and EPM at the start of the 1960s included tariff covenants providing that the companies would maintain tariffs high enough to generate internally about 40% of total funds required for investment. In later loans to each of these two companies, specific multi-year periods were established over which these 40% self-financing rates were to be accomplished. They were not reached in the first half of the 1960s -- for a variety of reasons, including cost overruns, inflation, and delays in tariff increases. The most serious shortfall was in the case of EEEB. Partly because it was difficult to apply operationally, the multi-year self-financing test was later abandoned, and replaced in negotiations for the 1968 loans with a concept of rate of return on revalued assets. This covenant appears to have been adhered to from 1969, when EEEB earned 9.9% return on revalued assets and EPM 10.7%, and onwards (see Annex Table 4.2).

The financial performance of CVC/Chidral, the power organization with which the Bank was concerned longer and at times more intimately than any other, has been much worse than that of EEEB and EPM and has led to repeated problems. Construction of most of the projects supported by the Bank in its area suffered from its cash shortages and difficulties in raising tariffs. Local debts had to be renegotiated several times in the 1950s. The details of the financial situation cannot be very precisely established, but it appears that self-financing has been consistently lower than in Bogota and Medellin and the rate of return on revalued assets has almost always been much lower; though it rose in the

later part of the 1960s, it still remained below 5% by 1969. The Bank's covenants on financial performance may nevertheless have been generally adhered to, since they were less exacting than in the case of Bogota and Medellin and less precise. Tariff increases were especially problematic in Cali because of the traditional social tension there and the cumbersome organizational set-up of the local power sector; EMCali, which is Chidral's principal customer, together with the municipality of Cali, effectively control the Board of Chidral in matters of tariff policy.

Financial performance of the Bank's smaller power borrowers, mainly dating from the 1950s, has generally been weaker. It is doubtful whether they have been earning positive rates of return on revalued assets even though they are among the few power companies in the country with a positive return on non-revalued assets. Financial performance of Electribol, the 1963 borrower in Cartagena, has been disappointing compared with expectations because of serious difficulties in early operation of the units provided (mainly due to faulty boiler design), lags in extension of the distribution system and slow load growth.

Some Economic Aspects

Despite the serious delays in completion of so many generating units, installed capacity and peak demands have kept fairly well in line with one another in the large cities supported by the Bank and system reliability was probably generally maintained about the levels implicit in the plans approved by the Bank when it undertook the projects. This was mainly because demand grew considerably slower than had been expected in the load forecasts underlying the loans of the early 1960s. It seems that in some cases unrealistic assumptions had been made about the amount of pending demand that had built up during the years of shortage 1959-1962; slower than expected growth of the economy may also have been a factor, although load forecasts were never linked directly with macroeconomic plans. But in the event it was fortunate that the system additions were started when they were, given the construction delays that arose.

Despite the large cost overruns also, the large majority of the generating plants financed by the Bank appear still to have been economically optimal in the sense of minimizing the present worth of total system costs. Even with the overruns the unit costs of most of the major

plants were low by comparison with costs in most other countries; including transmission, they were in the range US$160-250 per kw installed for the main plants in the Bogota and Medellin regions.

There is one important exception to both the above conclusions: the case of Calima, on which the delays in completion did cause important power shortages in 1964 and 1965 and on which the cost overruns were so substantial (about 60% for the plant plus related transmission) as to raise some doubts about the economic validity of the scheme. Calima has also suffered from hydrological difficulties; it was always envisaged mainly as a peaking plant since mean flows were expected to be sufficient to generate only some 235 million kwh per year from the 120 MW installed capacity (equivalent to a capacity factor of some 22%) but generation did not approach this level through 1970 due to poor hydrological years experienced and delays in filling the reservoir. The feasibility study for the project, on which the Bank based its decision to support it, indicated a rate of return of at least 15% on the extra investment required to build it, as opposed to a coal-fired thermal plant. A new comparison, allowing for the hydrological difficulties experienced to date but assuming average production of 235 million kwh in coming years (good rains in 1971 finally permitted filling the reservoir), and assuming capital cost of the thermal alternative to be US$200 per kw installed and fuel cost of US¢60 per million BTU (as at Yumbo now), also indicates a 15% internal rate of return, had construction costs been as originally expected. With the cost overruns that have occurred, however, the return to the actual incremental investment (of some US$20 million) appears to be in the range of 6-10%, without making any allowance for the fact that a coal-fired plant would have been built more quickly, hence avoiding at least part of the load shedding[1/] in 1964 and 1965. This suggests that Calima has been a rather marginal investment. Whether the problems -- unexpected geological difficulties with the bedrock and shortages of borrow material, disappointing hydrological conditions as well as import and labor problems for the chief contractor -- which have made the scheme barely economic might have been avoided or better forseen is hard to say at this stage, but it does seem that insufficient attention was given to hydrological and geological investigations and to checking of cost estimates.

1/ Purchases of electricity from the CHEC system from 1963 on helped CVC/Chidral to cope with the deficits, but were still insufficient for demand actually to be met. Electricity shortages recurred in 1969 when the third thermal unit at Yumbo broke down and Calima reservoir was still unfilled, and short of flows due to the drought in that year. Imports of energy from CHEC and from EEEB helped reduce the impact of the shortage.

The only other major system addition which in retrospect appears dubious is the Zipaquira 2 unit (37.5 MW) provided under the Bank's second loan to EEEB in 1962. The Zipaquira station was originally built, at the Bank's recommendation and with assistance under its first loan for Bogota, to house a thermal unit already pruchased by the Government and planned for installation in a very uneconomic location. Then in 1961 the Bank recommended addition of a second unit to this station instead of building the Canoas hydroplant, as proposed by EEEB; the latter would have had substantially larger local currency costs which the Bank would have found difficult to finance and for which it would have been hard to raise local funds due to weakness of the Colombian capital market, and the load was expected to grow fast and a thermal unit to be quicker to build than Canoas; it was generally recognized that Canoas would probably have been a more economic addition to system capacity. In the event the load grew less rapidly than expected, and simple economic calculations suggest that loads as they have actually developed could have been met some US$5.4 million more cheaply (in terms of present worth in 1968[1/]) by keeping to EEEB's original proposal of installing Canoas at that time. What appears in retrospect to have been an unnecessary extra expenditure resulted from placing too much emphasis on alleged deferred demand in the load forecast, from the deficiencies of the local capital market and the Bank's reluctance to finance local currency costs, and from insufficient attention to the scarcity value of foreign exchange in Colombia.

Zipaquira 2 or an alternative was required essentially in order to meet EEEB's expected peak demand, although it has in fact been run at a moderately high load factor under the circumstances, partly due to the difficulty of operating it at less than half of its rated capacity. But a question arises from this point of view too as to whether this unit was a necessary addition. Electricity prices in Bogota bear very little relation to costs to serve; there is no demand charge, although fixed costs are the main component of system costs, and all residential consumers appear to be heavily subsidized by industrial consumers, paying a lower unit price, even though costs to serve are greater. Nothing is known directly about demand elasticities, but there is tentative evidence that residential demand may be both larger and more peaked than would be the case with tariffs better reflecting costs. In the first place, according to our calculations, the subsidies are rather large relative to the charges paid (about three times as much for the large lowest

1/ 1968 is chosen for convenience. The US$5.4 million, which is the present worth from a 23-year cost stream 1962-1985, using a 10% discount rate, is equivalent to about 40% of the capital cost of Zipaquira 2 in terms of 1968 Present Worth.

income groups, and one-and-one-half times as much for the other income groups, which accounted for most residential electricity consumption), so that demand would not have to be very price-elastic for more cost-related charges to have a significant effect on the load. In the second place, a study by the National Planning Department shows that average annual residential consumption (about 2,400 kwh) is higher than in most European countries, despite Bogota's temperate climate. In the third place, comparison between Bogota and Medellin (where the tariff structure includes peak demand charges, while subsidies on residential consumption, although existing, are significantly less than in Bogota) suggests that the electricity supply system may be used less efficiently in Bogota. Load factors, for instance, are consistently lower in Bogota. Measurements taken at substations indicate residential load factors of 0.63 in Medellin and 0.57 in Bogota. Since residential consumption constitutes about 28% of Bogota sales in 1970 this difference in load factor alone was equivalent to a difference in system peak load in 1970 of some 10 MW. The Bank has not given attention to the problem of tariff structures in Colombia, and it is not clear that the political difficulties that have been encountered in raising tariffs can justify large subsidies to wealthier residential consumers, as seem to have been occurring; according to the estimates made, about 35% of the total subsidy goes to the wealthiest 8% of residential consumers.

Industrial demand for electricity is probably less responsive than residential demand in the aggregate (i.e. in terms of energy) to prices charged, and there is no evidence of the above-cost prices to industrial consumers having induced greater reliance on self-generation, but the pattern of industrial energy demand may also be more peaked than it would be with a peak demand charge or greater incentives to use of off-peak energy.[1/] As in the case of residential consumers, comparisons between Medellin and Bogota again indicate a much lower load factor for industrial consumers in the latter, which does not seem to be explained by difference in the industrial structure of the two cities.

While the structure of prices for electricity may have induced less efficient use of the electrical system than possible and while industry has carried much of the financial burden of tariff increases,[2/] there is no question but that industry has benefitted significantly from the expansion of the public electricity supply system and its good degree of

1/ To make such incentives effective might also require correcting the distortion imposed by high wage-premia for night work.

2/ Bogota's higher prices for industrial than for residential consumption are not paralleled in all the other cities, but there has been a noteworthy trend throughout the country for prices to industrial consumers to increase much faster than those to residential consumers.

reliability in Medellin, Bogota and Manizales. Nationally, industrial use currently accounts for some 35% of total electricity consumption in Colombia (which is rather low on international comparison). Between 1956 and 1968 every percentage point increase in industrial value added required, on average, a comparable increase in industrial consumption of electricity of about 1.1%. There is no indication from the available statistics that shortages in public electricity supply in the main cities have hampered industrial growth there. Even the shortages in the main cities in the early 1960s find no reflection in a significantly reduced pace of industrial growth there at the time, perhaps partly because the power companies attempted to confine any necessary rationing mainly to residential consumers and partly because many manufacturing establishments still had their own generating plants; industrial growth has been affected much more by foreign exchange policies and availabilities than by the energy situation. Total industrially owned capacity in the country rose rapidly in the 1950s (much faster in the first half of the decade than public capacity) to reach 250 MW, but it has remained nearly constant since then. A study for Bogota shows that, even with its tariff structure, purchase of electricity from EEEB for industrial use is about 15% cheaper than meeting electricity requirements from private diesel plant, and this calculation makes inadequate allowance for the greater reliability of the public supply system.

Improvements in electricity supply may have been much more important for the small-scale industries which could not possibly have installed their own power plants and which therefore had the choice only between public electricity supply and use of much less efficient forms of motive power. Cases were encountered of very large increases in productivity of small industries as a result of conversion to electricity. This was mainly visible in the few smaller towns which have been connected to the main networks, for instance in the Cauca Valley. It is also partly reflected in the very rapid growth of industrial consumption of electricity that took place in towns such as Pereira and Ibague once they were connected to the larger systems, in 1963 and 1967 respectively.

Residential consumption is the largest single use of publicly supplied electricity over the country as a whole, accounting for as much as 50% of EPM's total sales, for example, and for about 30% for EEEB and EMCali. Despite the serious lags that occurred in extension of the distribution system, especially in the early 1960s, it seems clear

that provision of Bank financing in large quantities enabled more rapid expansion of the distribution network in the main cities than would otherwise have been possible. Nevertheless there seem to have been worthwhile opportunities for more rapid expansion that were missed. The problem of lag in distribution system expansion has been particularly evident in Medellin, where illegal connections rose from accounting for about 1% of EPM's total generation in 1960 (in the form of stolen energy) to about 15% in the late 1960s. The difficulty apparently lay not so much in EPM's lack of capacity to carry out the necessary expansion of the distribution system, as in the municipal authorities' refusal to incorporate the newly settled marginal areas since that would impose on them responsibility for provision of public services; hence EPM was not permitted to carry out the work. At length the problem seems to be on the way to solution. But it is still doubtful whether enough of this type of work is being done. A case study in Bogota showed that, economically, the savings in costs of candles and ironing fuel (mainly charcoal) alone would be enough to justify distribution extension to a sample marginal area (at a 10% discount rate) although, financially, such a proposition would not be viable for EEEB due to the impossibility of charging in this area tariffs different from those for other small consumers. Of course a large capital charge could have been assessed against the prospective consumers in the area, but that they would not have been able to pay. What seems to have been necessary was organization of self-help efforts, such as those undertaken by Accion Comunal, whereby residents of the area would assist with construction of the facilities at the same time as making some capital contribution to costs of the scheme, perhaps on a delayed basis. Accion Comunal efforts seem to have been applied a good deal in connection with expansion of water supply and sewerage, but much less for electricity.

More generally the Bank seems to have paid inadequate attention to power distribution aspects of its borrowers' operations. No appraisal report attempted to evaluate the proportion of the population enjoying electricity supply in the service area of the company considered or to evaluate the adequacy of the company's policies with regard to new connections. Appraisal and supervision reports were generally weak on distribution aspects and even though the Bank was providing considerable financing for distribution works it did not encourage the companies to carry out design optimization studies for distribution systems, analyzing the costs and advantages of alternative distribution standards;

such studies appear not in fact to have been done. There is some evidence of distribution standards in Bogota being somewhat higher than necessary -- use of concrete poles in all except the poorest areas and complete coverage with a three-phase, four-wire system. Additional problems arise from the extensive pattern of land development in the city, the result of structural deficiencies in the urban land market and the lack of savings vehicles which can compete with house-lots. Hence more than needed may have been put into wide expansion of the distribution system in newly developing areas, while at the same time there were other areas of the city where broader extension would have been economically worthwhile. The Bank consented to transfer of funds out of allocations for distribution to help cover cost overruns on generation and transmission, but it did not look to see whether the reduced funds available for distribution were being allocated in the best way. Relative neglect of distribution may have resulted from excessive preoccupation in the early years with only the industrial sphere of power company operations, but it continued. The Bank's emerging adoption of a completely new approach to urban areas, starting with the Bogota Urban Study initiated in 1968, should gradually make it possible to cope with these problems much more satisfactorily.

Conclusions

The Bank's loans for the power sector have all been extended to the most reliable power companies in the country, those serving the largest markets (except for Barranquilla). Bank financing has generally enabled these companies to develop larger hydroelectric sites, at lower unit cost, than they would probably otherwise have been able to do. In turn this has permitted greater coverage of the large number of migrants to the city with electricity service, cheaper and more reliable electricity supply to large industry than would have otherwise been possible (thereby saving the costs of extensive self-generation) and more adequate energy supply to small industry, which has probably assisted its expansion and increased efficiency.

Bank financing has been devoted mainly to bulk supply projects, especially hydroelectric generation, and these projects have generally been well conceived and implemented in a reasonably satisfactory way, given institutional constraints and the difficulties of nature with which Colombia has to contend. A few of the plants do not match up with the standards

of individual project economic efficiency that could have been expected -- Calima, Zipaquira 2 and Cospique (Cartagena). The difficulties with these projects resulted mainly from inadequate checking of engineering investigations and cost estimates, insufficient attention to distribution expansion, neglect of the scarcity of foreign exchange in Colombia or poor design. Construction schedules have continued to be exceeded, but construction cost estimates have shown some tendency to become more adequate.

Many of the companies failed to adhere to financial covenants in the earlier years -- partly because the covenants themselves were not always well conceived in terms of precision and quantitative level -- but their financial performance has tended to improve in recent years and is currently reasonably adequate in the case of the two largest borrowers, EEEB and EPM. Financial performance of companies supported by the Bank has been better than that of other power companies, but this seems to be mainly because they have the best markets.

The matter of regional balance, the effect of the Bank activity upon it and the desirability of this effect are some of the most difficult areas in which to make judgements. The four main power companies (Bogota, Medellin, Cali and Manizales) which account for 90% of Bank disbursements for power have probably increased their strength relative to others and have certainly expanded much faster. In the early 1960s this was necessary in order to cope with the backlog of demand that had built up in several of these cities and with the massive migration to these cities that was occurring. But attention may well have been too heavily concentrated on them for too long, with inadequate attention to the level of reliability in generation and distribution that was appropriate for a situation where other urban services were in short supply and power expansion outside these main cities was seriously lagging; the Bank never gave attention to the role the municipal companies could play in helping to overcome these lags, whether directly, by system extension or indirectly, for instance, by provision of training. Quality of public electricity supply has generally improved substantially in these cities but remained rather poor in most other cities and towns. This is probably helping to sustain the growth of these cities at a more rapid pace than would otherwise have occurred. This may be an economic pattern, due to the external economies available in larger cities and the possibility of taking best advantage there of the talents of scarce skilled administrators.

Too little is known about the costs and productivity of different sizes and types of city and town and their infrastructural requirements in Colombia to be at all definitive on this question. But it seems doubtful whether it is wise to stimulate the concentration artificially by heavily subsidizing the residential consumption in the larger cities; there has in fact been some inconsistency in this respect in the policy of the Bank, urging that the small-town companies, with heavy residential components in their loads, be made financially viable at the same time as accepting heavy subsidization of residential consumption among some of its borrowers in the major cities. Also, there is evidence that the marginal impact of improvements in public electricity supply may currently be more marked in enabling rapid industrial expansion of small towns and in permitting small industry to reach higher levels of efficiency. The Government has been increasingly concerned about the lag in electricity development in the smaller towns and the expensive and inefficient way in which such development is carried on. The Bank sometimes acted as a constraint on the enthusiasm of the major companies for building new plants, but probably a little less than would have been warranted in the national context.

Colombian development would have benefitted considerably had the Bank been able to make a real effort to build up a national power agency -- which was needed in 1950 and is still needed, to get better planning, more balanced plan implementation and efficient use of alternative available sources of foreign credit. Nevertheless the Bank has made some important contributions with potential impact far beyond the companies which it has supported, and these could help greatly to secure a more balanced development in the sector in the future. The Bank has exerted sustained pressure for charging more adequate tariffs, especially in the 1960s, and it has developed reasonably sound procedures to help secure this, in the form of the rate of return on revalued assets. It has played a major role in securing establishment of the Utility Tariff Board which holds promise of being an effective institutional mechanism for reaching and maintaining adequate tariff levels; this in turn should help better financial planning and more rational expansion of the power sector as a whole. The other important contribution of the Bank with potentially wide impact is the encouragement and advice offered in connection with the creation of the central interconnected system; this provides a more economic structure to the Colombian power system than existed before and economic reappraisal shows that it has been worthwhile

for a number of years so that the Bank was quite correct to urge its achievement by 1967 even though events actually delayed it to 1971. It also holds promise of having substantial additional effects -- stimulating greater regional cooperation among power companies elsewhere in the country, enabling more adequate attention of local power companies to power distribution and perhaps making progress toward more adequate tariff levels easier by enabling a unified tariff structure for all interconnected areas.

Recommendations

1. Country specialists should make more important contributions than they have done in the past in selection and preparation of power projects, for instance (a) in analyzing, and developing a view on, the question of regional balance, referred to above, as to whether promotion of development of small or medium towns is more important at the margin than that of large towns, and if so which, (b) in advising about appropriate foreign exchange and inflation rates, on which so many errors have been made in the past, and (c) possibly most importantly, using economic missions as the occasion for small-size investigations of specific points contributing to advancement of the Bank's general knowledge about development and to elaboration of relevant economic evaluation criteria. In the case of power, appropriate topics for such investigations would include the following: impact of electrification on industrialization, relative costs to industry of self-generation, benefits of electrification to low-income groups, benefits of rural electrification, effect of tariffs on income-distribution, etc.

2. In economic evaluation of power projects the Bank should give more attention, at both selection and appraisal stages, to trying to assess whether utility policies with regard to connection of new customers and distribution extension are satisfactory and to establishing what opportunities may exist for accomplishing significant development benefits from spread of electrification: important development benefits may exist, for instance, in providing more satisfactory public power supply to small industry (enabling it to increase efficiency) and in connecting people in rural areas and marginal urban areas (effects on production, education possibilities, etc.).

3. In situations where, as in Colombia, there are many small power companies, it seems necessary for the Bank to make a special effort to develop

an institution in the country as a central channel which will take responsibility for appraising and supervising small-scale projects and receive block loans from the Bank for such projects. Without this there is danger that projects get selected more for their size than for their economic impact and that the already weaker smaller companies get further left behind.

4. In the power field, as in others in Colombia, there is a very serious dearth of accurate statistical data necessary for sound planning and decision-making, despite the large and long involvement of the Bank in the sector, and it would seem that the Bank should be able to find additional ways of stimulating and assisting the necessary gathering of information. One of the more useful steps the Bank could take is to be more persistently and consistently demanding on the Government authorities, power companies and their consultants, with regard to the data required for reports. More use should be made of standard statistical formats. Information on power distribution, being particularly weak, needs special emphasis.

5. Greater effort seems to be needed to improve financial recording and financial planning capabilities of the Colombian power companies. The external auditing process, as implemented, does not seem to have been sufficient to ensure satisfactory recording of financial data needed as a basis for future planning. More attention would seem to be needed also to financial contingency planning and risk analysis.

6. Utility tariff structures in Colombia would merit considerably more attention than they have so far received from the Bank. The Bank could also usefully encourage the authorities and the power companies to find appropriate institutional mechanisms for mobilizing self-help efforts in distribution expansion.

7. The Bank should encourage the power companies to carry out systematic reviews of distribution standards with a view to optimizing them to Colombian conditions regarding opportunity cost of capital, scarcity value of foreign exchange and costs of maintenance labor, etc.

CHAPTER V - THE PAZ DEL RIO STEEL MILL

Acerias Paz del Rio is a company originally established in 1947 to build and operate an integrated steel mill at Belencito in the mountains some 160 miles north-east of Bogota. It is one of the smallest integrated mills in the world, with a current finished product capacity in the neighborhood of 220,000 tons. The principal reason for locating the plant at this rather inaccessible point, far from the sea and from markets other than Bogota, was the discovery of iron-ore, coal and limestone all in close proximity to one another; the plant remains largely self-sufficient in terms of basic raw materials, although they are not of very good quality. This chapter briefly reviews the Bank's association with the company and particularly experience in connection with its loan of US$30 million in 1963.

The initial involvement of the Bank in 1949-1951 consisted of an unsuccessful effort to dissuade the Colombian Government from going ahead with the projected steel mill, mainly on the grounds that Belencito raw materials and location were uneconomic and the Colombian market too small and dispersed at the time for a project of the size envisaged (100,000-200,000 tons of finished products). More economic alternatives suggested by the Bank proved unacceptable, however, and late in 1951 an eight-year supplier credit was obtained from France for a 120,000 ton/year mill. The plant was completed early in 1955, at a total cost of US$160 million (of which about 75% was in foreign exchange), about four times the original estimates and considerably above what might be considered a reasonable cost.

In June 1955 the Government asked the Bank for assistance in solving the company's problems, primarily financial difficulties, poor operation and maintenance, and actual steel production much below expectations. A special mission of steel experts was put together by the Bank. Its 1956 report recommended (a) obtaining experienced management assistance to take complete operating control under the direction of the company President, (b) expedited transfer of the stock then in the hands of the Government to the private sector, (c) certain early plant additions to improve the use of raw materials and reduce scrap production and, (d) for the longer term, a major expansion program to raise plant capacity to about 365,000 tons by 1965.

Production did grow, and profits -- though very small -- began to be earned. But it was not until November 1959, after the Bank had given a firmer indication that it would help finance expansion once management assistance had been obtained, that the company signed a contract for such services with Koppers Co. of Pittsburgh. In many matters of plant operation and maintenance Koppers' advice appears to have been useful and respected; production and productivity improved markedly. In matters of over-all management, on the other hand, their advice seems to have been neither wanted nor considered good when given; this part of the contract was terminated in April 1961. After this experience the Bank agreed to waive the requirement of management assistance as a condition for further progress toward financing an expansion program.

Meanwhile, numerous consultant studies were undertaken to define the composition of the expansion project, and finally after various adaptations in project scope, three appraisal missions and two lengthy rounds of negotiations, the Bank made, in June 1963, a loan of US$30 million to cover virtually the entire foreign component of a project estimated to cost US$58.7 million in total.

The 1963 Expansion Project

The project as a whole was due to be completed in 1967, and many important elements before then. In the event, no major item was completed before late 1968 and others only recently; production increase has also lagged substantially behind expectations. The original project consisted of one portion, costing US$15.4 million equivalent and covering mainly staff housing and offices, which was to be financed entirely by the company, and another larger portion costing US$43.3 million, in which the Bank was to assist. Table 5.1 gives details of the latter portion, which was in turn divided into three parts -- I, items to improve the use of raw materials and increase blast furnace efficiency; II, major expansionary elements (all in the roll shop); and III, general equipment, complementary to preceding items. The table shows that overall costs have been kept quite close to original expectations. But delays in completion of all major items have ranged between two and five years; the original schedule was unrealistically tight but delays also accumulated due to weak management, poor coordination between the company and the engineer (John Miles of London), import license delays, natural calamities, damage in transit to important equipment parts, inadequate specifications for equipment packing by the engineer and poor performance by local contractors.

Table 5.1

Paz del Rio 1963 Expansion Project: Costs and Construction Schedules, Forecast and Actual

	Total Costs (in US$ equivalent)		Construction Schedule		
	Expected a/	Actual b/	Forecast Commissioning Date c/	Actual/Likely Commissioning Date	Useful Operation Date d/
Part I					
Coal Washing/ Blending	894	1,300	1965 II e/	1966 IV	1969 II
Sinter Plant	6,951	8,352	1967 I	1968 III	1968 III
B.F. Turbo Blowers	631	1,197	1965 IV	1968 IV	1968 IV
Oxygen Plant	848	703	1965 III	1968 I	1971/72
Desiliconization Plant	704 f/	588	1966 I	1971	1971/72
	10,028	12,140			
Part II					
Ingot Soaking Pits	2,870	2,070	1965 IV	1967 IV	1970 II
Blooming/ Slabbing Mills	9,796)	12,984	1967 II	1970 II	1970 II
Steckel Mill	9,635)		1967 II	1971	1975
Other	1,893	5,305	-	-	-
	24,194	20,359			
Part III					
Other Equipment	3,093	5,797	-	-	-
TOTAL I + II + III	37,315	38,296	-	-	-
Project Spare Parts	1,780	1,469	-	-	-
Interest during Construction	4,200	4,200			
TOTAL BANK-ASSISTED PROJECT	43,295	43,965			

a/ From IBRD Appraisal Report for Loan 345-CO (1963). Contingencies have been distributed proportionately among all items other than spare parts and interest during construction.

b/ Approximate, based on preliminary company information. Peso expenditures have been converted into 1968 prices using the GDP deflator and then into US$ using the average official exchange rate for that year of Ps. 15.90 per dollar. Engineering fees have been distributed proportionately among all items other than spare parts and interest during construction. Note that the expenditures include allowance for project expenditures in 1971, as budgeted December 1970, which should complete the project. Interest during construction is only the amount spent out of the IBRD loan for this purpose.

c/ From IBRD Appraisal Report, June 17, 1963.

d/ Date when plant was, or was expected to be, usefully operational. In some cases this is the same as the commissioning date but in other cases it is substantially later due to the non-availability of essential complementary equipment (eg. in the cases of the oxygen plant and steckel mill) or problems that arose in the equipment subsequent to commissioning.

e/ Roman numerals refer to quarters of the year.

f/ Includes small amount for other items beyond the desiliconization plant.

Much more serious in its impact than delays in the execution of the project has been delay in making arrangements for installation of what turns out to be a crucial complementary piece of equipment for the project -- a cold rolling mill for flat steel products. The project included only hot rolling facilities (i.e. a blooming/slabbing and a Steckel mill). The appraisal report made forecasts only through 1968 and assumed that in that year, its first year of operation, the 450,000-ton Steckel would be used to produce some 27,000 tons of hot-rolled products. August Thyssen-Hutte, advising the Acerias in 1968, reached the conclusion that the minimum annual load at which it would be economic to run the mill would be 150,000 tons. But there is insufficient demand for hot-rolled products in Colombia to warrant operation at this level. Demand is more for the finer steel sheets -- for making appliances and car bodies, etc. -- which can only be produced by a cold rolling mill following the hot line. Attached to the 1963 loan agreement, at the request of the company, had been a supplementary letter recognizing the company's intention to obtain this piece of equipment at an early date. But in the event no progress was made. Only in 1972 is a contract finally being signed for construction of a cold mill, financed by a supplier's credit. The cold mill is expected to be completed in 1975. Until then the Steckel mill will remain unused and the remaining installations in Part II of the project, though used, will not earn enough to contribute significantly to covering their capital charges.

The principal items of Part I of the project, on the other hand, have now been completed and are contributing usefully to production and earnings of the company.

Given the delays and the difficulties with the rolling mills mentioned above, economic benefits to date have obviously been very small. True, the 'first year rate of return,' the main criterion used in the appraisal report, turned out to be 27.3% compared with projected 11.6%, but this is mainly the result of inflation and temporarily favorable prices and in no way reflects the effect of the project. More meaningful internal rates of return to the project and to various alternatives have been calculated using reasonable assumptions about growth of demand and production in coming years. Sensitivity analyses were done, in particular allowing for a high scarcity value of foreign exchange of double the official rate. As it exists now, the project will yield an internal rate of return over its life of less than 5%, whatever the

economic assumptions. Addition of the cold mill in 1975, as now planned, will raise the internal rate of return on the equipment financed with Bank assistance well over 10%, using the official foreign exchange rate and making no allowance for import duties. Calculations at the scarcity exchange rate, however, show an internal return of less than 6% to the Bank project even with completion of the cold mill in 1975.

For purposes of comparison the internal rate of return to the Bank-assisted project was also calculated, assuming no delay in execution and completion of the cold mill in 1969, corresponding to the assumptions of the appraisal report. This would have yielded 12-14% at the official foreign exchange rate, but still only some 6-8% at the scarcity exchange rate.

These wide disparities between the rates of return to schemes including the cold mill, depending on which foreign exchange rate is used, result from the fact that even when installed the cold mill will rely entirely on imported steel slabs. The Acerias' steel-making (as opposed to rolling) facilities cannot produce steel in sufficient quantity or, more important, adequate quality to feed the cold mill. The low returns shown even by schemes including the cold mill, whenever analysis is done at the scarcity exchange rate, raises a doubt about the basic validity of the original plan.

Alternative Solutions

There are two principal alternative projects tested which yield acceptable internal rates of return -- above 10% -- under analysis at the scarcity value of foreign exchange. One is a very small scheme, essentially corresponding to Part I only of the actual project -- improvements in raw materials preparation and blast furnace efficiency. The other, and the only project that yields satisfactory returns under both extreme assumptions as to the value of foreign exchange, is a project far larger than the one actually undertaken and including additional iron- and steel-making facilities as well as a cold mill, thus eliminating the need for imported slabs. For purposes of analysis it was supposed that a first portion, consisting essentially of Part I of the Bank's actual project, might have been financed in 1959 with a loan of about US$15 million, while the second stage, which might have required foreign financing of as much as US$ 130 million, might have been undertaken in 1964, taking advantage

of the establishment of the Consultative Group shortly before.

This said, there must yet be serious question about the feasibility and realism of such a large-scale program. If the company could not effectively manage a US$60 million expansion program -- and it did show serious vacillation and lack of dynamism -- how could it have possibly handled a US$250 million expansion program? The answer to this cannot be clear, and it may well be that the Bank did the best it could, given the administrative capabilities of the company -- though even then it was obviously in retrospect a shortcoming to separate the hot mill from the cold mill, which should have been either done together in 1963 or postponed together until later.

As an institution Paz del Rio has strengthened over the years. The high-level Bank mission which visited Colombia in 1959 and laid the foundation for the work leading up to the loan of 1963, found a company which, after investment of some US$185 million, had made accounting profits in only two years (1957 and 1958) amounting to the paltry total of about US$3 million equivalent and which was to show a loss again for the year 1959. In 1969, by contrast, accounting profits reached nearly US$5 million equivalent, and in 1970 nearly US$7 million. Some of this improvement is the result of inflation, but much of it is the result of many organizational and institutional changes. Most technical indicators of efficiency show significant improvements over the last decade. One important innovation which has undoubtedly helped improve efficiency is the budget control and managment information system introduced by Arthur Andersen & Co. in 1963-1965 under a covenant of the loan. Particularly important has been the appointment in 1967 of a new President of the company and a reorganization that he introduced in 1968, rationalizing both the organization structure and the division of responsibilities among top officers according to their particular strengths. The company has adhered to virtually all the exceptionally numerous covenants on the loan.

But there is a question whether some of these changes and improvements might not have been achieved earlier with a more active policy on the part of the Bank. The Bank's renewed insistence in 1959 that no progress could be made without comprehensive management assistance first being obtained is understandable in view of the crises of the middle 1950s but seems nevertheless unfortunate in retrospect. The

company had not taken up the recommendation over the preceding three years since it had first been made, it finally took it only because it was a sine qua non of a Bank loan, it did not include in the contract the incentive element to Koppers that the Bank had recommended and it was apparently not anxious to take the advice eventually offered. Several years were lost over this, and, partly because it soured the company on Koppers, the engineering consultants were changed at the time the expansion project came to be executed, which probably added to the delays. Another factor contributing to the delays was concern on the part of the President of the company and others that the project was not well-balanced and that it had been a mistake to include the hot mill without the cold mill.

With hindsight it could be argued that the company might well have been able to undertake a larger program in 1963 had the Bank moved in quickly in 1958 or 1959 with a small first-stage project in which it would have worked directly with the company -- rather than through consultants who, selected on their engineering merits, proved poor in management. With more rapid progress and an eventual larger project more priority would presumably have been given to the scheme in Colombia, and necessary changes in the leadership of the company could have occurred then instead of waiting until 1967.

From the national economic point of view there must too be some question about the direction which institutional change has actually taken. Progress on the crucial matter of the cold mill has been inordinately slow. Part of the reason for slow progress has been reluctance of the company to undertake any public sector financing, in order to make quite clear, and to reinsure, its private-sector character, still doubted in the country -- which has meant, in the absence of a large domestic private capital market, almost total reliance on retained earnings and supplier credits. In the meantime, while becoming increasingly profitable, the company has been losing its share of the Colombian steel market -- to imports and to smaller and likely less economic re-rolling mills around the country. Steel imports have been running about US$25-45 million p.a., about the same as they were before Paz del Rio was completed. Even in value terms imports will not drop greatly when the cold mill is completed because of its dependence on imported semi-finished steel and because steel demand is expected to continue to grow at a relatively rapid pace. These

high costs to the country could have been averted with a better-planned long-range scheme for national steel development in the early 1960s. Had the Bank been more demanding on the Colombian authorities in this respect, instead of concentrating principally on Paz del Rio as a problem company, it might have been able to orient its institution-building efforts within a larger economic framework and thus help develop the Acerias into a more adequate instrument in national development.

Recommendations

1. Basic industries in particular, such as steel, should be analyzed from a national point of view and in a long-term framework before projects are prepared and commitments made. Such analysis should orient institution-building efforts, which may require preliminary small projects in a long-term strategy.

2. The principal components of major industrial projects, not only the project as a whole, should be subjected to detailed cost-benefit analysis in a framework of projections sufficiently long for each component to come to full production and with allowance for the financial implications of necessary complementary equipment.

CHAPTER VI - THE CORPORACIONES FINANCIERAS

The Colombian Corporaciones Financieras are financial intermediaries mainly concerned with channelling funds into manufacturing enterprise; most of them have been set up in the 1960s. The Bank has been principally concerned with five of the leading private Financieras. Discussions about the establishment of such companies and the possibility of channelling IBRD funds through them began in the early 1950s and continued spasmodically until 1966, when the Bank made its first loan to the five companies. Since then three more loans have been made, bringing cumulative IBRD commitments to US$102.5 million. Loan disbursements for sub-projects mounted rapidly from US$7.5 million in 1967, the first year of disbursements, to just over US$15.0 million in 1970, and they have continued to rise.

Evaluation of the effectiveness of the IBRD program of assistance to the Financieras is particularly difficult due to the fact that Governmental policies affecting industrial development have changed significantly over the last few years while the most recent general data available, anyway of rather poor quality, relate only to 1968-1969. Meaningful information about the individual sub-projects financed out of the Bank loans, especially about sub-project implementation, is sparse. Despite these handicaps this chapter attempts to appraise the Bank's contribution, through its work with the Financieras, to the growth of the Colombian capital market and the growth of sound industry, the two principal objectives of these loans.

In the early 1950s there was virtually no institutional source of long-term finance for private enterprise in Colombia. The commercial banks were exclusively short-term lenders and the only investment bank, the Government-owned IFI (Instituto de Fomento Industrial), was important in promoting a few large-scale undertakings but was too meagerly financed to play a very broad role. Consequently, private enterprise had largely to rely on retained earnings and family capital for financing fixed investment. Reviewing this situation in 1952, Alfonso Manero, a consultant sent by the Bank at the request of the Colombian authorities, proposed various measures, particularly establishment of a new public sector investment bank; skeptical of the efficiency of the public sector, the Bank emphasized to the Government that the needed bank should be in the private sector. Decrees permitting the establishment of such

enterprises were finally passed in 1957. The five Financieras which the Bank has supported were established between 1959 and 1964: Colombiana (still the largest) in Bogota in 1959, Nacional in Medellin in 1960, Valle in Cali and Caldas in Manizales in 1962, and Norte in Barranquilla in 1964. IFC took equity participations in Colombiana and Nacional early in the 1960s and now has shareholdings in all five. Over the last few years a further eight Financieras have been established.

In the first half of the 1960s, when initiation of IBRD lending to the Financieras was being seriously considered, there was a major debate within the Bank about how it might best be organized. There were many facets to the discussion and various side issues. But the basic contrast was between the "sectoralist" view, favoring lending through the Private Investment Fund (PIF) for private industry, and the "institutionalist" view, preferring a more traditional pattern with loans directly to the private sector Financieras. The sectoralists no doubt felt that the Bank could help to strengthen Colombian financial institutions, but they thought the Bank could make its greatest contribution by focussing negotiations and discussions in connection with the loan mainly on Government macroeconomic and industrial policy. The institutionalists no doubt accepted to some degree that discussions of Government policy would be useful, but they felt the main thing at that stage was to concentrate on building up financial institutions which would allocate IBRD funds efficiently and also play an important part in the development of the Colombian capital market more broadly. Efforts in connection with the loans have largely followed the lines favored by the institutionalists, but by the time such lending started the Bank was already discussing some macroeconomic issues with the Government in connection with the Memoranda of Understanding.

The Financieras as Financial Institutions

Although Colombian industry remains rather heavily dependent on retained earnings for financing expansion, this is much less true than it was in the early 1950s, and the Financieras appear to have played an important part in removing this constraint to industrial expansion. In the first three years of Bank loan disbursements (through December 31, 1969) the five Financieras supported by the Bank accounted for some 9% of gross investment in Colombian manufacturing industry (fixed and

inventories) and for as much as 20% of long-term financing and new equity financing for industry. The funds provided by the Bank itself accounted for about half the Financieras' gross disbursements in these years and went to about 100 different firms. Table 6.1 shows the broad role of the Financieras in the national context.

Table 6.1

Estimated Financing of Industrial Investment in Colombia, CYs 1967-69

		Ps. mln. current prices	%
1.	Gross investment in fixed capital and inventories	9,622	100
2.	Commercial and special banks, net	1,024	11
3.	IFI (Instituto de Fomento Industrial)	1,121	12
4.	Private Corporaciones Financieras	950	10
	of which IBRD-supported Financieras	855	9
	of which IBRD loan disbursements	423	4
5.	Other financial institutions	795	8
6.	Other a/	5,732	59

a/ Including retained earnings and other internal sources; share issues to individuals; foreign direct investment; obligations for taxes and to labor and welfare funds; net suppliers' and trade credits, and borrowings from non-institutional sources.

The table shows that, in respect to long-term industrial financing the private Financieras were slightly less important in this period than the Government IFI, which has grown rapidly over the last five years under new Government policies, but more important than all other institutional sources combined. They are one of the two main institutional sources of equity financing for industry -- the other being the recently established Mutual Funds (Fondos de Inversion). The share of the Financieras in total industrial financing has probably increased since. Table 6.1 also shows that most industrial investment in Colombia remains

financed from retained earnings or from non-institutional sources, including foreign direct investment as well as the high interest non-institutional and trade credit markets which will be further discussed below.

All the Financieras to which the Bank has loaned have grown rapidly in the last few years and all but Caldas have at the same time remained financially sound. Table 6.2 summarizes some of the main quantitative indicators of financial performance. Among the companies the most rapid growth in recent years has been accomplished by Valle, of medium size, and Norte, the smallest. These two plus Nacional are the most profitable -- with pre-tax profits of about 20-25% of equity, not particularly high in the prevailing inflationary situation -- and all three, as well as the largest and oldest of the companies, Colombiana, have steadily increased profitability over the last four years. Debt-equity ratios have been retained by all the companies within prescribed limits, as have commitments to any one enterprise in most cases.

The exception to the general pattern of continuing financial soundness and increasing profitability is Caldas, operating in a much more difficult region than the others, without much industrial tradition: at the end of 1970 about 30% of its loan portfolio was with clients with arrears and 30% of its equity portfolio in companies operating at a loss, as well as a further 11% in companies in liquidation. Caldas had long been a weaker company, more dynamic and promotional but sometimes to an imprudent degree, and much of the accumulation of equity resulted in fact from attempts to retrieve earlier mistakes; commitments to an increasing number of companies exceeded the levels prescribed in the statement of policies. In 1970, a liquidity crisis loomed; firm measures were taken, with the Bank's assistance. Recovery is proving slower than expected and the future remains uncertain but not hopeless.

With regard to technical assistance in project preparation, which has been a matter of importance to the Bank, most of the companies seem to have provided useful advice to smaller client firms on accounting, budgeting and investment analysis, most outstandingly Valle. The amount of advice given appears to have been determined mainly by the visible need (the share of smaller companies among clients, fairly small for most) and the strength of technical staffs. In project appraisal and supervision more attention does seem to be given to projects financed

Table 6.2

COLOMBIAN CORPORACIONES FINANCIERAS: GROWTH AND PERFORMANCE INDICATORS

	1967	1968	1969	1970	Absolute Amounts 1970, Year-End (Mln. Pesos)	1967	1968	1969	1970	Absolute Amounts 1970, Year-End (Mln. Pesos)
			Caldas					Norte		
Growth of Total Assets (% p.a.)	13.7	17.2	17.7	20.1	439.1	38.0	43.2	42.6	14.7	269.2
Earnings as % of Assets	8.1	8.0	8.1	7.7	-	6.9	9.4	9.9	13.2	-
Company Bonds Issued (Ps. mln.)		2.1	-4.1	3.1	27.6		-4.6	4.5	-3.6	7.4
Company Shares Sold (Ps. mln.)		9.6	10.7	6.7	96.4		1.4	17.4	3.4	46.4
Portfolio Share Purchases (Ps. mln.)	14.1	21.2	27.4	34.1	127.5		1.7	7.4		9.0
Portfolio Share Sales (Ps. mln.)	1.9	0.9	0.4	6.4	-		-	-		-
Dividends as % of Portfolio Held	3.5	3.1	4.8	6.2	-	-	3.0	8.3	5.6	-
Equities as % Total Portfolio	26.2	27.3	31.5	34.6	127.5	8.0	7.2	8.0	8.0	9.0
% of New Lending > 5 Years		46	56	61	-		41	64	61	-
Debt-Equity Ratio	2.2	2.5	3.1	3.6	-	2.6	3.7	3.2	3.3	-
Equity Portfolio, % Net Worth	65.2	72.8	98.7	119.9	127.5	25.8	30.6	30.2	29.3	9.0
Dividend Payout Ratio	68	96	80	0	-	54	63	71	68	-
Reserves as % Total Portfolio	10.3	8.9	4.1	2.7	9.9	8.2	7.2	6.7	7.8	18.5
			Colombiana					Valle		
Growth of Total Assets (% p.a.)	3.2	14.3	7.9	25.0	1,110.5	19.9	72.3	27.5	40.0	621.8
Earnings as % of Assets	7.3	8.8	9.4	9.9	-	10.4	10.4	11.0	13.2	-
Company Bonds Issued (Ps. mln.)		15.5	19.5	48.3	141.9		5.5	-1.5	2.9	19.2
Company Shares Sold (Ps. mln.)		9.5	3.5	6.5	137.8		9.7	26.8	16.7	99.5
Portfolio Share Purchases (Ps. mln.)	33.7	15.5	7.6	n.a.	71.5		5.5	10.4		15.9
Portfolio Share Sales (Ps. mln.)	5.1	5.8	3.9	n.a.	-		5.1	1.1		-
Dividend as % Portfolio Held	3.4	0.5	1.4	1.7	-	3.6	4.6	5.2	3.5	-
Equities as % Total Portfolio	21.1	20.3	18.3	17.7	71.5	13.4	8.0	8.4	5.7	15.9
% of New Lending > 5 Years		35	44	50	-		39	28	30	-
Debt-Equity Ratio	3.2	3.5	3.5	4.0	-	2.5	3.7	3.0	3.3	-
Equity Portfolio, % Net Worth	74.1	75.4	71.1	75.4	71.5	39.7	33.0	30.6	22.3	15.9
Dividend Payout Ratio	79	58	57	59	-	50	36	58	53	-
Reserves as % Total Portfolio	10.5	10.3	10.0	10.0	103.3	9.6	7.0	7.7	8.5	50.2
			Nacional							
Growth of Total Assets (% p.a.)	4.8	23.0	17.4	22.6	666.3					
Earnings as % of Assets	8.5	11.4	12.0	13.1	-					
Company Bonds Issued (Ps. mln.)		-4.9	-6.6	-0.5	14.5					
Company Shares Sold (Ps. mln.)		0.0	7.6	16.9	115.8					
Portfolio Share Purchases (Ps. mln.)	6.1	7.1	19.8	n.a.	36.5					
Portfolio Share Sales (Ps. mln.)	-	-	9.6	n.a.	-					
Dividends as % Portfolio Held	8.0	7.8	7.7	9.3	-					
Equities as % Total Portfolio	22.1	18.1	17.3	15.0	36.5					
% of New Lending > 5 Years		38	28	47	-					
Debt-Equity Ratio	2.1	2.4	2.6	2.5	-					
Equity Portfolio, % Net Worth	62.0	59.2	57.8	50.2	36.5					
Dividend Payout Ratio	60	62	61	67	-					
Reserves as % Total Portfolio	10.2	10.3	11.0	11.9	76.8					

Definitions

Earnings as % of Assets = Earnings before interest, taxes and provisions as percent of average total assets.
Company bonds issued = Sales of its own bonds by the Corporacion Financiera
Company shares sold = Sales of its own shares by the Corporacion Financiera
Portfolio share purchases = Shares of other Companies purchased by Corporacion Financiera
Dividends as % of portfolio held = Dividend income as percent of average equity portfolio
Equity as % total portfolio = Equity portfolio as percent of Corporacion Financiera's total portfolio
% of new lending > 5 years = Peso amount of loans of more than five year term committed in the year as percent of total new loan commitments in the year
Equity portfolio, % of net worth = Equity portfolio as percent of Corporacion Financiera's paid-in capital and reserves and retained earnings.
Dividend payout ratio = Dividend as percent of net earnings after taxes.

out of World Bank credit lines than to others, although the Bank has tried to encourage broader upgrading. Both appraisal and supervision remain fairly weak, with little attention given to unit costs and prices, marketing aspects little studied and discounted cash flow analysis often not made. Nevertheless they have definitely improved, and the Bank has gradually increased the size of sub-loan which does not have to be cleared with Washington.

In terms of broader contribution to the development of the capital market in Colombia, the achievements of the Financieras have been more limited. Mobilization of domestic funds has not been a strong point of any of them. Colombiana has been the most successful, issuing bonds to an affiliated insurance company. But over the three years, 1967-1969, the total of long- and medium-term capital raised by the five companies domestically was well under 2% of the total increase over the same period in financial assets held by households. The share of foreign ownership of the companies (which ranges between 25 and 45%, including 7-16% IFC) has remained approximately stable over the last five years or increased, except in the case of Nacional. Nacional is the only Financiera whose shares are traded on stock exchanges, although those of Caldas are also listed. Principal domestic ownership remains with some of the banks and insurance companies. Underwriting has been a minor activity of the Financieras and not very successful when attempted. The major part of their own equity portfolios (except of Caldas) consists of share subscriptions to already existing enterprises. Sales out of equity portfolios have been relatively small, averaging some 20% of purchases. The performance of the Financieras' equity portfolios has been rather poor. Among the Financieras higher profitability has tended to correlate with smaller share of assets in equities. Dividends on total equity portfolios have averaged between 1 and 8%, and adjustments omitting holdings in companies not yet operating or allowing for capital gains do not seem to alter the picture.

The limited extent of the Financieras' contribution to the development of the Colombian capital market appears to result in some degree from lack of initiative on their own part. As substantial providers of long-term loan capital and, to some companies, of equity capital, they might have pressed more strongly for listing of these companies' shares. In generating term deposits too, some of the Financieras not supported by the Bank have shown more initiative. Nevertheless the principal

reasons for limited accomplishments in these fields seem to relate much more to complex problems of policy and institutional framework external to the Financieras themselves: the high degree of concentration of wealth and share ownership, the heavy competition for savings from tax-exempt and highly liquid Government bonds, the effective official ceilings to interest rates, the importance of forced investments among financial institutions' assets, the aversion of most companies to listing of their shares and the rather stringent legal requirements for listing, the existence of more attractive unregulated alternatives to speculative shares, and insufficient legal protection for minority stockholders.

Utilization of Funds

Recently the Bank has begun some economic analysis of the end-use of its loan funds that results from channelling them through development finance companies. Tables 6.3 and 6.4 use the rather small amount of information available for the Colombian Financieras to analyze the distribution of their financing by industrial sector and by size of firm, for comparison with the overall national pattern of industrial investment. Table 6.3 suggests that total Financiera financing (with funds from all sources) has been specially concentrated, compared with the national pattern, in textiles, paper, metal products and electrical appliances, clothing and footwear, and printing. Disbursements out of IBRD funds (which totalled US$27.6 million in the period covered) have shown a somewhat different pattern, being even more heavily concentrated in textiles but also being disproportionately large, compared to the national pattern, in non-metallic mineral products (mainly cement and glass), tobacco and beverages. The textile investment has been mainly in man-made textiles. These and non-metallic minerals, together accounting for more than 50% of the IBRD funds, have been fast-growing sectors which would therefore be expected to require outside financing. Sectors in which the Financieras and IBRD funds have been notably below the national pattern are food processing and pharmaceuticals, among consumer goods, and motor vehicles, chemicals and petroleum products among durable and intermediate goods; the last three have all been major areas of IFI activity.

Striking in Table 6.4 is the heavy concentration of IBRD funding on the largest firms, with over 200 employees: 78% of IBRD funds went to these firms compared with 62% of total manufacturing investment. For

Table 6.3

SECTORAL DISTRIBUTION OF IBRD CREDIT LINES COMMITTED AND DISBURSED,

TOTAL LOANS DISBURSED BY CORPORACIONES FINANCIERAS

AND NATIONAL INVESTMENT IN MANUFACTURING

		Average Annual Growth Rate of Real Gross Production 1963-1967[a]	Sub-Loans from IBRD Credit Lines[b]		Total Loans Disbursed by Financieras[c] Jan. 31, 1967 to June 30, 1970	Total National Manufacturing Investment 1967-1968[d]
			Commitments 1966-1969	Disbursements 1967-1969		
	Non-durable Consumer Goods	(% p.a.)	(%)	(%)	(%)	(%)
20	Food	7.9	7.4	8.0	13.3	20.5
21	Beverages	-1.0	6.2	7.5	2.6	5.9
22	Tobacco Products	0.3	4.3	2.9	0.6	0.6
23	Textiles	(0.8)	11.7	12.8	4.4	5.6[e]
24	Clothing & Footwear	-0.8	-	-	4.0	2.1
28	Printing & Publishing	6.9	2.6	3.0	3.6	1.9
313	Pharmaceutical & Related Products	(13.3)	0.2	0.3	2.9	6.0
	Subtotal		32.4	34.5	31.4	42.6
	Durable Consumer Goods					
26	Furniture & Fixtures	(1.0)	-	-	1.1	0.5
30	Rubber Products	7.8	2.4	2.6	1.7	1.8
333	Ceramic Products	(4.4)	-	-	-	0.2
361	Non-electric Appliances	(1.7)	-	-	-	0.1
372-6	Electrical Appliances	(8.6)	0.3	0.4	3.7	1.1
383, 385	Motor Vehicles	(10.9)	-	-	-	1.6
	Subtotal		2.7	3.0	6.5	5.3
	Intermediate Goods					
23	Textiles	(0.8)	27.3	27.6	17.4	5.6[e]
25	Wood & Products	(1.0)	0.4	0.3	0.7	1.1
27	Paper & Products	7.9	3.7	4.3	6.7	3.6
29	Leather & Products	(-2.5)	0.1	0.2	1.4	0.8
31 less 313	Chemicals Other Than Pharmaceuticals	(13.3)	9.3	8.9	9.1	14.1
32	Petroleum & Coal Products	(2.3)	1.0	1.2	2.0	8.1
33 less 333	Non-metallic Mineral Products	(4.4)	12.5	11.7	6.6	5.6
34	Basic Metals	5.1	-	-	0.4	2.1
35	Metal Products	2.4	3.5	3.9	9.0	5.1
	Subtotal		57.8	58.1	53.3	46.1
	Capital Goods					
36 less 361	Mechanical Mach.	(1.7)	1.5	0.4	1.5	2.2
371	Electrical Mach. (except appliances)	(8.6)	-	-	0.5	-0.1
38 less 383, 385	Transport Equipment (except motor vehicles)	(10.9)	2.8	1.2	0.6	0.5
	Subtotal		4.6	1.6	2.6	2.6
	Other	10.8	2.8	2.8	6.2	3.4
	TOTAL	5.2	100.0	100.0	100.0	100.0

a/ Derived from Francisco Thoumi, Industria Manufacturera Fabril 1958-67 (CID, Bogota, 1970). Figures are given in brackets where the sectoral growth rate is available only for a combination of the sub-sectors given here, so that it is unknown whether the growth-rate really applies to both subsectors.

b/ Analysis of the amounts of sub-loan commitments and disbursements approved through December 31, 1969 under Loans 451, 534 and 625; aggregate disbursements for the period covered are $27.6 million and aggregate commitments $33.5 million. Commitment began in 1966 and disbursements in 1967.

c/ From all sources of funds: bond-issues, own funds, borrowings from BOR, PIF, IBRD, IFF, AID, etc

d/ Includes net investment plus change in inventories for 1967 and 1968.

e/ Investment divided arbitrarily in this table, 50% to Non-durable Consumer Goods and 50% to Intermediate Goods.

Sources: IBRD, Appraisal of Five Development Finance Companies in Colombia (April 30, 1971).
Industria Manufacturera 1967 & 1968 (DANE).
IBRD, Controllers Department Data.

Table 6.4

STRUCTURE OF COLOMBIAN MODERN MANUFACTURING INDUSTRY, BY SIZE OF ESTABLISHMENT 1968, AND IBRD LENDING 1967-69

No. of Persons Employed	(1) No. of Establts.	(2) Total Employed ('000s)	(3) G.V.A.[a] per employee (Pesos)	(4) Wage Costs[b] per employee (Pesos)	(5) Increase in real wages 1953-66	(6) H.P. installed per employee 1968	(7) G.V.A. per H.P. (Pesos)	(8) G.V.A. less wages per H.P. (Pesos)[c]	(9) Incremental G.V.A. less wages per H.P. 1963-67 (1958 Pesos)	(10) Ave. Annual Real Growth in G.P.V.[h] 1963-67 (% p.a.)	(11) Percent of Total G.V.A.	(12) Percent of Total Investment in Manufacturing[d]	(13) Sub-loans from IBRD Credit Lines to Corporaciones Financieras[e] Disbursements through 12/31/69 (% of total)	(14) Commitments through 12/31/69 (% of total)
Small														
0-4	3,566	10.3	15,283	5,579	1.4	1.73	8,839	6,835	2,024	10.3	0.9	0.2	-	-
5-9	3,312	21.4	17,966	7,028	1.4	1.85	9,688	6,616	1,032	5.6	2.1	1.5	-	-
10-14	1,339	15.5	24,861	9,092	1.9[f]	2.35	10,566	7,032	-11,646[g]	-2.0[g]	2.1	1.7	-	-
15-19	421	7.1	30,160	11,170	1.2	2.42	12,459	8,096	1,719	3.2	1.2	1.6	0.1	0.1
20-24	410	9.0	29,565	11,782	1.3	2.17	13,612	8,376	4,046	5.6	1.4	1.8	0.1	0.1
25-49	892	30.6	44,540	13,606	1.3	3.76	11,845	8,297	967	8.9	7.4	5.8	2.0	1.6
Subtotal	9,940	93.9	29,494	10,463		2.62	11,271	7,723	1,099	5.7	15.1	12.6	2.2	1.8
Medium														
50-74	396	23.9	41,652	15,636	1.6	2.06	20,225	12,693	1,239	5.9	5.4	5.3	3.9	3.2
75-99	175	14.9	61,021	18,268	1.6	3.17	19,272	13,526	3,542	10.4	5.0	5.8	2.8	2.9
100-199	287	39.2	83,028	21,541	2.0	3.35	24,797	18,373	2,636	4.5	17.8	14.2	12.7	15.0
Subtotal	858	78.0	66,138	19,113		2.92	22,662	16,138	2,191	5.9	28.2	25.3	19.4	21.1
Large														
200 & up	264	130.3	79,665	26,601	1.9	5.14	15,505	10,329	1,797	4.4	56.7	62.1	78.4	77.1
Average/Total	11,062	302.2	60,582	19,986	-	3.78	16,021	10,929	1,661	5.2	100.0	100.0	100.0	100.0

a/ Gross Value Added, as given by DANE: includes indirect costs (e.g. tools) and depreciation of equipment.
b/ Including Prestaciones Sociales (Fringe benefits); denominator is paid employees.
c/ i.e. Gross Value Added less wages and Prestaciones Sociales per horsepower installed.
d/ Total investment includes Net Investment plus (or minus) change in inventories, from DANE. The figures shown are for 1967 and 1968 added together.
e/ Analysis of the amounts of sub-loan commitments and disbursements to manufacturing industry approved through December 31, 1969 under loans 451, 534 and 625, using information on employment supplied by the Financieras and the Guia Industrial de Colombia for 1969; aggregate disbursements for the period covered are $27.6 million and commitments $33.5 million. The 12/31/69 cut-off is taken to make the figures more comparable with those in Column 10 referring to investment in 1967 and 1968 and also because good information is not available for 1970 due to changes in IBRD manner of classification.
f/ This figure is almost certainly an overestimate. As for other small-size firms the official DANE figure is much lower than that shown. But for this size category John Todd's adjustment, based on tracing individual small firms through the years (to avoid the difficulties introduced by DANE's very varying coverage), is weak because it is based on few firms.
g/ These figures presumably suffer from the problems noted in the preceding footnote with DANE information on firms in this size category.
h/ Gross Production Value as given by DANE.

Sources: Analysis of DANE, Industria Manufacturera 1968 following approach of John Todd of Williams College for preceding years. The figures for the three smallest size categories (through 14 employees) cannot be regarded as very reliable, due to deficiencies of DANE's sources and in particular may be underestimates with respect to figures of output and wages per employee and more especially share of total output (Column 11). Column 5 is based on work of John Todd and does adjust for estimated DANE underestimate of wage growth in smaller-size firms. Columns 9 and 10 are based on Francisco Thoumi, Industria Manufacturera Fabril 1958-67 (Bogota, CID, 1970) which is in turn based on DANE data. Columns 13 and 14 are based on IBRD data.

firms in the size range 100-200 employees the shares of IBRD funds and of national investment were almost identical. Firms of less than 100 employees, on the other hand, account for only 8-9% of IBRD funds compared with 24% of all manufacturing investment[1/].

There is room for doubt as to whether the large firms are generally the most efficient in either financial or economic terms. Available data suggests that, on average, investment in the large firms has been yielding markedly lower returns than investment in medium-size firms -- but higher than small-size firms. Various indicators are given in columns 7, 8 and 9 of Table 6.4. In the absence of good financial data on individual firms in Colombia the best, if still poor, indicator of the productivity of fixed investment is gross value added less wages per horsepower of installed motive capacity (see column 8); in 1968 this figure was about Ps. 10,000 (US$630) for enterprises with over 200 employees compared with Ps. 16,000 (US$1,000) average for enterprises with between 50 and 200 employees. Recent studies suggest that this phenomenon is neither new nor due to technological differences among industries since it holds within many industrial sub-sectors. There is no evidence that product prices are relatively higher for smaller than for larger firms -- which would anyway be against expectations in view of greater competition among larger numbers of small enterprises. It also appears that the use of horsepower data may underestimate the true difference in capital intensities (and relative returns) insofar as the average cost of an h.p. in large-scale industry is apparently well above the national average. Nor is the difference to be explained by lower capacity utilization in large-scale firms since surveys suggest that they have typically higher capacity utilization.

More generally there is considerable evidence to the effect that Colombian manufacturing industry has been characterized by rather high capital-output and capital-labor ratios, compared with other countries at a similar stage of development. For instance figures prepared by the UN[2/] suggest that Colombian industry in most branches was notably capital-intensive in 1963 compared with the less advanced developing countries analyzed (such as Taiwan, Korea and India) and in some branches, such as textiles and leather products, capital intensive even

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1/ They may actually account for a somewhat larger proportion of all manufacturing investment; the official statistics give poor coverage of small-size firms.

2/ United Nations: "The Growth of World Industry 1953-65", National Tables, quoted in ILO Towards Full Employment (Geneva 1970).

compared with developing countries more advanced than Colombia in industry (such as Spain, Mexico, Brazil and Hungary); overall, Colombian industry averaged 3.3 h.p. per employed person, against 2.2 for the group of less advanced developing countries and 3.0 for the more advanced group. This high capital intensity is particularly apparent among the larger firms. Table 6.4 indicates an average of over 5.0 h.p. installed motive capacity per employee in large firms (over 200 employees) by 1968, compared with a national average, as of that year, of 3.8 and only 2.9 for medium-size firms and 2.6 for small-size firms.

High capital-labor ratios in manufacturing industry, especially in the large-size firms which still accounted in 1968 for nearly 60% of value added in modern manufacturing[1/] (although they had grown more slowly than small and medium enterprises as a group over the preceding five years), have limited the contribution of growth in this sector to employment. Between 1964 and 1970, gross production in Colombian modern manufacturing grew at an average rate of about 7% p.a. and employment at best at only 2.5% p.a. -- implying addition of less than 10,000 jobs a year. A careful calculation, on the basis of manufacturing census data, of the cost per job directly created in modern manufacturing 1958-1967 yields the remarkably high figure of some Ps. 260,000-380,000 in 1969 prices, or US$15,000-22,000[2/].

Relative Prices of Labor and Capital

The principal explanation for the great contrasts between firms of different sizes appears to be that labor has been much more expensive for the large firms than for the smaller ones while credit has been much cheaper and more readily available.

1/ That is, firms with 5 or more workers or Ps. 24,000 or more output.

2/ Departamento Nacional de Planeacion, "El Desarrollo de la Pequena y Mediana Industria a traves del Credito y Medidas Complementarias" (November 1970). Another earlier study by Planeacion, quoted in ILO, Toward Full Employment, covered only fixed capital investment, which it found to be Ps. 307,000 (US$18,000) per job created for the five-year period 1962-1966 and Ps. 138,000 (US$8,000) per job created for 1957-1961 (prices in 1969 pesos). An increasing trend may have been at work, but at least part of the differences between the two periods is to be explained by conjunctural factors in the particular years chosen. All the figures quoted, but especially those for the more recent years, may be somewhat on the high side of reality for industry as a whole insofar as census coverage of small firms has been weak and may have grown weaker until it was recently revamped.

As regards the cost of labor, Table 6.4 indicates that wages in the large firms averaged in 1968 more than 30% above the national average for modern manufacturing, nearly 40% above the average for medium-size firms and more than twice the average for small firms. Part of these differentials is, of course, due to higher average skill and educational levels of workers in larger firms, but a part is also due to monopoly power of unions[1/] and of some large firms, particularly in the consumer goods field, protected from foreign competition by outright import prohibitions (which are extensive in the consumer goods field) or by import tariffs (which average over 100% nominal on consumer goods compared with about 30% on capital goods). A 1968 study concluded that the portion of the wage differential not accounted for by differences in the quality of the labor force might be as much as one-third of the wages paid by large firms[2/]. Labor legislation also works in certain respects to discourage rapid expansion of employment: for instance, by making it difficult to dismiss labor and requiring payment of cesantia (severance pay) equal to one month's pay for each year of service, and by requiring a 35% premium for night work.

As regards credit, large well-established firms have usually been able to borrow in recent years at nominal rates equivalent to between 16 and 19% from the Financieras, from the commercial banks with compensating balances or abroad through their foreign connections. Smaller firms have a wider spread from the 13-16% of the Corporacion Financiera Popular and the Fondo Financiero Industrial (mechanisms established by the Government in 1968 to try to ease the supply of credit to smaller enterprises) up to much higher levels. Due to the regulation of the institutional credit markets and the interest rate structure and to the persistence of excess demand for industrial credit beyond what these markets can provide, there is an important non-institutional market in which loans are normally made at rates between 2 and 3% per month. Though large firms occasionally resort to this market, the evidence is that small firms have to make much greater use; they also borrow extensively direct from the large enterprises for trade credit at similar rates. Necessarily very rough estimates suggest that firms of less than 100 employees may have obtained as much as one-third of credit they raised in 1969 from this market or from trade credit. Absolute shortages of credit for many small firms and marginal cost of short-term

1/ See, for example, Miguel Urrutia, The Development of the Colombian Labor Market, 1969.

2/ R.L. Slighton, Relative Wages, Skill Shortages and Changes in Income Distribution in Colombia, Rand Corporation, November 1968.

credit of around 30% are generally thought to be factors accounting for their lower capacity utilization and lower output per h.p. installed than firms of medium size. Large enterprises not only enjoy much readier availability of credit, at lower marginal costs, but, due to high marginal rates of corporate taxation (50% and more) combined with tax-deductibility of interest payments, confront as an actual cost only a fraction of the nominal rate; for instance, at a marginal tax rate of 50%, an 18% interest rate would reduce to an effective 9%. Adjustment for inflation, which has run between 7 and 15% p.a. in recent years, would reduce the "real" cost of credit at the margin to a few percentage points, or even a negative figure, for many large enterprises and leave it at a substantial 10-20% for small enterprises[1/].

Conclusions

Loans by the Financieras out of the lines of credit made available to them in the form of the IBRD loans have proved very popular and the IBRD funds have been committed very quickly. The IBRD loans have played some part in supporting the rapid rate of industrial growth in Colombia in the last few years. Yet there must be considerable doubt about how efficiently the funds have been allocated, due to the apparent high capital intensity of the firms which have been the principal recipients of sub-loans and the low returns which they seem to be earning. As indicated at the outset of this chapter, there have been important changes in Government policy affecting industrial development over the last few years while most of the statistical data considered in Tables 6.3 and 6.4 relates to 1968-1969 at latest. The most important policy changes have been the introduction of some greater predictability in the relationship between foreign and domestic prices by means of the flexible exchange rate system, creation of the export subsidy (CAT -- 15% negative tax on export sales), reduction of the rate of domestic price inflation, creation of the Corporacion Financiera Popular and Fondo Financiero Industrial (and provision of foreign financial support to them, particularly by AID[2/]) and a sharp rise in real interest rates. Yet the discussion in the last paragraphs of the relative prices of labor and capital to large and small enterprises refers to the situation prevailing in the last two years, and the presumption

1/ Assuming a marginal tax rate of 10-15%; see R.A. Musgrave and M. Gillis, Fiscal Reform for Colombia, Harvard 1971.

2/ IDB also made loans of US$10 million in 1968 in support of a credit program for small and medium industries.

must be that these price relationships are leading to the results that would be anticipated and largely sustaining the apparently inefficient pattern of resource allocation found for 1968.

The Bank has, of course, been concerned with trying to ensure efficient allocation of the resources provided. As pointed out, it has devoted considerable attention to the financial soundness of the Financieras and of their procedures and it began lending only after the Memoranda of Understanding had been initiated. The principal issue that has arisen in discussions of the loans to the Financieras has been the interest rate on sub-loans. In 1967 the Government pointed out that the interest rate to the final borrower under the first loan (12.0-14.5%) had included a totally inadequate charge for the exchange risk borne by the Banco de la Republica, and the Bank had apparently already reached the same conclusion in view of the very rapid rate of commitment of the first loan. The Government wanted the Financieras or the final borrowers to take the exchange risk on the second loan, but eventually it reached agreement with the Financieras instead on an 18% interest rate, including 8 points to the Banco de la Republica for exchange risk coverage. Some in the Bank still doubted whether this was a high enough interest charge and urged the Financieras to try to obtain a higher return by attaching equity features to portions of their loans. The interest rate on the last loan (of 1971) was 18.75%, with the increase mainly accounted for by the increase in the IBRD's own lending rate. All these interest rates, including that on the first loan, have been the highest institutional rates in Colombia at the time they were in force. They are also effectively prescribed as ceilings by the Government, and the Financieras have generally observed the same ceilings on loans out of their own funds, apparently under pressure from the monetary authorities.

Even at 18% the sub-loans have probably been underpriced. First, the Financieras themselves say that the interest rate charged could have been 2-3 percentage points higher on the 1968 and 1969 loans without seriously affecting demand for sub-loans. Second, as mentioned earlier, the Financieras have not been able to raise substantial funds domestically; had they charged borrowers 21% they would almost certainly have been able to offer depositors or bond buyers interest rates sufficient to attract significant amounts. In the Bank it has been suggested that an 18-19% rate on sub-loans may already be too high, discouraging potential borrowers concerned about what such a commitment could do to their

liquidity if inflation happened to drop much below the levels prevailing in recent years. Yet the evidence -- including the very rapid rate of commitment under the Bank's 1971 loan -- does not support this contention.

While a higher lending rate probably would have enabled the Financieras to mobilize more complementary domestic resources it is, however, quite doubtful whether it would have greatly affected the use to which the IBRD funds have been put. As pointed out, sub-loans from Bank funds have been heavily concentrated on enterprises of large size. Among the reasons for this are that the larger enterprises are more creditworthy, in the sense of offering greater stability and security, that they can better prepare the necessary documentation for sub-loans out of IBRD funds and, in particular, that the Financieras have close relations with the large industrial groups.

It seems clear that if the Bank is to help substantially to secure a better allocation of funds, including those which it provides, it has to take action at a broader level than in the past. The Bank itself tends to take the view now that its expectations of what the Financieras, and the Bank's loans through them, could achieve were excessive; the extent to which their ability to mobilize capital and direct it to socially desirable ends was limited by circumstances over which they had no direct control and which would be slow to change was not foreseen. A more effective contribution by the Bank will require greater discussion with the Government of some of the key factors affecting the allocation of resources for industrial investment and agreement with the Government on specific steps toward improvement as a precondition for lending for industry. Insofar as the major issues will be with the Government rather than with the Financieras, it may be more appropriate to make such loans to the PIF or some similar central organism, for on-lending to private financial intermediaries, as is now being discussed to get a wider spread of funds and ease the purely administrative burden on the Bank; however, the Government has of course always been intimately involved in discussions about the loans to the Financieras (as Guarantor) and these policy issues could, and should, equally be handled if the older arrangements are maintained. Probably the most important measures required to improve the situation are steps to remove interest rate ceilings with a view to amalgamating credit markets, at least for industry, retaining subsidized credit with related technical assistance

through official agencies for smaller firms only. Decontrolled, the average level of interest rates from the Financieras and the commercial banks would probably rise somewhat but the non-institutional market should be largely squeezed out and the funds presently used in that market diverted to institutional channels. Interest rates would come to be determined less by administrative fiat and arrangements for particular sources, and more by expectations about inflation/devaluation and the risk and administrative cost involved in loans to different classes of borrower.

Steps in this direction would contribute importantly to making credit markets more competitive, with related beneficial effects on the generation of projects. There are now some 13 Financieras, and it appears that some of them have arisen as means for business in particular regions to obtain access to the various special credit lines, each with its own interest rate structure guaranteeing a certain margin to the Financiera, available from the Banco de la Republica. Greater competition should stimulate the growth of those Financieras that do have dynamic management and the special regional knowledge which helps to generate productive projects, and eliminate others.

Another illustration of the need for greater competition to induce more enterprise and initiative arises in quite a different field. One of the striking facets of industrial development in Colombia has been the rather small advantage that has been taken of some raw materials with likely export potential, such as lumber (furniture) and coal and certain other chemicals (bulk chemicals); manufacturing industry in general has grown less than projected in the 1961 General Plan (average annual growth rate of 6.2% compared with 7.5-8.0% forecast), but the performance of these industry groups seems to have been particularly disappointing compared with plans[1/]. Part of the reason for this was the unstable pre-1966 exchange regime; moreover, industrialists could be expected to adjust their planning to the assumption of stability in the effective exchange rate only after several years of experience to convince them of the possibility of maintaining stability. But there have been other problems with both industries -- especially organization of the sector and marketing in lumber and furniture, and lack of resource studies in connection with coal and chemicals. With more incentive to competitive initiative in seeking out and developing high-return prospects and

1/ Iron and steel was the other principal sector in which actual growth fell far short of expected. (See Chapter V).

less to channelling funds to the enterprises with the largest assets and most market power, the Financieras should be able to play a more useful promotional role. It is not clear that the technique of encouraging them to take equity participations at the same time as making loans has been adequate to this purpose. The Financieras' promotional ability would be strengthened by measures to develop the market for speculative shares.

Recommendations

1. Having helped the development of the Financieras as financially sound business institutions, the Bank might now focus more attention than it has hitherto done on helping to tackle the problems of the Colombian capital market on a broader scale so as to enable the Financieras, and other institutions, to mobilize and channel savings more effectively. Partly thanks to a valuable Technical Symposium on Capital Markets in Colombia sponsored by IDB in April 1971, enough seems to be known and agreed about crucial steps needed in connection with capital market development that the Bank could play its useful expediting role (as in connection with fiscal and exchange rate policy on occasions in the past) by agreeing with the Government on specific measures to be adopted; such agreement could be reached in connection with a loan for further financing of the industrial sector. Important topics to be covered in negotiations towards such agreement would be (a) removal of interest rate ceilings, (b) reduction of forced investments by commercial banks and other financial intermediaries, (c) encouragements (fiscal incentives?) to companies for listing of stocks, and perhaps (d) improved legal protection of minority stockholders. No doubt IFC's new Capital Markets Department could contribute valuably in such negotiations.

2. Some of the other issues which have been touched on in this chapter and which are crucially affecting the allocation of resources for industrial development -- e.g. import prohibitions and tariff structure, corporation taxation, labor law -- may not be well enough understood at present to warrant taking them up at an early date in negotiations about Bank assistance; moreover, it is important not to diffuse the effort in negotiations too widely. These are highly complex issues, and the first step may be to study them, or aspects of them, more fully. Past brief discussion of them in some of the Bank's economic reports should now be followed up by thorough study of one or two of the issues. This

might be accomplished by reallocation of staff or devotion of more staff to work on the Financiera loans and related topics, or it might be done by contracting out studies with consultants and research institutes, Colombian or other; as mentioned, the IDB's initiative in sponsoring a technical symposium on the capital market problem seems to have been very productive. Studies of this sort and detailed investigation of specific issues could help significantly to raise the contribution to Colombian economic development of the Bank's lending for industry.

3. If the Bank cannot take the more active and constructive, but expensive, role proposed then it should consider taking various other steps to improve the allocation and distribution impact of its funds: (a) channelling funds and technical assistance to the Corporacion Financiera Popular (for medium and small industry), which remains presently very small relative to the need, (b) raising the effective interest ceiling on sub-loans by the Financieras presently financed to a rate which would clear their market -- probably about 21% at present, (c) tying its loans to the Financieras' own efforts to raise funds in the domestic market, possibly by using a matching fund technique, or (d) requiring the final borrower to carry the foreign exchange risk himself.

4. To enable the Bank to take full advantage of the opportunities for contributing to Colombian development provided by these loans -- as well as enable satisfactory evaluation of this type of lending compared with others -- the Bank needs to obtain better information flows than it now receives on Financieras' sub-projects, especially during and after execution. The purpose of such information flows would be less to enable the Bank to know how its loan funds happen to be spent, more to provide case data which would deepen understanding of the way present Government policies affecting industry actually work. This in turn would permit precise identification of problems to which it would be worth devoting study, with a view to coverage in loan negotiations.

5. The Bank should actively pursue with the Financieras the possibility of their undertaking promotions in fields where there seem to be unrealized industrial potentials, with a view to identifying the obstacles and what measures, if any, the Bank might be able to take to help overcome them. Examples that have come to the attention of the evaluation mission are lumber resources (for furniture) and coal (for carbochemicals).

CHAPTER VII - THE AGRICULTURAL SECTOR

This chapter covers the Bank's direct contribution to the growth of the agricultural sector, through project financing and policy advice. The Bank's first loan to Colombia, in 1949, was a mechanization credit for US$5 million, and in 1954 a second loan of US$5 million was given for the same purpose. Twelve years later, in 1966, the Bank resumed its lending in the agricultural sector with a US$16.7 million loan for livestock credit, and further loans ensued in 1967 and 1969. Together these loans accounted for some 10% of total Bank lending to Colombia through 1970. In addition to project financing the contribution of the Bank has included a large sector study in 1955, the posting of an agricultural adviser from 1956 to 1958, and a special mission, in 1967, to review the program and effectiveness of INCORA. In 1971 the Bank made a further loan for agriculture, for an INCORA colonization project.

The critical importance of the agricultural sector in the Colombian economy and the significance of the sector in current Bank activity made it essential to cover agriculture in the evaluation, although this was difficult. It was not possible to evaluate the two small mechanization projects of the 1950s because of the absence of any record of their performance. Substantial disbursements by the end of 1970 had been projected in the appraisal reports on the 1966-1969 loans, but in fact they had been large only on the first livestock project. However, mainly by extensive use of detailed data available in Colombia and particularly of individual farm records, it did prove possible to obtain some indications of the paths that the 1966-1969 projects are following and to reach some conclusions which, though preliminary, we consider nevertheless significant. But the early stage at which the three project reviewed in this chapter still stand should be constantly borne in mind in the discussion.

It was not possible, as would have been desirable, to review the Bank's projects in the context of the participation of all other sources

of external financing, due to shortages of time and readily available data. In general terms, the projects financed by the US ExIm Bank and the IDB have been similar in type to those financed by the Bank, while the US AID has made sector loans and provided large amounts of technical assistance; it has been more directly involved with small farmers and with land reform, and has helped significantly to improve the organization of agricultural planning and the collection of agricultural statistics. Several private foundations have supported research in agriculture and animal husbandry; the International Center for Tropical Agriculture (CIAT), near Cali, is now supported by the Consultative Group on International Agricultural Research sponsored by the Bank, FAO, and UNDP. There has also been some bilateral technical assistance and financing. But the kind and scope of the activities sponsored by these different agencies could not have preempted the need for the participation of the Bank in any of the major subsectors of Colombian agriculture, nor did they significantly affect the performance of the projects financed by the Bank.

The Agricultural Sector and the Bank, 1949-1970

The development of the agricultural sector in Colombia has, at the broad level, provided neither a remarkable stimulus nor a braking constraint to the development of other sectors of the economy. Agricultural production and food available for domestic consumption have generally kept up with population growth since 1950, each increasing at an average annual rate of some 3.0-3.5%, while agricultural prices rose at about the same rate as non-agricultural prices. So it can be generally concluded that, over this period, supply has kept up with effective demand. What then were the problems associated with the agricultural sector?

First, underlying the moderate overall growth rate there have been marked variances between the rapid growth of a few export and import-substitute crops, mainly cotton, rice and sugarcane, and the slow growth of staple foods and some other potential exports. As Table 7.1 shows, the three crops mentioned accounted for nearly 30% of the value of all major crops in 1970, while coffee accounted for another third. Increased production of the three crops has been due mainly to an effective marketing and price support system which has made them highly profitable, and to the expansion of their area under cultivation through the mechanization of relatively large farms. The

productivity of rice and cotton, in particular, was increased by the use of better seed varieties and new pesticides. Still the agricultural sector might have made a larger contribution as a generator of foreign exchange both through import substitution (e.g. wool) and through exports (e.g. fruits and vegetables), if a more effective marketing organization had been established.

Second, and more importantly, agricultural development could have had, but does not appear to have had, a significant direct impact in alleviating the poverty of the rural population. Well over one third of the estimated 2.7 million persons employed in agriculture are laborers, but while agricultural production has been growing at 3.5% per annum, agricultural employment has been growing at 1.2%, and while agricultural wages have been rising less than 1% per annum on average, blue collar manufacturing wages have been rising by 4.5%, both in real terms. But the problems of rural poverty are not well reflected by these estimates, and are not exclusively associated with agricultural laborers. They affect also the small farmers without outside employment who number around 750,000. For instance, in contrast to the expansion experienced by large scale commercial crops, there has probably been a decrease in output per capita of staple food crops usually grown by these small farmers (see Table 7.1). The concomitant price increases have been accompanied by only limited increases in production because market organization for these crops is lacking. These small farmers have had limited possibilities for improving their standard of living, having been constrained by the pattern of land tenure and by the availability of credit, supporting services and new technology, all of which have tended to favor the larger farmers and inadvertently work to the disadvantage of the small farmers. In the framework of the production structure and income distribution obtaining over the last two decades, and in a situation where supply has equaled effective demand, increases in production or in productivity have a tendency to push the small farmers further into subsistence farming -- unless, of course, the increased production of the large farmers is channeled into exports, in which case it would not have markedly reduced agricultural poverty, due to relatively low labor use.

Two schools of thought in Colombia have tried to deal with this paradox underlying the pattern of agricultural development. The first group argued that no matter how fast the industrial sector could optimistically be expected to grow, it would not be able to absorb the largest part of rural unemployment. Hence they have advocated the effective implementation of an agrarian reform involving the redistribution of land, which they believed could contribute significantly to

Table 7.1

Production and Prices of Major Crops 1950- 70
(Values in constant 1958 prices)

	1950	1955	1960	1965	1970	Ave. Rate of Change 1950-70
Coffee						
Output (mln. Ps.)	1206	1347	1714	1757	2036	2.6
Output per cap. (Ps.)	104	102	112	97	96	-0.4
Price Index a/	77	99	76	68	90	0.8
Traditional Staples (Yucca, Beans, Plantains, Brown Sugar)						
Output (mln. Ps.)	732	800	767	816	1064	1.9
Output per cap. (Ps.)	63	61	50	45	50	-1.2
Price Index a/	90	102	88	118	135	2.1
Mixed Technology Staples (Corn, Potatoes, Wheat, Tobacco)						
Output (mln. Ps.)	499	680	745	788	769	2.2
Output per cap. (Ps.)	43	52	49	44	36	-0.9
Price Index a/	144	100	91	97	102	-1.7
Bananas and Cocoa						
Output (mln. Ps.)	127	168	193	232	271	3.9
Output per cap. (Ps.)	11	13	13	13	13	0.8
Price Index a/	92	88	113	119	104	0.6
Cotton, Rice and Sugar (Mechanized)						
Output (mln. Ps.)	336	544	896	1173	1637	8.2
Output per cap. (Ps.)	29	41	58	65	77	5.0
Price Index a/	77	84	113	110	88	2.7
New Mechanized Crops (Sesame, Barley, Soybeans, Sorghum)						
Output (mln. Ps.)	43	48	104	198	240	8.9
Output per cap. (Ps.)	4	4	7	11	11	5.2
Price Index a/	87	86	89	103	81	-0.4
Total Crops						
Output (mln. Ps.)	2943	3587	4419	4964	6014	3.7

a/ 1958 = 100. Prices are producer prices and the indexes are calculated after deflation by the GDP deflator.

Source: Colombian Ministry of Agriculture and USDA (L. Jay Atkinson).

alleviating poverty, as well as to increasing production by intensifying cultivation on land which had been used extensively. The second group argued in favor of even further accelerating the process of rural-urban migration and of absorbing all underemployed labor in a gigantic expansion of urban development. Neither view has been implemented; the first because it has lacked enough political support, and because some political leaders feared that implementation of land reform law would lead to further changes in the social and economic structure of the industrial, financial and commercial sectors. The second strategy has not been seriously considered, because it would have constituted an excessively large task involving substantial inflationary risks, and would have required a drastic prices and incomes policy, as well as extensive monitoring of the economy in the process of its implementation, all of which the most developed economies have found difficult to manage.

It is in this context that, over the last twenty years, successive Bank missions have recommended to the Government a series of measures designed to induce growth in agricultural production to keep up with effective internal demand, to expand and diversify exports, to encourage the domestic production of import substitutes, and to capitalize more fully on the resources and rich potential of the sector. One of the major recommendations of the Bank consisted in proposing the use of fiscal measures to induce the efficient cultivation of extensive land resources which were held idle or were underutilized. These measures, variously attempted with self-assessment, imposition of additional tax payments for underutilization, taxation of potential or presumed income, and territorial tax, have never been effectively implemented because of the technical and administrative difficulties underlying them and the lack of a political will to apply them.

Nevertheless, agricultural production has increased, partly because effective taxation on land and on income from it has lagged behind the comparatively heavy and progressive taxation on industrial and commercial income, and partly because a rise in land values, even though it be largely the product of social preference for hoarding land, can itself induce efforts to increase productivity. By the end of the second decade also, many of the recommendations proposed by the Bank had been implemented. The Ministry of Agriculture underwent a reorganization which attempted to coordinate under its direction the decentralized agencies. Storage facilities and price supports were expanded. Provision of credit to the agricultural sector was growing faster than in the economy as a whole. The growth of agricultural production accelerated to an average 5% per annum in 1965-70 compared with only 2.5 to 4.0% in earlier periods, and agriculture other than coffee grew at 6%

instead of the earlier 3%. Again three crops -- cotton, sugarcane and soybeans -- accounted in large part for this substantial increase in the sector's growth rate, but production of some staple foods also grew rapidly. Non-coffee agricultural exports -- principally cotton, livestock and sugar -- expanded considerably.

All these accomplishments, however, benefited mainly a limited group of commercial farmers; they did not significantly affect most small farmers and the majority of the rural population. Two legislative mechanisms, Law 200 of 1936 and Law 135 of 1961, and the institutions which were associated with their enactment, the Caja Agraria and INCORA, also failed to make the contribution required to relieve poverty in the countryside. In 1970, a major Bank economic mission directly faced, perhaps for the first time since 1949, the problem of rural poverty in Colombia. The mission noted that nearly a million farm families have less than 5 hectares, which is considered to be the minimum of crop land needed to earn enough to support a basic level of living, and that the majority of the farming population was concentrated on tiny mountain farms, whereas extensive good land resources continued to be underutilized. The mission felt it necessary to state clearly that the basic goals of the more efficient allocation of land resources, as specified in the Colombian Agrarian Reform Law, were still not being achieved.

The Livestock Development Project (Loan 448-CO)

The first loan made by the Bank in its resumption of agricultural lending to Colombia in the 1960s was for livestock development. The purpose of the project was to provide long-term credit for on-farm improvements which would raise both output and efficiency of beef cattle ranches, dairy farms and sheep farms. The cost of the project was estimated at US$28 million equivalent and the Bank loan, committed in May 1966, was for US$16.7 million. The Bank disburses 75 percent of sub-loans made by the Caja Agraria to project ranchers for ranch development purposes. The interest rate to final borrowers was relatively low, at 12%, since inflation which had averaged 11% over the previous decade was still running at 8% per annum over the first four years after the loan was made.1/ By the end of 1970 Bank disbursements amounted to

1/ The interest rate to the final borrower on the second livestock loan (Loan 651-CO of 1969) was raised to 14%, but inflation has been running at an 11% annual rate since the project was made effective in 1971. The interest rate on Bank sub-loans has always been higher than the rate on loans from other institutional sources of credit for livestock, but the term of the loans has also been longer (10 years against, for example, 7 years at 11% currently for the longer loans of the Banco Ganadero, the main source of credit for livestock).

US$11.1 million, compared to a planned disbursement of US$16.7 million for the same period.1/

The broad pattern of investment under the project was substantially different from that expected at appraisal. Some 700 farms were covered, compared with an expected 1,200. Project investments were more heavily concentrated on beef ranches than expected, 92% as against 67%. Most of these ranches are in the North Coast region, Colombia's main beef-producing area, although the project also covered nearly twice as many ranches as originally envisaged (169 against 90) in the Llanos, an area of poorer production and ecological conditions which had not been given much importance in the appraisal. The dairy program has been proceeding satisfactorily, but on a smaller scale than expected; it absorbed only 7% of total project investments and covered 87 farms, compared to the corresponding figures of 26% and 250 farms envisaged at appraisal. The small sheep program was discontinued as most sheep ranches met with technical and financial difficulties.

The evaluation focussed on the beef ranches in the North Coast region which account for 65% of total investment under the project. The chief purpose of this part of the project was to raise the annual off-take on herds amounting to some 800,000 head in total from an estimated pre-project level of 12-14% to some 16-20%; this was to be done mainly by improving the calving rate by 25 percentage points (from 50 to 75%) for the 320,000 cows included in these herds, and, secondarily, by reducing cattle mortality from 3% to 2% annually and lowering the age at which steers are marketed from four years to three.

The project actually covered less than one-quarter the expected number of cattle and cows and only about half the number of farms expected, but with much greater financing per farm. Some 409 ranches were covered in an amount of US$33,800 equivalent per ranch, compared to 800 ranches and US$13,5002/ expected at appraisal.

The project did not set up any information flows adequate to show whether any detailed performance targets given in the ranch plans or in the appraisal report were being met or not. However, data were available

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1/ In February 1972 the Bank canceled the undisbursed balance of the loan, amounting to US$3.3 million.

2/ Most of the dollar figures quoted in this chapter come from conversions out of Pesos. Following the standard procedure used in this report Peso figures were inflated (or deflated) to 1968 Peso values using the GDP deflator, and then converted into US$ using the official exchange rate for that year. The appraisal report for this project used 1965 Peso prices.

on land and cattle inventories of project ranches at different points in time, and by judicious use of this data it was possible to elucidate some of the key trends. Study of a large sample of project ranches (293 or 72% of the total) showed that cattle herds increased by some 42%, much more than had been expected. Part of this is due to purchases of breeding stock which the project was extended, after appraisal, to cover. But even excluding purchased stock, the actual increase in cattle numbers still averages 7.2% p.a., compared with a projected increase of 2.4%. However it appears that this increase in cattle numbers did not result from any improvements in the productivity of the breeding stock, that is, its calving rate. Between the initial and current periods,1/ the aggregate effective calving rate (ratio of calves to cows in herds) actually dropped from 56% to 42%, as compared to the increase over the same period from 50% to 65% which was targeted in the appraisal.

There are also indications that the current cattle inventory should have been even larger than it actually is even if no significant increases in productivity had directly resulted from the project. From the initial inventory of the cattle, and taking into account project financed additions to the breeding stock, it is possible to determine the expected size and structure of the current cattle inventory based on the technical indicators generally prevailing in the project area. The results of a simple model designed for this purpose indicate that the total current inventory of the cattle should have been larger than it actually is by approximately 15-25%. Since this analysis was based on the range of average levels of productivity prevailing in the project areas, the discrepancy between the actual and the expected cattle inventories can only be attributed to net sales of cattle by the ranchers, over and above the levels which would normally have been expected at this stage of project development.

The model also suggested that the shortfalls in the current inventory are predominantly in the breeding-rearing parts of the herds, while fattening steers are more numerous than would have been expected. The marked tendency of project ranchers to shift from breeding and rearing to fattening operations is an understandable trend because fattening operations have traditionally been more profitable. But the main economic benefits to Colombia from the project would have derived

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1/ The current period refers to 1970-1971 when the field work was done.

from improvement of the calving rate -- the key constraint on increased production of Colombia's beef industry -- for the largest possible number of the country's breeding stock. However, the project financing was extended to ranchers having a total of only some 65,000 cows in their initial cattle inventory (compared to 320,000 envisaged) plus some 32,000 purchased under the project. The apparent decrease in the calving rate between the initial and the current periods also suggests that the action sought by the project in financing breeding stock has not enhanced the relative importance of breeding operations, or their productivity, on project ranches.

The inconsistency between financial incentives for fattening and economic benefits from breeding could have been reconciled if breeding operations had been combined with dairy. This alternative would have enabled project ranchers to achieve a return on capital even higher than they make on fattening operations, and it would also have helped relieve the prevailing national shortages in milk. Other alternatives would have consisted in limiting project financing to farmers physically limited by the quality of their land, or institutionally constrained by their investment opportunities and their capital structure, to the breeding phase. A significant contribution could have been made by the project, in any case, if it had established a technical and economic follow-up of the ranches from which it would have been possible to learn systematically the better input mixes applied by the most successful ranchers, and to transfer this knowledge to the least successful ones.

However, up to the time of the evaluation, the contribution of the technical assistance team provided by the Bank had centered almost exclusively on the control of investments. There was a tendency for the ranch plans to be prepared mainly for the sake of submission to the Caja Agraria's Loan Approval Committee, and then to be departed from considerably in actual project execution. The performance projections underlying the ranch plans have not been followed up in order to determine if, and to what extent, they had been realized, and to what extent investments have increased production and productivity. Some impact of the technical assistance may have been felt in the establishment of better and more regular vaccinations, and in increasing weed control and pasture rotation. But it is not clear that these practices are more effectively prevalent in project ranches than non-project ranches. Otherwise, no systematic technical and analytical procedures had been devised for the project, and no noticeable new technical or managerial improvements had been effectively introduced. Substantial efforts are now being made to improve the effectiveness of the technical assistance.

The effectiveness of the quantity and mix of project on-farm physical investments could not be directly ascertained. The actual mix of investments is significantly different from the one specified at appraisal, and its direct relationship to production coefficients is not clear. Investments per head of cattle in land clearance, improved pastures, fencing, farm buildings and machinery and equipment, have been from two to seven times larger than planned at appraisal, as shown in Annex Tables 7.1 and 7.2. However, these larger investments did not correspond to an intensification of production or to a change from traditionally prevailing technology, but they appear to have been applied extensively. This is especially evident in the investment categories having a direct impact on production. Specifically, it was planned at appraisal to finance 25 hectares in land clearance and 50 hectares in land improvement per ranch, but the project financed 215 hectares in land clearance and 440 hectares in pasture improvement per ranch. Investments in pasture improvement actually averaged US$11 equivalent per improved hectare, as compared to a planned US$85 per hectare, and investments in new pastures actually averaged US$25 per hectare developed as compared to a planned US$68 per hectare. Correspondingly, although the gross carrying capacity actually increased from 0.8 to 1.1, as compared to a projected increase from 2.0-2.4 to 2.5, the effective utilization of pastures appears to have remained constant.1/

The preceding indications suggest that project investments per ranch may have been above the levels which would have been strictly required to introduce improvements in productivity. For instance, land clearance has been the second most important item in actual project investments, accounting for US$5,300 equivalent per ranch, as compared to US$1,600 per ranch envisaged at appraisal. The economic necessity of this investment may be questioned insofar as pastures are not yet a scarce resource in the national context.

The slow rate of disbursements affecting the project since 1968 has been attributed by the supervision missions to the impact of the

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1/ The gross carrying capacity is defined as the number of cattle per hectare. The effective utilization of pastures refers to the same ratio when both the different components of the beef herd, and the various types of pastures, are transformed into standard comparable units. This latter index is a more precise indicator of the net effective carrying capacity of project farms and of improvements in technical productivity. An estimate based on the land inventory data of the project sample suggests it has remained about 0.67-0.68 at best.

fear of agrarian reform on the agricultural investment climate. However, half of project ranches were acquired after the Agrarian Reform Law came into effect. Project sub-loan commitments and disbursements were largest at the height of the fear of agrarian reform in 1967 and 1968, and while project disbursements declined markedly after that, livestock credit disbursements from other sources with more favorable lending terms rose sharply from 1968 through 1970.

Finally, it is of interest to note that the average financial rate of return on cattle operations in developed countries where ranches are operated intensively according to modern ranch management practices, and where technical indices of productivity are highest, is approximately 3-5%. Yet, on the one hand, the rate of return on cattle operations in Colombia, where technical indices are much lower, is two to three times higher, and on the other hand, domestic meat prices have been somewhat higher than world prices. The reasons for this peculiar situation would repay study.

Atlantico Irrigation and Land Reclamation Project (Loan 502-CO)

The Bank's second loan for agriculture in the 1960s was for Stage I of this project. The purpose of Stage I was the settlement of 2,500 landless peasants (parceleros) and the agricultural development of 9,900 hectares of land in the Department of Atlantico. Stage I included 6,000 hectares under dry farming, at a cost of US$1.8 million equivalent, and 3,900 hectares under irrigation, at a cost of US$10.9 million. Total project cost, including training and consultants, was estimated to be US$15.7 million equivalent,[1/] and the Bank loan made in June 1967 was for US$9.0 million. Disbursements have amounted to US$3.1 million,[2/] as of July 1971, as compared to a projected disbursement of US$8.6 million for the same period. Project works were expected to be completed in 1971 but are more than two years behind schedule. Stage II of the project, which is under consideration now, would extend the dry farming part to another 11,000 hectares, at a total cost of US$9.3 million.

1/ The revised total project cost estimate is US$17.9 million.
2/ US$3.7 million as of December 31, 1971.

The project is located in a hydrological closed basin with high ground water. Since many changes are still being made in the design and layout of the irrigated lands, to cope with drainage and salinity problems, this part of the project was not emphasized in the evaluation. Present indications suggest that the production of high-value crops in this irrigated part may require additional costly sub-surface drainage, and that their marketing may face some difficulties. INCORA had proposed to the Bank, at the feasibility stage, a project of 35,000 hectares under irrigation. The Bank made a valuable contribution by proposing reduction of this scheme, and especially of the irrigated portion of it.

Drainage and flood control works for the dry farming part of the project have been even more seriously delayed than irrigation works, but dry farming has been underway on a considerable scale in various parts of the overall project area. Of the 17,000 hectares proposed for dry farming development under both stages of the project, approximately 12,400 hectares are not presently subject to floods. Of these, private farmers cultivate approximately 3,000 hectares by single cropping, and INCORA cultivates another 3,000 hectares, mostly by double cropping. Another 2,000 hectares are used by INCORA and 9,000 hectares by private farmers for grazing; about half the lands used for grazing are subject to floods.

The evaluation focusses on a large group of parceleros who were the first ones to settle new lands in the project area, and who accumulated the most experience with cultivation in this area under the close supervision of INCORA and its consultants. The areas they cultivate lie west of Manati and are characterized by better soils and adequate flood protection. Parceleros in the area increased from some 230 in 1968 to about 340 in 1970 and have accounted for well over half of all INCORA farmers in the whole project area. 1/ Strong centralized project management controls cropping patterns and farm practices and supplies field supervision, machinery services, technical assistance, agricultural credit, and marketing services. Crop performance data for this area have been carefully analyzed for comparison with appraisal report expectations.

Although the Bank expected that most of the project area (for both irrigated and non-irrigated farming) would be acquired by INCORA

1/ Excluding Repelon, a somewhat separate section to the northwest of the main project area and developed independently by INCORA, with irrigation.

and distributed to the landless farmers, it now seems unlikely that the project will be able to settle effectively more than half their projected numbers because of various legal and technical factors. The provisions of the Agrarian Reform Law (mainly the right of original landowners to retain 50 hectares, or a third of their original holdings up to a maximum of 100 hectares, whichever is larger), combined with the existing pattern of land tenure, would not allow INCORA to acquire more than 50% of the gross area of the project. The number of landless peasants that could be settled will be limited further by an increase in the minimum size family unit, a change which was required due to a more realistic reappraisal of the production potential of the project lands. In the dry farming part of the project, the minimum size family unit was increased from 5 to 8 hectares.1/ Another upward revision in the minimum size family unit may be required in the dry farming part, where most project beneficiaries are located, in order to reach net family incomes projected at appraisal unless a more profitable cropping pattern can be effectively developed and implemented (see below). Finally, the net redistributable area suitable for cultivation is likely to be smaller than the gross land area which can be acquired, because, out of a gross project area of about 30,300 hectares, under both stages of the project, it was estimated at appraisal that only 17,000 hectares could be farmed. Since the original landowners can retain approximately 50% of the overall area, they actually choose to retain the better part of their lands, generally leaving to INCORA's parceleros lands less suitable for farming.

This implies that roughly half of project costs and benefits will be granted to a few original middle-size landowners. Since the availability of land for redistribution to landless peasants is an essential objective of the project, it would seem that the Bank should either have required that the process of land acquisition precede project implementation, or have assured itself to a greater extent than it did that land acquisition and redistribution to approximately the projected number of farmers would be possible.

1/ In the irrigated part of the project, the minimum size family unit was increased from 3 to 5 hectares. The total number of landless peasants to be settled there will be reduced further by the probable deletion of a block of approximately 1,000 hectares, equivalent to 25% of the total irrigated area, as unsuitable for economic cultivation.

Crop performance in the dry farming part of the project area has been very disappointing to date. Data for the whole project area were available for the first time in 1970, but data have been collected from farm records for 1968-1970, for the sample area; as expected, and as illustrated in the following table, the latter show considerably better results than the overall average, although still poor.

Table 7.2

Atlantico Project - Dry Farming [a]

	Sample			Total Project
	1968	1969	1970	1970
No. of Farmers	230	292	342	500-600
Sorghum				
Area (hectares)	909	1681	2488	3171
Yield (kg./ha.)	3492	1911	1144	1102
Price (US$/kg.)	0.055	0.052	0.058	0.060
GVP [b] (US$/ha.)	192.9	99.9	66.5	66.5
Costs [c] (US$/ha.)	-99.0	-77.6	-69.5	-78.4
Cash returns [d] (US$/ha.)	93.9	22.3	-3.0	-11.9
Cost Effectiveness [e] (US$/kg.)	0.59	0.93	1.17	1.40
Sesame				
Area (hectares)	1081	1498	609	1894
Yield (kg./ha.)	368 [f]	200 [f]	294	167
Price (US$/kg.)	0.162	0.231	0.261	0.263
GVP [b] (US$/ha.)	59.5	46.2	76.7	43.8
Costs [c] (US$/ha.)	-46.6	-36.1	-52.1	-57.4
Cash returns [d] (US$/ha.)	12.9	10.1	24.6	-13.6
Cost Effectiveness [e] (US$/kg.)	4.1	5.5	5.1	7.72

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a/ Prices in this table are given in US dollars, obtained by converting Peso prices for each year into constant 1968 Pesos and then applying an exchange rate of Ps. 16.38 = US$1.00.

b/ Gross Value of Production.

c/ Production Costs excluding all labor.

d/ Cash returns include all labor remuneration, before taxes and project charges.

e/ Efficiency index measured in terms of total production costs (including labor) per kilogram of output.

f/ In 1968 and 1969 some of the sesame was sold outside official (cooperative) channels and therefore is not reflected in these figures; this phenomenon had been brought under control by 1970. It is of course very unclear how much may have been so sold, but INCORA officials have indicated that it may have been as much as 30% of the crop. Adjusted yields would then be 526 and 286 kgs., and cash returns per hectare US$38.6 and US$30.0, respectively for 1968 and 1969.

Source: Annex Table 7.3.

Weather has varied over the years, being exceptionally good in 1968, rather dry in 1969, and very wet in 1970, but these weather variations seem insufficient to explain, particularly for the selected area, the strong contrast between actual performance and what the appraisal reports expected from the first year of development after completion of works in the areas to be flood-protected. The 1967 appraisal report projected a US$55 net family income per hectare of sorghum in the first year of development, rising to US$90 at full development, and assumed a cropping pattern of 5 hectares of sorghum double-cropped per farm, sufficient to yield a family income of US$900 at full development. These numbers would correspond to cash returns[1/] per hectare of some US$65 and US$110 at first year and full development, respectively. Actual performance appears steadily to have deteriorated as shown in the table.[2/] It remains far from the 2,400 kgs./ha. yield and US$49 per hectare cash returns that were projected for the first year of development under Stage II.

The 1967 appraisal report did not envisage other crops under dry farming, but sesame has in fact been developed on a large scale, although even in the selected area, as shown in the table, its performance has been very poor compared with the Stage II projections of 560 kgs./ha. yield and US$82 per hectare cash returns in the first year of development (700 kgs./ha. and US$114 per hectare at full development), although it was much closer in 1971.[3/] Comparatively very minor amounts of other crops have also been grown. Cotton is the most important with about 100 hectares in 1970, when a loss was made, and 200 hectares in 1971 when it was profitable. Soybeans were successfully grown in 1971, but losses were again made on peanuts. Very small acreages have been devoted to tomatoes, and it is not really clear how successful this has been since farmers have been paid above market prices.[4/]

1/ Net family income is equivalent to cash returns minus taxes and project charges.

2/ Figures for 1971 are available only for the whole project area: sorghum yields were then 1,552 kgs./ha. and cash returns were negative, at -US$12 per hectare.

3/ For 1971, for the whole project area, sesame yields were 539 kgs. per hectare and cash returns were US$64 per hectare.

4/ The indications available to date suggest that it would be very difficult to implement the double cropping of higher value crops because of the climatic and soil conditions prevailing in the project area. Project consultants had suggested that, due to the uncertainty in the pattern of rainfall, a more profitable cropping pattern could not be supported without supplementary irrigation, a more expensive alternative, which may also adversely affect the groundwater table.

This very inadequate crop performance has resulted in family cash returns only a fraction of those projected (US$290 equivalent[1/] on average 1968-1970 in the selected area[2/]) and a gradual deterioration of the financial situation of project farmers, marked by increasing debts. Present indications for the long-term improvement of the farmers' status are not very reassuring, not only due to the poor crop performance but also for other reasons. First, the relative availability of credit in the future is likely to decline substantially with increases in the area brought under cultivation, decreases over time in the natural fertility of the soil, and increases in losses which may be associated with a more intensive and vulnerable cropping pattern, if implemented, unless special arrangements are made by INCORA to provide the farmers with their total working capital requirements coupled with an effective crop insurance scheme. Second, labor wages have been rising at half the rate of other prices, and labor incomes per hectare, in real terms, have declined by 46% between 1968 and 1970.[3/] Furthermore, although project farmers have been accumulating large debts over the years, they were at least assured, as long as they were with the project, of their labor income; however, INCORA is apparently considering discontinuing payment of the parceleros for their family labor. This combination of factors, coupled with ineffective titling, will probably result in a large attrition rate among project parceleros, unless steady and substantive corrective action is taken to ensure adequate project development.

Primary emphasis was for long placed on the irrigated part of the project, although it was expected to accommodate only about half the

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1/ This figure allows for the 30% of the sesame crop estimated to have been sold outside the cooperative in 1968-1969 (see footnote to Table 7.2). It is also assumed that all labor is family labor, although a significant proportion in fact appears to be hired so that the wages would not accrue to farmers. Of course no allowance is made for subsistence crops, and the small gardens devoted to these would put incomes in cash and kind somewhat above cash returns.

2/ For the project as a whole, and including all crops, cash returns per family were negative at -US$94 in 1970, but were positive at US$210 in 1971.

3/ Between 1970 and 1971, total labor income (family and hired labor) declined again by another 50%. Labor income declined from US$74 equivalent per hectare in 1968 to US$40 per hectare in 1970.

project beneficiaries. It would seem that more attention should have been given to the implementation of flood control and drainage in the dry-farming part and to the amount of supplementary irrigation, or the type of special agro-techniques, which would be required to achieve family income objectives. Insufficient attention was given to monitoring the progress and total crop performance of project farmers. There are also some doubts about the efficiency with which the centralized management has determined and applied input mixes and the precision with which production costs have been attributed to the accounts of individual project farmers. A system of crop insurance should have been integrated into the project, until the risks involved in cultivation of project lands could be more reasonably ascertained.

Finally, from a purely production point of view, it is generally agreed that the potential return from flood control, drainage, and irrigation is much higher in other parts of Colombia, such as the Cauca Valley. So far as the agrarian reform objective of the project is concerned, the small number of parceleros it could eventually reach, and the high costs involved, have limited its effectiveness. Current estimates of project costs amount to US$725 equivalent per hectare in dry farming, and to US$4,700 per hectare in the irrigated part of the project.[1/] These figures correspond to US$5,800 per farmer settled in dry farming and US$23,500 under irrigation, without making the allowance which INCORA normally does for the fact that these costs are approximately doubled due to the fact that half the area developed remains with former owners. The limited number of farmers settled and the high cost of investments required for each farmer in the fully irrigated part of the project should have ruled out irrigation; in retrospect it seems that even the 3,900 hectares accepted by the Bank should not have been included in the 1967 project until better indications had been obtained of economic feasibility. With hindsight, it appears that the Bank financing for this project should have been confined to the provision of flood control, some drainage, and a minimum of supplementary irrigation, and should have followed rather than anticipated an effective program of land acquisition and distribution to the landless peasants.

1/ These revised cost estimates account for the probable elimination from the project of 900 hectares in the irrigated part, and for the additional expenditures required under the proposed second stage in the dry farming part. The original cost estimates are US$550 per hectare for dry farming, and US$3,200 per hectare for irrigated lands.

Agriculture Credit for Middle-size Farms (Loan 624-CO)

The purpose of this project was to increase the productivity of major crops for export and import substitution (cotton, rice, maize, beans and soya) by providing institutional credit to farmers who were believed to have had access only to limited credit from private sources and to be farming relatively inefficiently as a result. It was thought that middle-size farmers (10-50 hectares) in the project areas (portions of the Departments of Tolima and Valle) could not obtain their credit requirements from either the commercial banks or money lenders, and that, being in INCORA areas, they could not get credit from the Caja Agraria; and even if they could, total funds available were insufficient to meet the need for credit.

The project was designed to provide incremental seasonal credit for fertilizers, pesticides, and mechanized farming services (52% of sub-loan disbursements), medium-term credit for agricultural machinery (30%), and long-term credit for on-farm improvements (18%). Total estimated project costs were about US$42.5 million equivalent; the foreign exchange component was estimated at US$12.4 million; and the Bank loan, signed in June 1969, was for US$17.0 million. INCORA was to be responsible for executing the project. Bank disbursements amounted to US$0.44 million by the end of 1970, compared to a planned disbursement of US$5.5 million by that date.1/ This slow rate of disbursements is apparently largely due to the preference of project farmers for more readily available and continuous sources of credit than INCORA. Project sub-loan disbursements, as of March 31, 1971, amounted to US$1.16 million equivalent, and the prevailing pattern of disbursements has been substantially different from the one projected at appraisal: medium-term credit accounts for 74.6%, short-term credit for 22.5%, and long-term credit for 2.9%.

Since it was obviously too early to evaluate full results of the credit provided under the project, the approach to evaluation was to analyze the technical, financial and economic situation of project farmers in 1970, to see why disbursements had been difficult and the pattern of lending so different from that anticipated, and what prospects the project held. Main focus was on a randomly selected sample (40%) of project farmers in Tolima, the principal region where disbursements

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1/ Actual disbursements under the loan reached US$1.9 million by the end of 1971, but US$0.7 million of this was for a feasibility study of an irrigation project.

had been made.[1] The findings suggest that, at least in this area, the availability of credit (coming from many sources) has been adequate, and moreover that the use of additional credit is not associated with increased efficiency.

The project sample indicates that in 1970 project farmers had, on the average, a total capital of US$1,080 equivalent per hectare and a much lower equity capital of US$660, and that they were benefitting to a great extent from an already favorable credit situation giving them on the average US$420 per hectare, largely from institutional sources, including the Caja Agraria. Substantial increases in production and productivity have been achieved over the last years by the general introduction of new varieties of seeds and insecticides; for instance, yields on new strains of rice introduced in the last three years are about 75% above those on the principal variety previously used. This development has not been related to the credit project.

Extensive analysis of the project sample, using various statistical techniques, revealed no significant correlation between the use of additional short-term credit and increases in physical or economic yields. Under the project there was apparently no demand for short-term financing for the additional use of fertilizer and pesticides, so the Bank allowed INCORA to use the project funds to finance other costs such as those of land preparation, planting and weeding, labor costs, non-mechanized harvesting, packs, and interest on project financing. This may merely amount to reducing the costs of production of project farmers through a reduction of the interest rate they could have otherwise obtained and afforded. On the average, the project finances the farmers US$53 equivalent per hectare in short-term credit. Over the last few years, suppliers credit has been available at 16% to 18%, but even if the highest marginal rate of 24% assumed in the appraisal report is adopted, then the saving which accrues to the project farmers from taking project financing at 14% amounts to about US$5 per hectare, which is not very significant in relation to their income. Project farmers, on the average, have an annual output of US$675 equivalent per hectare, a gross margin of US$292 per hectare, a total annual net farm income of US$10,440, and an annual net cash inflow of US$9,400, putting them in the upper five percent income bracket of the Colombian population. Moreover this is only a minimum income directly related to the size of the area which is accounted for in this study; it does not account for any income they may receive from other farms in their possession or from other sectors. Thus it seems doubtful that the inclusion of additional short-term credit in the project was as necessary as originally envisaged by the Bank, and the absence of any very effective link between

1/ Loans to farmers (excluding contractors) through March 31, 1971 were largely confined to Valle (about 85) and Tolima V (about 115). The sample covers 46 or about 40% of the farmers in Tolima V area. Some loans have since been made in an area known as Tolima II-IV.

the short-term, medium-term, and long-term components of project financing casts some doubt on the desirability of Bank financing in this situation. Our conclusions in this respect bear out the reservations expressed in the Bank, when the loan was under consideration, regarding both the wisdom of financing short-term credit and the size of farmers included in the project.

For medium-term credit, the analysis also indicates no significant correlation between additional medium-term financing and increases in efficiency. However, the level of aggregation at which the marginal productivity of machinery was analyzed does not provide a sufficient basis to evaluate the real costs and benefits of increased mechanization. There are indications that renting out machinery is very profitable, not because of the impact of mechanization on efficiency, but because middle-size farmers prefer to decrease their dependence on labor. As disbursed through early 1971, the project was essentially a mechanization loan. Since the administrative costs of the project have amounted to a third of the value of sub-loan disbursements, it might have been more appropriate to disburse this type of credit directly through the commercial banks.

For long-term credit, the analysis indicates that the opportunities faced by project farmers do not make long-term improvement a particularly worthwhile proposition. In Tolima, their average return on working capital (including machinery, cattle, and inventories) is 52% while their average return on total capital is 25%. Consequently, project farmers and entrepreneurs have a strong financial incentive to rent land. The incentive to purchase additional land comes next, and it is also attractive for prestige considerations. Long-run intensification of land development is a relatively low financial priority and, in Tolima, it may be also questionable on technical grounds; there are constraints on the capacity of the total irrigation system, and additional improvements are required in the primary network before it is possible for the individual farmers to make on-farm investments to intensify production.

The preceding analysis suggests that the provision of additional credit to middle-size farmers in Tolima was probably not as essential as originally believed, but conditions may well not be the same in INCORA irrigation districts other than Valle and Tolima. There may be many opportunities for productive investments in other irrigation districts, but the regional feasibility studies demonstrating the efficiency with which credit can be used for this purpose are lacking. The Bank has always expressed a willingness to extend credit to these other

areas if INCORA produced the required feasibility studies. However, this is quite a complex undertaking which seems beyond the present capabilities of INCORA. Had the Bank commissioned the technical consultants of the project (SCET) to make such a study, it could have contributed to the staff training program, which these consultants were providing very effectively and it could have been completed within a year, thereby providing a sound basis for channeling the credit needed for long-term productive investments in these irrigation districts, while making a necessary and valuable contribution to their management. A complementary and important alternative which the Bank might consider to increase the production of export and import substitute crops, and to improve agricultural productivity and rural incomes while making a lasting contribution to institution building, would be to channel more funds to small holders who presently suffer from serious shortages of working capital.

Conclusions

Through its general economic and special sector missions as well as its project involvement the Bank has achieved, over the last two decades, much knowledge of the agricultural sector, and of the priorities for its further development. However, it appears that neither the policies nor the projects of the Bank have been oriented to initiate a process which would gradually and effectively overcome the critical problems of the sector -- limited performance in generating foreign exchange for development and rural poverty.

The most significant shortcoming of the Bank policy in the agricultural field is to be found, not in the projects it could have financed and did not, nor in the limitations of the projects which it did finance, but in the very reticent attitude which it generally adopted towards land reform. This attitude may partially explain the lack of any significant progress in this field, perhaps by having created what could be considered a self-reinforcing situation whereby some Colombian policy makers have argued that land reform is not an advisable course as evidenced by the lack of interest expressed in it by the Bank, and some Bank staff have argued that this issue is not worth raising because it would not receive any effective political support. This is not to imply that the Bank has either willingly or actively obstructed land reform, but its clearly skeptical outlook, in principle, on this issue appears to some extent to have been used by powerful domestic interest groups opposed to land redistribution. It seems to us, however, that an effective program of land reform is a fundamental prerequisite to

a more efficient utilization of resources in the agricultural sector, and that it is inseparably linked to significant improvements in economic growth, employment and welfare.

If land redistribution is a necessary condition for development in Colombia, this is not to say that it is the only policy instrument to this end. Additional significant benefits would be reaped from related investments in rural infrastructure, education, and public health, to the extent to which these could be accommodated by the available financial and administrative resources. But the suggestion that the pace of land redistribution in Colombia is constrained by the availability of extension workers, soil scientists and crop experts is not a convincing one. And the conception of agrarian reform primarily in terms of land reclamation and colonization projects is not consistent with a realistic policy aiming to cope with the problem of rural poverty.

Yet agrarian reform is not simply a matter of facts and figures, and not all would agree with the weight we attach to the problem of rural poverty and the urgency of reducing it. At the heart of any debate on agrarian reform policy there are two different sets of values. One attitude adopts the view that the developmental process, imaginatively applied, can allow the large numbers of poor peasants to achieve a minimum adequate standard of living in a relatively short period of time, and can effectively program the transition process without hurting the traditional fabric of society. The other attitude subscribes to the view that the revolution of rising expectations has no end, that improvements in the standard of living of poor people will come about slowly, automatically, and over a very long period of time, and that, in the meantime, the pace of land reform should be rationed to accommodate de facto peasant occupations of rural properties.

What then should have been the position of the Bank with respect to agrarian reform? We certainly do not wish to imply that the Bank should have attempted to pressure the Government into a more effective program for changing the land tenure pattern. On grounds of both sovereignty and effectiveness the development of such important social processes must be an internal phenomenon. But we think that the Bank should have substantiated much more fully, both to itself and to Colombia, the basis for its apparent misgivings as to the necessity and effectiveness of a land redistribution policy. Although the Bank has noted for the last twenty years that there has been a substantial underutilization of the resources in the agricultural sector, and has attributed this underutilization to the structure of land tenure, the Bank has been willing to recommend only fiscal, exchange, credit and

price policies for mobilization of resources and effort, despite the limited effectiveness of these measures. Then, through a rather delayed approach to INCORA, the Bank's contribution to rural development took shape in the form of three projects for irrigation, colonization, and credit to relatively large farmers. As regards the two crucial components of land reform, namely, land redistribution and credit to smallholders, the Bank lent its moral support to the latter, but not apparently to the former. Slow disbursements on the livestock and credit projects were perhaps too hastily blamed on the disruptive influence of the fear of land reform. It is doubtful how far the Bank's apparent misgivings about the necessity and prospects of a well designed land reform are really warranted by experience elsewhere in the world. These misgivings are not shared by the United Nations agencies or by U.S. AID. And it appears that land redistribution is one of the major policy instruments most likely to accomplish the developmental objectives of Colombia.

Recommendations

1. The Bank should make some estimates of the feasible mix of policies -- including land redistribution, more working capital to small farmers, and better supporting services -- which could cope with rural poverty within a generation. If it is determined that the implementation of a land reform is one of the major policies required, then the Bank should clearly show that it favors such a policy, and it should demonstrate that it could effectively contribute in its implementation. If, on the other hand, it is determined that land redistribution is not critical, then a set of alternative solutions to the problem of rural poverty and underutilization of resources should be explicitly formulated.

2. Assuming that the effective implementation of a land reform program would significantly improve Colombian development, the Bank should concentrate its contribution to the agricultural sector, prior to the effective implementation of this policy, on the financing of small farmers cultivating high value crops for export. Colombia has a significant potential for exporting vegetables, fruits, and flowers. These also happen to be the most labor intensive and profitable crops, and ones for which seasonal fluctuations in employment are at a minimum.1/ An agency such as the Caja Agraria or INCORA should be assisted to develop such projects and to become an effective intermediary servicing the small farmers and managing the marketing and agricultural processing network required to sustain the production of such high value crops.

1/ It is of interest to note that the largest part of the commodity groups included in Bank projects (beef, cotton, rice, soybeans, sorghum, sesame, etc.) have relatively low employment generating coefficients.

3. More emphasis could usefully be placed, in the course of project appraisal, on the comparative efficiency of the various policy instruments such as financing, technical assistance, and changes in public policy. The consistency of the opportunities and incentives available to the individual entrepreneur with the objectives of the project could be more explicitly ascertained. Finally, the relationships between increases in production and income on one hand, and increases in technical productivity and economic efficiency on the other hand, could be more rigorously analyzed.

4. The supervision of projects should be extended from a general report on disbursements and the progress of civil works to a more analytical evaluation of performance targets, including institutional, training, and technical assistance objectives. Project monitoring should encourage supervision missions to propose improvements in the design and implementation of the program in the light of better knowledge acquired regarding its technical, financial and behavioral parameters.

5. In Colombia, although the availability and quality of production data at the farm level is satisfactory, the corresponding aggregate data for the sector as a whole could be considerably improved. Since the formulation of useful sectoral policies and the effectiveness of their implementation critically depend on a basic understanding of how the sector operates, the Bank could make a valuable contribution in financing the technical assistance needed to design a system for the collection of a comprehensive and reliable set of agricultural statistics.

CHAPTER VIII - SOCIAL INFRASTRUCTURE PROJECTS

As pointed out in Capter II, the Bank has recently become actively involved in several fields which were in the 1950s considered outside the scope of Bank lending because of uncertainty about their contribution to economic growth. Considerable difficulties have been faced in developing appropriate projects, mainly because of the weakness of the responsible institutions in Colombia. Although efforts were started in some fields in the early 1960s and in others in the middle of the decade, there are only two projects -- one in education and one in water supply -- that are now at a fairly advanced stage of execution. This chapter briefly reviews Bank action in the three main social fields in which it has been involved -- education, water supply and public health -- with particular emphasis on the two relatively advanced projects.

Education

In several of its reports on Colombia in the 1950s the Bank commented on the need for educational expansion, especially in the rural areas and in vocational fields. In 1962, when the possibility of making loans for educational facilities was being considered, an education specialist was included in the mission sent to review Colombia's Development Plan. The Bank then participated in sponsoring the so-called UNESCO/AID/IBRD Joint Planning Mission which began work in the country early in 1964. Long delays occurred, partly due to the shortage of qualified personnel in the Colombian Ministry of Education and to budget stringencies, but eventually a secondary education project was developed, following the priorities established by the Joint Planning Mission and, providing for the construction of a new type of large comprehensive school in the major cities of the country. The Bank made a loan of US$7.6 million in July 1968 for construction of ten such schools, and a second loan of US$6.5 million in June 1970 for a further nine.

The new schools, called INEMs (Institutos Nacionales de Educacion Media), were to provide six years of education -- a four-year basic cycle plus a two-year specialized cycle -- with much greater variety of choice in subjects than available at existing schools and with special emphasis on technical subjects. Along with greater choice of curricula, new teaching techniques (use of equipment, counselling services, small group projects, etc.) were to be introduced for the dual prupose of improving the quality of education and decreasing the drop-out and repeater problem

from which the Colombian school system has suffered. The schools were to prepare graduates for further specialized vocational training, early employment with on-the-job training or regular university entrance; they were to help fill projected gaps in the availability of trained manpower in Colombia, especially in agricultural, industrial and commercial fields. The ten schools financed under the first project were expected to add 48,000 to total secondary enrolment by 1972, equivalent to nearly 20% of total 1968 enrolment in public secondary schools.

Construction of the ten schools proceeded fairly close to schedule and was largely completed in the first half of 1971. Eight of the schools opened in 1970 and all ten were operating by April 1971. The project is expected to be completed within original cost estimates. Enrolments reached 13,500 in 1970 and 18,600 (compared to 22,200 forecast) in 1971. Applicants have been much above spaces available, with most applicants coming from lower-middle and lower income strata, groups which previously had little access to secondary education. As in other public secondary schools, tuition is nominal and prorated; if the family of a student cannot afford even a small fee, the student can be exempt. Enrolment by specialty has been similar to that originally planned for, in line with projected manpower needs, with slightly more emphasis in the industrial and social service areas and less in the academic area which is more amply covered by existing schools.

The principal problems to date have been delays in the procurement and installation of equipment and in education (as opposed to physical) aspects of the project, for which substantial technical assistance has been provided by US AID. The Bank has usefully helped to overcome the equipment delays, which especially hampered the progress of the vocational programs. Serious delays have also occurred in preparation of texts to fit the new curricula. Training of counselors and administrators for project schools, with US AID assistance, has proceeded well. Teachers have been recruited in adequate number, but given insufficient training, mainly due to budget stringencies; only a third of the teachers actually assigned to the INEMs in 1971 had participated in the main training programs. The principal concepts of the project and the numerous innovations involved have strong support from the schools' administrators, teachers and students, as shown by the first INEM self-evaluation (completed in May 1971), but their broader influence on the rest of the educational system has so far been more limited than expected, for various

reasons mainly connected with inadequate inter-agency coordination, a certain isolation of the project under ICCE, 1/ delays in making planned "satellite" arrangements with existing schools, and personnel changes in 1970. These difficulties are apparently being gradually overcome. Further INEMs are not planned, but full integration into the national educational system of the ten now existing and the nine under construction should gradually be achieved.

There seems no question but that expansion of the secondary education system in Colombia and diversification of it -- to give students more choice of curricula -- were objectives of high priority at the time the Bank's loans were committed, and remain so. Shortly after the decision had been made to undertake the project, a study by T.P. Schultz 2/ showed that the rates of return to investment in education, with benefits defined on the basis of existing wage-differentials, were greatest for secondary and vocational education. A more sophisticated analysis by C.R.S. Dougherty 3/ in 1969, allowing for changing relative wage levels over time, suggested that social rates of return to primary as well as secondary education are about 20% and likely to remain near that level for twenty years. Both studies indicated much lower returns to investment in higher education, in which the Bank turned down several projects in the early 1960s; the high returns to primary education and the extreme deficiencies in this field in the rural areas suggest that there may have been (and still be) an important potential for Bank assistance here. A worrying feature of the INEM projects is that the schools' operating costs per student, which were projected to be substantially lower than those of existing schools -- mainly due to scale economies, despite the higher quality of education provided -- now look as though, even at project completion, they may be above those for other schools. However, it is too early to tell with much precision how operating costs will turn out with

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1/ Instituto Colombiano de Construcciones Escolares, the decentralized agency responsible for project implementation.

2/ T.P. Schultz, "Returns to Education -- Bogota, Colombia" Rand Memo 5645-RC/AID, September 1968.

3/ C.R.S. Dougherty, "Optimal Allocation of Investment in Education," Harvard University, March 1969.

full enrolments and it seems likely that the cost differential will be more than compensated by the better quality of education offered.

Water Supply

Municipal water supply and sewerage is a field in which major deficiencies have been identified by Bank economic reports from the start and for which the Colombian authorities have persistently sought Bank assistance. Weak financial structure throughout the sector and poor organization of the responsible national entity (INSFOPAL - Instituto de Fomento Municipal) have remained the two principal problems, first identified by the 1949 General Survey Mission; the Mission suggested solutions, but these were not pursued. In 1952-1953 the Bank turned down repeated requests for assistance, technical and financial, for a water supply project in Barranquilla. However in 1956, at the request of President Rojas, the Bank made a special survey of the sector, pointing to the same problems as identified by the 1949 Mission and recommending a phased plan of investment. In 1962, when the Bank had begun a change of policy toward considering direct involvement in the water supply sector generally, the Mission to review the Development Plan investigated the sector, found INSFOPAL a little stronger and underlined the negative consequences for health and economic development of the poor situation regarding water supply. The Bank took no measures at that time toward preparation of projects, but the IDB made four small loans to municipal companies and two in quick succession to INSFOPAL; difficulties ensued with the latter due to the decline in the INSFOPAL organization that followed the change of Government in 1962. The Bank took up the sector seriously, with a view to lending, in 1966. A loan of US$14.0 million was made in 1968 to the Bogota Water Company (EAAB - Empresa de Acueducto y Alcantarillado de Bogota) and a second one, of US$18.5 million to the Cali Municipal Services Company, EMCali, in 1970. Further loans were made in 1971, to Bogota (US$88 million) and Palmira (US$2 million).

Physical, financial and organizational deficiencies are in many ways most serious in the medium and small towns of the country. The Bank gave considerable thought in the second half of the 1960s to an appropriate strategy towards the sector. It felt it could do little directly about the smallest towns, where there was little prospect of reaching financial viability, a cardinal principle of Bank lending. Small and medium towns

were mainly the responsibility of INSFOPAL which was considered too weak and poorly organized to play a direct part in the lending operation. Hence assistance was directed first to the largest and fastest growing cities, where improvements in supply might affect the largest number of people and where the financial problems were more tractable, and second to several medium-size cities, which were still sufficiently large to warrant a direct loan from the Bank. At the same time modest, but increasing, efforts were made to strengthen INSFOPAL and to develop an office within it which might develop projects in the smaller cities to the preparation standards required by the Bank and subsequently serve as a channel for financing from the Bank. Considerable efforts have also been made, as noted in Chapter II, to improve the whole system governing utility tariffs; this could be very important for the smaller towns, where the extreme deficiencies of the water systems results above all from financial weakness that is in turn due to tariffs being only a fraction of costs to supply.

Even in the cities where the Bank has considered loans for water supply and sewerage facilities financial issues have presented serious problems. Ostensibly the Bogota Company had been earning a return of about 10% on net assets but, for instance for 1967, this turned out to be 3% when allowance was made for revaluation of assets in light of inflation; cash flow had been insufficient to undertake major expansion works. An 80% average tariff increase was made a condition of the first loan, and this, along with other subsequent tariff increases, has been sufficient to yield revenues well above those originally envisaged and to maintain rate of return on revalued assets and self-financing of investment above expected levels. But Bogota is relatively wealthy and the Water Company now relatively strong, and the problems have been much more difficult in the other cities. The Bank showed flexibility in accepting phased moves toward adequate tariff levels, for instance in Cali, and these moves seem to be underway. But a loan was never made for a sewerage and erosion control project in Bucaramanga, even though it had been appraised and negotiated, because the municipal authorities were not prepared to meet the Bank's minimum requirements for self-help financial measures.

The only water supply project which is at an advanced stage of execution is that financed under the 1968 loan to Bogota. The Bank's important contribution to the institutional development of the Bogota Company between 1966 and 1970, which is to some degree paralleled in the

case of the other companies to which loans have been made more recently, is covered in Chapter IX. The Bank also had a significant impact on the design and composition of the project financed in 1968; on first contact with the company in 1966, it called for major hydrological studies and planning efforts, in an urban and regional context, which led to substantial changes in the project initially proposed and eventually enabled further major economies, bringing down the unit cost of additions to bulk supply capacity from US$6 million per $m.^3$/sec., as envisaged at appraisal, to US$2.6 million. Construction of the major works has proceeded well, fairly close to schedule and without cost overruns of unreasonable proportion except in the case of locally hired consultants, a problem which the Bank has several times drawn to the attention of the Company. Execution of distribution works financed under the loan has been less good, although it has received considerable attention from the Bank staff, and as a result the city of Bogota is not enjoying the full benefits of the project works as early as was expected or as might have been achieved with better planning. Distribution has been and remains the major proximate constraint on meeting demand, and even though improvements here are partially depenent on bulk supply expansion, it would appear that the Bank might usefully have given even more emphasis to this aspect early on, possibly making a small emergency loan in this field while the major works were still under preparation. In view of the serious nature of the municipal water supply problem in Colombia, the weakness of INSFOPAL and the strength of the training program which EAAB has built up, it would also seem that the Bank might have contributed usefully by pursuing more actively expansion of the training program to cover staff of other companies and perhaps by financing related expansion of training facilities.

Public Health

Traditionally the Bank has considered public health and related matters to be outside its proper sphere of action, but in 1968 policy began to change toward consideration of active involvement in one aspect of public health -- family planning services -- and, in 1972, to another -- nutrition. Impressed by the negative implications of rapid population growth for improvement of living standards, Bank staff responsible for relations with Colombia took advantage of the 1968 policy change with alacrity. A brief review of population problems and family planning activities in Colombia was made for the Bank's 1968 economic report on the country. Meantime a dynamic group in the Ministry of Health had been preparing a Ten-Year National Health Plan and early in 1969 the Government

asked the Bank to help prepare a public health project which it might subsequently help to finance. A small technical mission was sent to identify a family planning project within the National Health Plan; it duly prepared a project to cover training and construction of training facilities and health centers required for expansion of family planning efforts, although also serving other public health functions. Negotiations broke down because the Government was not prepared to commit itself, in connection with such a project, to a predetermined course of action in family planning -- or even to see the words "family planning" included in the loan agreement -- and so the project never came to fruition. However, in 1970, the Bank sponsored, as part of its major economic report for that year, a path-breaking comprehensive review of the whole public health sector in Colombia by Dr. Dublin of the Pan American Health Organization (PAHO).

The Bank made its first loan for family planning (in Jamaica) only in June 1970 and considerable doubts have continued to be expressed about how far the Bank should move into the broader field of public health. Hence it is understandable that, in the 1969 discussions with Colombia, the Bank insisted on firm Government commitments for family planning in connection with any project it might finance. Nevertheless the case does suggest several considerations favoring a further broadening of policy toward more general involvement in the public health sector.

Perhaps the most important consideration is that there appears to be an important job of institutional development to be done in the public health sector in Colombia and a receptive atmosphere in which to do it. In inviting the Bank early in 1969, the Minister of Health said that he was interested in having the Bank involved in the National Health Plan in order to enable more to be achieved, to introduce the Bank's influence in institutional development and to give the program continuity. Preparation of the Plan itself had revealed some of the serious institutional weaknesses and inefficiencies besetting the sector, meaning that poor value is presently obtained for the fairly large share of GNP (about 4%, half private and half public) going to health. For instance, only about 10% of public expenditures on health have been going to preventative medicine, whereas expert advice suggests that this should be in the neighborhood of 25%; as a result, for instance, immunization coverage is presently very low. There are serious manpower shortages and imbalances: three-quarters of the country's 9,000-odd doctors are in the Departmental capitals, serving less than a

third of the population; there are five times as many doctors as there are trained nurses, and two-thirds of these nurses are in the three largest cities; auxiliary personnel are greatly underutilized. A special problem is the large number of partially constructed and unequipped health facilities which exist. An official inventory revealed about 850 such buildings, built as a result of political pressures or the uncoordinated efforts of local charity boards. One estimate places the investment already made in these structures in excess of US$100 million equivalent. Improvements in the allocation of resources devoted to health would seem likely to have high pay-off.

Other factors favoring a broader Bank policy in this field may be put more summarily: the considerable political difficulties confronting firm public commitments in favor of family planning in Colombia combined with the progress in action that is nevertheless being quietly made; the serious nature of many health problems in Colombia, sapping the efficiency and productivity of the labor force, combined with the evidence of correlation between lower birth rates and better general public health facilities; the failure of health projects in the Project List to draw significant bilateral financing, combined with the evidence that technology in this field may be sufficiently flexible that international finance could result in markedly better project design than bilateral finance; and the evidence that improved health facilities would assist particularly the poorest classes of the population, whose birth and death rates are now so very high.

Recommendations

1. The Bank should consider assisting in the development and construction of rural centers to serve multiple purposes: more and better rural primary education, adult education, public health and nutrition services, agricultural extension, mobilization for rural works and social organization.

2. The Bank should give more attention to accurate definition, in concept and in practice, of school operating costs and to the level of such costs for schools financed by it as compared with other schools.

3. The Bank might usefully consider training and assistance to training in broader context than the direct needs of the entity (e.g. utility

or Ministry) being financed, to help meet needs in the rest of the sector. EDI could play a bigger role at the senior level by providing courses in utility management in addition to its present courses in general planning and project preparation and analysis.

4. Water distribution should continue to enjoy the increasing stress that it has been given in consideration of water supply projects.

5. The Bank should consider further broadening of its work in public health in view of the contributions, especially on the institutional side, that it could develop the organizational and technical expertise to make.

CHAPTER IX - IBRD IMPACT ON COLOMBIAN INSTITUTIONS

Chapter I emphasized the traditional weakness of the Colombian state system. The Bank has given a good deal of active attention over the years to institutional developments in those areas where it has been involved. This chapter attempts to identify the impact that the Bank has had on Colombian public institutions[1/] and to deal with the question whether its efforts to affect institutional developments have been effective and generally desirable. These questions are some of the most difficult of all those we have attempted to cope with; equally they are crucial. This chapter must be taken as a first attempt to deal with them. Some of the difficulties are of quite practical nature: the vast amount of documentation, archives and correspondence, that have to be reviewed and the large number of conversations necessary even to get to the tentative answers we shall discuss. But the fundamental difficulty is, of course, to know what path institutional development would have followed in the absence of the Bank; this cannot be other than partly a matter of judgment. And then there is also the question of what criteria of desirability one adopts for judging institutional change. In this chapter, focussing on the institutions with which the Bank was directly concerned, we are mainly interested in the economic effectiveness and efficiency of an institution in fulfilling its assigned role and in the institution's own strength for growing, absorbing further innovations and affecting other institutions.

The extent and direction of the Bank's interest in institutional aspects of the projects it has financed has varied considerably, depending in part on the nature of the project but equally much on the particular staff members involved, for institutional problems are seldom easy to diagnose. Naturally the main immediate interest of the Bank has been to develop effective organizational mechanisms to implement and maintain projects financed; but the Bank's interest has sometimes gone much beyond this. Also the idea of how to make an organization effective has evolved much over the years, as will become apparent in this chapter.

At a broad level the Bank's contribution to institutional development can be categorized according to the nature of the Bank's involvement. First, there are those institutions which would probably never have

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1/ The private institutions with which the Bank has been principally involved -- the Financieras and the Paz del Rio Steel Company -- are largely left aside here; institutional aspects are covered in the respective chapters.

existed -- at least in the period under study -- were it not for the role the Bank played in their creation: CNR (Colombian National Railways) founded in 1954, ISA (Interconnection Company) founded in 1968, Utility Tariff Board founded in 1968, the original Planning Office founded in 1951, and, possibly, CVC (Cauca Valley Corporation) founded in 1955. Second, there are the Government Ministries where the Bank has been involved in reorganization, either heavily as with the Ministry of Public Works or slightly as with the Ministry of Education. Third, there are the smaller entities in which the Bank has been involved to greater or lesser extent in reconstitution or reorganization: mainly the power and water utilities. Fourth, there are the institutions which already existed and in which a special office has been established to handle a Bank Project: the two main agricultural institutions, Caja Agraria and INCORA.

Local Power Companies

The institutional effects of Bank lending on the four Electraguas subsidiaries to which it loaned in the 1950s and early 1960s appear to have been fairly limited. Most important was probably the requirement, in each case, that agreement be made with other companies in the region for rationalization of power generation/distribution arrangements before signature of the loans; full amalgamation of facilities was required in Manizales (1950) and Bucaramanga (1951), but not in Cali (1950) and Cartagena (1963) where the divided responsibilities continued to cause trouble in later years. Second, the Bank required some strengthening of the financial and engineering capabilities of the companies. Third, the covenants regarding financial performance, though much looser than those that would generally be required today, probably had the effect of making tariffs and revenues somewhat higher than they would otherwise have been, if still inadequate in terms of a rate of return on revalued assets; as mentioned in Chapter IV. Thus, while the Bank seems to have had some useful impact on these companies, the impact is not very great.

The Bogota and Medellin Power Companies, EEEB and EPM, were relatively large, successful and well-managed companies when the Bank came into contact with them. The Bank did suggest that the billing and technical operations of the companies could stand some improvement and modernization, and the companies accepted these suggestions. The Bank insisted on external auditors, establishment of Financial Departments (and Commercial Departments in the case of EEEB), recruitment of well-qualified

financial men and, for EPM, considerable strengthening of the technical staff. These recommendations were all agreed by the companies and implemented, though sometimes with delay. Basically, though, one can say that already successful institutions matured and improved, becoming less dependent on particular individuals as their qualified staff expanded.

The issue which caused much the most difficulty, however, in initiating relations between these companies and the Bank was their constitutional relationship with their respective municipal authorities. Unlike the other companies mentioned, these entities were owned by their municipalities. The Bank argued very strongly in the mid-1950s, when discussions first started, for their establishment as independent autonomous corporations with Boards on which the municipal councils would hold a minority of the seats; this was designed to insulate the companies from political interference. The Bank insisted that the companies be financially independent of other municipal utilities, so that their cash flows would not be diverted from power. Medellin met the Bank's requirements by making the power company financially independent of other utilities but it refused to have it as a totally separate organization; a 1955 reorganization established the unified Empresas Publicas de Medellin (EPM), with financial independence for each of the four component utilities. In Bogota, however, although there was considerable desire to follow the example of Medellin and form a unified utility company, the Power Company was finally established as a fully independent autonomous unit in 1959, in order to become eligible for Bank lending. The Board of this company was given a composition similar to that of EPM, with four out of seven seats assigned to local banks and business interests.

The two companies have each completed several Bank-assisted projects reasonably satisfactorily, although with delays, and they have shown stronger financial performance than other power companies in Colombia, although they fell short on performance under covenants with the Bank in the first half of the 1960s. However,the constitutional arrangements made have given rise to two difficulties. First, in Bogota, there has been insufficient coordination between the Power Company and the Water Company, also dependent on the same river and reservoirs. One of the Bank's major efforts when it became involved with the Bogota Water Company in the later 1960s was to restore coordination. Second, in both cities, the opposition party (ANAPO[1/]), representing mainly the lower and

1/ Alianza Nacional Popular.

lower-middle classes, has won an increasing number of seats on the Municipal Councils during the 1960s and now holds majorities on both; it is not happy to see the Boards of the municipally owned power companies dominated by outside business interests. There have been pressures for change, particularly in Medellin, where there are currently two Boards -- old and new -- and the issue is in the courts. It is doubtful how far the agreed Board composition has contributed to the companies' performance, but it may possibly have made needed tariff increases a little easier to secure than would otherwise have been the case (contrast Cali, for instance) and it may have helped prevent political staffing.

The Colombian National Railway (CNR)

Establishment of an autonomous corporation, run along commercial lines and responsible for the whole Colombian railway network, was a key objective of the Bank's 1952 loan for the Magdalena Valley Railroad.

The Colombian authorities delayed implementation, but the Bank pressed for action and later advised on the writing of the charter (though it wisely insisted on having observer status only on the drafting committee); the charter was finally promulgated in October 1954, and the Bank followed up by urging full implementation, but internal organizational matters were left entirely to Madigan-Hyland, the engineering consultants the Bank had suggested. After the Bank had repeatedly proposed that accounting consultants be obtained to get railway records and accounting onto a more satisfactory basis, Price, Waterhouse was hired in 1957 but discharged rather summarily in 1958, not to be replaced until 1960 by Bruce Payne & Co. The latter stayed through 1964 and did get the accounting system onto satisfactory commercial lines. Meantime, with the Atlantic line finished, the Bank urged the Government to grant the railroads fuller autonomy, particularly with respect to tariffs, or to provide larger subsidies. The CNR suffered from persistent shortages of cash, which delayed project execution and hampered its efficiency, preventing it from buying necessary spare parts and sometimes requiring that it purchase supplies retail rather than wholesale.

The Parsons Report of 1961 made suggestions for strengthening internal railway organization, but apparently little was done. Following negotiations with the Bank for the 1963 railway rehabilitation loan an Executive Committee of the Railway Board was established, to try to

expedite decision-making, and a Commercial Department was created, to make the railways more responsive to customer requirements and to develop new forms of traffic. The Executive Committee was shortly abandoned, and the Commercial Department appears to have had very limited success; the poor quality of service offered by the railways, with long delays, extreme unreliability and frequent thefts, have remained important in driving traffic to the highways, irrespective of relative costs to the user. Maintenance -- particularly of track -- has been a very serious problem; Coverdale and Colpitts were brought in in 1964 to help on this but they were shortly discharged and seem to have had little effect.

Efforts at institutional development were renewed in the second half of the 1960s, with large consultancy contracts with Sofrerail, which has provided several teams of experienced railwaymen numbering 30 in all. A new rationalized tariff structure was introduced in 1966 at their suggestion and it has had a positive effect on revenues. Railway staff has been reduced from a peak of some 15,000 in 1963, when the corporation had absorbed the Antioquia lines and workers becoming free from Atlantic line construction, to about 11,500 in 1970. Major training programs have been started, effectively for the first time. Sofrerail has developed a comprehensive track rehabilitation and maintenance program and reorganized the Technical Management; it has also worked out a plan of preventive maintenance for rolling stock. But its efforts have been hampered by lack of qualified Colombian personnel and by their diversion to more immediate problems, such as that of derailments, which have been increasing. One set of figures shows an average of four derailments a day for diesel locomotives alone in the second half of 1970.

Financially the performance of the railways showed some improvement between the first and second halves of the 1960s: they were able to cover interest charges in 1966 and 1969. But, as Table 9.1 shows, the financial operating ratio gives a more favorable picture than most other operating indicators, and probably an unduly favorable one, given the inflation and the undervaluation of non-imported railway assets in the balance sheet. From the institutional point of view operational and investment planning seems to have remained very weak. Financial services, which received much attention from the Bank, have improved greatly but it is not clear that financial and technical reports to management are adequate or that they are being put to good use in the running of the organization.

Table 9.1

Colombian National Railways: Indicators of Operational Efficiency 1956-1969

	1956	1958	1960	1961	1962	1963	1964	1965	1966	1967	1968	1969
I Traffic												
Ton-kms (millions)	572	653	766	768	918	891	952	891	1,114	996	1,124	1,158
Passenger-kms (mlns)	562	652	598	556	571	627	546	513	491	418	351	273
Average journey, passenger (kms)					70	73	74	79	85	88	95	103
Average haul, freight (kms)					255	241	289	291	336	314	347	380
Pass.-km per route-km (thousands)					182.5	183.7	159.9	149.3	142.9	128.5	102.2	79.5
Freight net ton km per route km (thousands)					278.9	275.6	262.4	259.1	324.3	291.8	327.7	337.3
II Trains												
Average operating speed (kms/hr)												
Freight trains	20.0	20.0	18.3	20.0	19.7	20.0	19.2	19.7	18.5	21.6	22.9	22.3
Passenger trains	20.0	20.0	18.3	20.0	19.7	20.0	19.2	19.7	18.5	21.2	23.0	22.1
Average number of cars per train												
Passenger trains	7	8	9	10	10	11	10	10	11	9	8	8
Freight trains	7	8	7	12	11	11	12	13	13	11	9	10
Net tons per train								145.6	179.1	142.5	144.4	155.0
III Locomotives												
Aggregate time in service as % of total time												
Steam			31.1	26.0	24.4	23.9	27.1	16.4	30.2	26.1	23.1	14.5 b/
Diesel			56.5	54.2	49.5	48.9	34.2	38.5	55.1	50.2	54.5	38.9 b/
Diesel railcars						28.7	21.9	23.7	19.3	18.9	20.9	19.4
Yearly kilometrage per locomotive (thousands)												
Steam	86.6	80.5	49.6	46.2	44.4	44.6	44.3	23.8	33.9	24.9	23.0	12.5
Diesel	19.2	38.7	97.2	93.8	84.8	89.5	55.7	67.2	72.5	85.6	96.8	66.1
Diesel railcars			65.5	83.9	100.0	106.5	77.4	83.9	71.3	62.2	68.7	66.7
IV Cars												
Yearly kilometrage of cars (thousands)												
Freight	16.4	17.0	14.6	12.9	17.7	17.3	17.4	16.7	17.6	18.3	21.8	19.9
Passenger	7.7	7.9	6.0	5.7	5.8	6.2	6.9	7.2	5.8	6.1	5.8	5.5
Average tons per loaded car					18.9	19.8	20.3	18.0	21.3	21.4	23.8	24.1
Proportion of loaded car-km of total car-kms					71.6	68.3	64.5	65.6	65.6	67.4	69.7	69.7
Car turn around time (days)					7.3	9.0	10.5	12.0	11.0	10.0	10.3	12.0
V General												
Number of Personnel (Thousands)	n.a.	n.a.	n.a.	n.a.	12.9	14.8	14.3	13.8	12.9	12.2	11.5	11.4
Operating Ratio (%) a/	n.a.	108	116	118	121	122	115	129	99	115	106	99

a/ i.e., ratio of operating expenses (including depreciation but before interest) to operating revenues.
b/ Efficiency indicators related to diesel locomotives show deterioration in 1969 due to the arrival of 57 new units, which are included in the calculations.

SOURCE: Elaboration of information provided by the Colombian National Railways.
Figures for 1956 and 1959 refer only to the Central and Pacific Divisions.
Figures for 1960 to 1962 do not include the Antioquia Division.

Despite the efforts devoted to assuring it CNR has in fact never really had full autonomy -- particularly, and perhaps most importantly, in respect of personnel. It has been squeezed between political appointees in many of the top positions (and possibly many of those lower) on the one hand, and a strong union among those in the lower position on the other. The salary structure is affected by Government ceilings which have limited the corporation's ability to recruit or retain the type of dynamic executives and experienced engineers who would have been able to make the enterprise something sufficiently efficient to meet out of its own earnings the pressures of the union, even in the difficult inflationary situation prevailing. The salary structure and personnel policies do not seem to have been conducive to training either.

Other New Institutions in the 1950s

Beyond CNR the Bank also had some influence in the 1950s on the foundation of various other institutions in Colombia, and typically, as with the railway at that time, the influence consisted mainly in pressing for establishment and sometimes advising on charter-writing. The Bank was instrumental in creation of the Planning Office in the Presidency of the Republic in 1951 and its recreation in 1954, but this arrangement never lasted for various reasons but particularly because the Colombians had difficulty in finding a suitable Colombian candidate to be Director and feared that a man in this position would anyway be too strong. The planning effort was revived in 1958 at a time when the Bank had only limited relations with the country, and the Bank does not seem to have had much influence on the growth and development of national planning institutions under the National Front. However it always provided support in principle, and the Bank staff have had close relations with the Planning Department staff in connection with preparation of economic reports, compilation of Consultative Group Project Lists, selection and appraisal of projects for Bank financing and negotiation of Memoranda of Understanding. The chief institutional influence of the Bank has been to improve work on public investment and fiscal planning, making it more comprehensive and precise.

The Bank probably exerted decisive influence in the foundation of the Cauca Valley Corporation in 1955. Special missions were undertaken in 1954 and 1955, but more important than these may have been the hopes that the Bank encouraged that it would provide financial assistance to

the Corporation; this helped to secure for the Corporation the services of the able man who came to be its Executive Director and it may have been significant in persuading President Rojas Pinilla finally to approve the scheme. As regards the Charter, the Bank's effort was mainly oriented to endowing the Corporation with a broad responsibility, including within its region the Departments of Cauca, (old) Caldas, and Valle, and focussing its work mainly on large economic infrastructure projects in the field of power and flood control.

CVC has developed and grown, though on a much more modest scale than originally envisaged. Its effective activities have been largely confined to the Department of Valle, where it has carried out some useful planning and studies, construction of power plants and transmission lines, rural electrification and a relatively small amount of irrigation and flood control. Power has accounted for two-thirds or more of its investment.

Why initial hopes for the Corporation or for the Bank's involvement in it were never realized is not clear. The first probably failed for reasons of politics, financial shortages, and the very concentrated pattern of land tenure in the Valle, limiting the developmental role to be played by the Corporation. As regards the Bank, its initial enthusiasm for the regional concept seems to have waned, but also its involvement was affected by a chapter of accidents: the deterioration of the country's economic policies shortly after the Corporation was established and the consequent suspension of lending; the top priority assigned by the Government to lending for power after resumption of lending in 1958; the difficulties encountered in construction of Calima; the apparent unattractiveness of hydroelectric sites in the region relative to those elsewhere in Colombia. Some land reclamation projects were discussed in the early 1960s but they were finally taken up by the IDB. Studies of Cauca Valley coal resources and industrial and regional development, in which the Bank assisted, generated no projects. The major issues with which the Bank has been concerned in its relation with CVC -- adequacy of power tariffs and coordination among the entities concerned with power supply -- have remained basically unresolved. The Bank turned down various requests for assistance in strengthening CVC's own internal organization, and lending conditions seem on several occasions to have been too weak to be effective.

The Ministry of Public Works

The Ministry of Public Works is effectively the largest single borrower from the Bank in Colombia, being the recipient of the first railway loan (before CNR was created) and all the highway loans. It is also much the most important spending Ministry, especially in terms of investment. The Bank's long efforts with this Ministry, still only quite partially successful, may be the most important contribution that the Bank has made to strengthening public sector institutions in the country. Besides making loans, the Bank designated special representatives to the Ministry, helped recruit advisors and consultants, persuaded the Colombians to use competitive bidding procedures and to introduce other new procedures of operations and contracting, suggested organizational reforms, financed planning studies and supported the Ministry in its continuous struggle with the Treasury for Pesos.

Apart from sending a resident engineer to supervise work under the emergency highway loan of 1951, the Bank took no particular steps of an institutional nature at this time, apparently satisfied with the reorganization of the Ministry which was supposed already to be under way. But within a few months it became familiar with problems that were to be a major cause of concern for years, and by the time of the second loan, in 1953, it was already suggesting a major reorganization of the Ministry and a special effort on maintenance. The Ministry at the time had numerous responsibilities beyond highways -- for railways, ports and rivers, public buildings, and health. The Bank's stipulation, included in the loan documents for the second loan, was that a separate Department of Highways be established in the Ministry with separate construction and maintenance divisions; foreign experts were to be recruited to help with the new organization.

The Ministry signed the Loan Agreement but seems largely to have ignored the conditions for reorganizing, and the Bank found considerable difficulty in recruiting appropriate foreign experts. Eventually one or two experts were obtained, and they worked on trying to set up a maintenance program. Eventually in November 1955, as a prerequisite of the Bank's third loan, a Presidential Decree was issued establishing a separate National Highways Division in the Ministry, to take responsibility for all aspects of highways, including accounting.

How far this Decree was actually implemented is not clear. Relations with the Bank deteriorated in the following months. The road program picked up speed again after signature of the third loan, in June 1956, but the foreign advisors left in 1957 and 1958. Weighing scales financed under the Bank's 1953 loan were destroyed in riots against enforcement of weight regulations. Maintenance seems to have deteriorated greatly, so that by the end of the decade it was being reported that the roads built under the earlier loans were "breaking up."

Discussions about a possible new highway loan were resumed in 1959 and it seems that by this time the Bank had come to doubt the possibility of making the Ministry into an efficient organization; much more work for design and construction supervision was to be contracted out with consultants, and feasibility studies were to be undertaken by consultants for all major new construction. In 1960 the Government introduced a new reorganization, abolishing the separate Highways Department but sharply reducing the number of people reporting direct to the Minister by creating three large directorates -- Technical, Operational and Administrative. In 1961 the Parsons Study proposed establishment of a National Highway Authority largely independent of the Ministry of Public Works and with its own separate sources of financing. In 1962 yet another element was thrown into the picture with a proposal by a UN team for decentralization of the Ministry into 18 districts. Consultants were hired at the suggestion of the Bank for a major review of maintenance and preparation of a program. Nothing very much seems to have occurred as a result of all these suggestions and studies. Progress of work under the large new highway loan which had finally been signed in 1961 was extremely slow. The Bank pressed for action, making rather specific proposals for improvement in four areas: planning and programming, procedures for contract award and supervision, budgeting, and maintenance organization. The Ministry welcomed the suggestions and had further studies done on the proposals in 1965 but took no action. The Bank refused further lending, pending action, but it did keep a resident highway engineer in Bogota again from 1964 to 1969.

The turning point came with the appointment by the new Lleras Government in 1966 of the able former Executive Director of CVC as the Minister of Public Works. Among the most important steps taken were establishment of the National Highway Fund as a partially independent source of financing, strengthening of the Planning Office, and initiation of a

comprehensive advisory contract with an American-Mexican consultant consortium, COMEC-Harris.

The National Highway Fund was established at the end of 1966 and activated in 1968. The Fund, which is fed mainly by the gasoline tax, has the disadvantages of principle inherent in an earmarking system but it has a number of other special advantages. In particular it depoliticizes the highway program to a certain extent. Congress, which had previously approved each individual construction project of significant size, now approves only overall plans and the size of the Fund for the forthcoming year; it is not directly involved in detailed allocation of resources among individual projects. This in turn has permitted a greater role for technical planning of highway work and simplification of contracting procedures. Establishment of a Highway Fund had first been suggested by the Bank in 1954, but was seemingly not pressed at the time; the suggestion was strongly reaffirmed in the Parsons Study of 1961. Creation of the Fund was thus the outcome of a long process.

COMEC-Harris gave considerable attention to strengthening the planning functions. The Planning Office, better staffed than it was before, came to prepare regular up-dated monthly budgets of highway work, reducing the amount of improvisation and start-stop pattern of previous years. It helped to improve operational statistics on the country's highways and their utilization, although these remain weak. The Transport Regulatory Agency (INTRA), created in 1968 at the recommendation of COMEC-Harris, has also assisted improvement of statistics, forbidden importation of over-weight vehicles, and initiated important studies on the structure of the trucking industry.

Other important changes which resulted from the combination of establishment of the Highway Fund and the advice of COMEC-Harris were in the speed of contracting and payment procedures. By simplification of contracting procedures in 1967-1968 the number of steps involved was cut from 42, where it had been for years, to 6, and the time required to process a contract was cut from an average of 12 months to an average of 2. Processing of payment orders was cut from some 20 steps requiring 40 days to 6 steps requiring 7 days. More expeditious payment and elimination of the delays enabled the Ministry to take a firmer hand in insisting on fulfillment of contract conditions by contractors.

COMEC-Harris also made numerous other important contributions. They produced a revised and rationalized organization scheme for the Ministry, of which the most important characteristics were to have Maintenance as a separate department reporting direct to the Minister and to have a small engineering department, separate from both Construction and Maintenance, from which engineers could be drawn for each. Maintenance was a major focus of their attention. An important training program was initiated at a university. A full-scale plan was prepared for phased improvement of maintenance operations, a revised organization of field maintenance was introduced and a pilot program was initiated in one Department (Boyaca) and then extended to others. The program appears to have taken good hold in one or two Departments but its overall impact and future is still quite tenuous.

Why was COMEC-Harris generally more successful than all the numerous efforts which preceded them? Probably the most important single factor was the interest of the Minister and his readiness to take strong steps. Other significant factors were: that the path was prepared for COMEC-Harris by the Bank's resident highway engineer from 1964 to 1969 who was a Latin American and had filled the same position from 1954 to 1958; that the COMEC-Harris team was larger than previous efforts, contained more men with operational experience in Latin America, and could go more into detail on problems; that as a pre-condition of signature of the 1968 highway loan, the Bank insisted on agreement to a specific schedule for implementation of the first-stage recommendations; and that they organized and carried out training.

In spite of the important improvements shown in the last twenty years, especially the last five, the Ministry's problems are far from being fully resolved. Maintenance and planning are still weak. The Ministry suffers from severe shortage of qualified engineers -- apparently mainly due to salary constraints and poor personnel policies -- and is unduly dependent on engineering consultant firms. Most construction projects are still characterized by severe delays, ranging from a year to four years. The improved contracting and bidding procedures applied to projects which the Bank is helping to finance apparently do not apply to other projects.

Two New Utility Institutions in the 1960s

The late 1960s saw the creation of two new institutions -- the interconnection company, ISA, and the Utility Tariff Board (Junta de Tarifas) -- in whose foundation the Bank played a role at least as critical as in the case of CNR and CVC. Both institutions are still in a very early stage of operation, and their ultimate success will depend on events yet to occur. But both have performed rather well to date, and both have the potential of making very significant contributions.

In March 1963 the Bank took the basic policy decision that, in connection with further lending for power in Colombia, it should consider the advantages of an interconnection among the major regions and, if advantages were significant, it should finance no plants which would be superfluous or inconsistent with such an interconnection. By taking this decision, it facilitated major structural change in the power supply system of Colombia. But the shape which that change would ultimately take required five years to evolve, with considerable economic diplomacy by the Bank in the interim.

As a result of the Bank's decision, the three companies concerned with power supply in the three largest cities agreed to sponsor a prefeasibility study by the principal Colombian engineering firms to assess the technical and economic merits of interconnection. They also agreed to invite the Bank to participate in their discussions. The prefeasibility study, completed by September 1963, showed interconnection to be worthwhile. An Interconnection Committee was formed by the three power companies, and it was agreed to undertake further technical and organizational studies to see how interconnection could best be undertaken.

The great difficulties in bringing about the interconnection and the long delays which occurred resulted not so much from the technical difficulty of the operation -- it was not in fact very difficult from this point of view -- but from the strongly regionalist feelings of the various companies and their cities, and their mistrust of one another. At one point CVC was the main obstacle, anxious to get financing for Calima II and fearful that it would be always at the receiving end of an interconnection line and hence dependent on the others for power. Later EPM was the bigger obstacle, apparently reluctant to share the benefits of its favorable hydroelectric sites with other regions.

The keynote of the Bank's approach was to raise questions and suggest alternatives but never to strongly espouse any one solution to the technical and organizational problems involved, until that solution had been adopted by the companies themselves. But this was backed by firm adherence to the principle of not financing any power plant which an interconnection would make superfluous; and this principle developed later, when the Colombians delayed action, into a refusal to provide any further financing for power plants until agreed steps had been taken.

The organization study for the interconnection, contracted with International Middle West Service Company, recommended in June 1965 that a new company be formed to own and operate all new bulk transmission and generation facilities for the interconnected system. In August the companies' Interconnection Committee accepted this recommendation but it failed to agree on how ownership of the new company would be divided amongst them and on which new generating facilities then in the planning stage would be built by them individually and which by the new company. Finally an agreement on principles was reached November 8, 1966, after strong pressure on the companies from President Lleras, who also participated in signing the agreement. There were still difficulties to be resolved -- such as selection and appointment of acceptable senior staff for the new company -- and it was not until September 1967 that Interconexion, S. A. (ISA) was formally established. ISA is owned, to the extent of 25% each, by the three original companies participating in the negotiations and ICEL, the Central Government power agency which is majority owner of CHEC, the power company of Manizales, the other main city so far involved in the interconnection scheme.

ISA is still a small company, presently responsible for initial operation of the interconnection network and for construction of the large Chivor hydroelectric plant (with assistance of EEEB). ISA management has been effective in handling the major construction operations. The Bank has been little involved in the company's internal organizational development, but it has financed part of the cost of a contract with an accounting firm to develop appropriate management information systems and inventory and accounting procedures.

The Utility Tariff Board is an agency quite different from ISA in that it has no responsibilities for constructing or operating a plant, but it is similar in representing a new concept in Colombia, which was

brought to fruition even more clearly than in the case of ISA largely because of the Bank's efforts. As compared with the interconnection concept, the Bank went further in providing on request, in May 1968, a fairly detailed outline of the public utility tariff policies which it suggested should be pursued. But its principal role, which lay in pressing the appropriate parties for action, raising the issue in policy negotiations and making further lending partially dependent on resolution of the issue, was very similar; equally it stuck to a few basic principles, consistently propounded, without trying to dictate the manner in which these principles should be applied.

The entity which finally emerged in December 1968 and came into full operation after the elections in 1970 does not follow exactly the lines proposed by the Bank. In particular, the Board is not an independent Regulatory Agency made up of prominent citizens, but an agency effectively integrated within the National Planning Department and consisting of senior officials of that department. Moreover its powers are restricted to approving requested tariff increases (as opposed to enforcing tariff increases which it has initiated), even though it can exercise some influence on the requests put forward as a result of the Planning Department's responsibility for foreign loans and for national budgetary allocations for investment or for operating subsidies. Nevertheless, the agency has been established, it has approved a large number of tariff increases and it has initiated studies to improve utility accounting systems, particularly in the case of the numerous water utilities. Partly through the efforts of the Bank, the Government has accepted the principle of a fair rate of return on revalued assets as a fact of life for the successful operation of public utility companies, and it has set attainment of this goal as an objective of economic policy. It may not be reached quickly because many tariffs have been only a small fraction of the necessary level, and persistent follow-up will be required to see that the approved tariff increases and phased plans of tariff increase are actually applied.

Bogota Water Company (EAAB)

Negotiations which eventually led to the Bank's 1968 loan to the Bogota Water Company, the first for water supply in Colombia, began in 1966. The Bogota City administration of the day was concerned about the state of the company, which had deteriorated in preceding years, and it encouraged the company's management and the Bank staff to work out

measures toward improvement. Hence the Bank's first mission, in May 1966, was mainly concerned with identifying the problem areas and discussing specific series of steps which would be appropriate for dealing with them. Actual implementation of these steps was supervised rather intensively, with Bank missions visiting Bogota every three or four months.

One problem area was organization and staffing. A Colombian consultant firm was brought in to advise on the organizational structure of the enterprise. Its first recommendations were implemented early in 1967 when the enterprise was reorganized into four main departments -- Financial, Planning, Operations and Administration. This replaced a structure in which there had been no Financial Manager and some twenty separate heads of departments reporting direct to the General Manager. Since 1967 the company has further evolved into a considerably more sophisticated organization, including more levels of responsibility and more steps in promotion, important from the incentive point of view. Total staff grew from some 1,100 to about 1,700 in 1971. Salaries were improved and staff turnover cut. Employees with university degrees increased disproportionately, from 44 in early 1967 to 150 early in 1971. Work which used to be contracted out in its entirety to consultants is now done to some extent in-house. In 1968 a major training program was started, in cooperation with SENA, to provide courses for plumbers, surveyors, water treatment plant operators, accounting staff, etc. Some 250-300 employees were put through these courses in 1970.

Other important problem areas were accounting, budgeting and computer usage. The Bank mission found serious deficiencies on the accounting side -- in particular a complete lack of cost accounting and undue capitalization of expenses. There was no up-to-date assessment of the value of assets, important for establishing tariffs and depreciation allowances. There were also serious billing delays. It was agreed that consultant assistance was needed on these matters, and the company obtained the services of various local firms. The accounting department and accounting system were reorganized. A modernized budgeting system, based on 75 cost centers, was introduced in 1969. Billing delays were greatly reduced. Billing was further improved by a major effort to survey and improve the distribution system, an area that had suffered from inadequate attention; an American consulting firm was brought in to assist. A major program for installation of meters was undertaken, the operation of the meter repair shop strengthened, and system operation

tightened. As a result system losses (water unaccounted for) were cut from 33% of water produced in 1966 to some 24% in the second half of 1970.

As mentioned earlier, the Bank also found it necessary to give considerable attention to coordination with the other agencies concerned with the water resources of the Bogota area, particularly the Bogota Power Company. This was to become particularly important later on in planning for the second water supply project, financed by the Bank in 1971, since it has major implications for the Bogota power system as well as the water system.

Institutional problems have not been totally overcome -- in particular management information flows need further strengthening and consultant contracts require firmer control -- but it is evident that the Bank has had a major beneficial impact on the company which will result in significant improvements in the adequacy and quality of water supply in Bogota in the coming years. The success seems to result principally from a combination of three factors: strong political support in Bogota for the improvements made, the detailed nature of the work done by the Bank staff with careful assessment of problems and phased solutions, and thorough supervision of progress in reaching the solutions.

Other New Borrowers in the 1960s

In the latter part of the 1960s the Bank has also moved into financing two other areas where it had not been involved before (except for two small agricultural credit loans in the early 1950s) -- Agriculture and Education. In these fields more limited attempts have been made at institutional development, and with more limited success. In both cases the approach has been basically one of setting up a special project office within a larger entity and focussing effort on this office. The most valuable institutional contribution in agriculture appears to have been in the Medium-Size Farmers Agricultural Credit project on which disbursement of funds has so far been so small; the foreign consultants (SCET) provided good training, and INCORA appears to use most of the graduates from the course for its other agricultural credit projects (mainly with small farmers). On the Atlantico Irrigation and Land Reclamation project the consultants (Tahal) are providing some useful experience to INCORA personnel in project management. Responsibility for the education project was

assigned to ICCE (Instituto Colombiano de Construcciones Escolares), a decentralized agency under the Ministry of Education, principally responsible for construction of schools. This has tended to isolate the project from the rest of the Ministry, make relations with other educational institutions more difficult and limit the project's spread effect, in terms of influence on other educational institutions. On the other hand, it has probably enabled the project to go ahead faster than would otherwise have been the case.

Conclusions

It is clear from this brief review that the Bank has made some important and useful contributions to development of institutions for economic development in Colombia -- mainly among specialized technical agencies and entities. The actual contributions have been of several different types: Basic concept (as in the case of ISA), policy framework (as in the case of Utility Tariff Board and the National Highway Fund) and detailed internal organization (as in the case of the Ministry of Public Works and Bogota Water Company). In almost all entities with which the Bank has been associated, the financial side, including accounting, auditing, financial reporting, has been stronger than what it would otherwise have been (e.g. EPM, EEEB and CNR, as well as the other agencies mentioned).

The extent to which the most successful and important IBRD contributions to institutional development have occurred in the 1960s is striking. To some degree this is undoubtedly due to the fact that the political context was much more favorable, especially after 1965; earlier efforts were hampered by the prevailing political uncertainty and the fact that the need to find a political modus vivendi overrode development among Government concerns. But a more fundamental factor seems to have been the Bank's own learning process. It is noteworthy that the principal successes of the 1960s have been precisely in those fields in which the Bank has been involved longest and most heavily: public utilities and highways. But there have also been important changes in techniques and emphasis in the Bank's institution-building efforts.

Where initially the Bank was preoccupied with basic constitutions, formal structure at the top level and finance, it later expanded its range of vision to encompass many more of the mechanics of how an

institution actually works: budgeting, planning, overall organizational structure and levels of responsibility, links between organizational units, staffing, salaries and salary structure, training, internal procedures (e.g. contracting and payments), cost accounting and management information flows and budget control. This is perhaps best illustrated by the contrast between the Bank's treatment of the power utilities with which it was initially concerned in the 1950s and its involvement with the Bogota Water Company over the last five years, or between the approach to the Ministry of Public Works in the 1950s and that in the 1960s. The focus on Board composition and grand principles of organization has been replaced with a humbler and more constructive emphasis on certain functions and how they can best be fulfilled under prevailing circumstances; experience has shown certain functions to be particularly crucial -- especially planning, personnel policies and management information systems. The contrast between the two periods is particularly illustrated in the case of training, which was always paid lip-service but seldom effectively implemented by consultants and the agencies to which they were assigned until the more recent period. Involvement at a more detailed level has required much larger applications of experienced manpower -- for instance the large Sofrerail and COMEC-Harris missions, the many consultant firms used by EAAB, and the corresponding intensive work by Bank staff, especially in the case of greatest success, Bogota Water Company.

The Bank has also adopted a more comprehensive approach, not only in the sense of covering many more aspects of how an institution works, but also in the sense of confining its attention less to the minimum institutional requirements for getting a project built and taking more account of links between agencies. Whereas the Bank promoted establishment of EEEB as an independent unit in the late 1950s and failed to contribute effectively to resolving the problem of coordination between CVC, Chidral and EMCali, by the 1960s it was giving attention to relationships between the power companies (ISA), between the power companies and the Government (Utility Tariff Board) and between the power and water companies (EEEB and EAAB).

It is striking how little institutional spread effect there has been to date from the Bank's institution-building initiatives. We specifically sought evidence of this phenomenon both within agencies, in the sense of spread from organizational units with which the Bank had been directly concerned to others, and between agencies, in the sense that,

say, another power company might follow to some extent the example established by a power company to which the Bank had devoted special attention. We found little or none. After twenty years of Bank lending the Ministry of Public Works continues to maintain one standard of planning, contracting and supervision for Bank-financed projects and another standard for other projects. Some entities seem to have reasonably good information flows about progress and costs on projects financed with Bank assistance in recent years but far less adequate management information on other operations.

More significant spread effects are probably resulting within EAAB due to the more comprehensive approach adopted. And certainly ISA and the Utility Tariff Board are beginning to have important spread effects. For instance, creation of ISA has helped stimulate cooperation among the northeastern Electrificadoras -- Boyaca, Santander and Norte de Santander -- with a view to undertaking larger projects themselves and having more weight for securing a transmission link with ISA and for exerting influence within ISA once they are joined. It is also expected that concentration of responsibility for major new bulk generating plants on ISA will enable the local companies to devote more attention to the distribution function, too often neglected in the past.

If the spread effect has been limited to date, there is no strong evidence that has come to our attention that entities to which the Bank has not lent have been positively hurt by Bank lending to other entities in the same sector. In undertaking this study we were conscious of the possibility that borrowing organizations might (a) set higher standards of pay with which poorer organization could not compete, (b) attract a disproportionate number of professionals or high-caliber civil servants, and (c) cause inter-agency rivalries. Though this is a difficult matter to judge, our review does not suggest that this has happened to a significant extent. Bank-supported public utilities are generally considerably stronger in terms of personnel and finances than those which have not been supported by the Bank, and they are stronger than they would have been without Bank support; but the others are not significantly weaker because the Bank has further strengthened those which were already relatively strong; they were weak and they have remained weak. In the education field, there is no evidence that the schools built under the Bank project have depleted the quality of the teaching staff in other schools; many of the teachers who benefitted from the training course

for teaching in these schools actually stayed with their old schools. Borrowers in the transportation sector do not seem to have attracted a disproportionate number of highly qualified staff -- rather to the contrary.

The need to orient institution-building efforts by clear and well-founded economic analysis is one of the clearest lessons that emerges from this review. The contrast between CNR and ISA in this respect stands out strongly. In the case of CNR the Bank seemed to have a clearer idea of, and to give more attention to, the basic institution which it felt should be formed to integrate Colombia's railroads than the economics of the project underlying this institution. With regard to ISA, on the other hand, the Bank saw and pointed out a clear economic need and left the Colombians, with the aid of their consultants, to identify an appropriate institutional framework for meeting this need. But the need to base the institution-building effort on careful economics comes out equally well in the cases of the railways and also of Paz del Rio (see Chapter V) in the early 1960s; if adequate economic studies of the future role of each in the economy had then been undertaken not only would the Bank-financed projects have probably worked out more satisfactorily but institution-building efforts could have been geared more effectively to making that come true; both institutions would have been able to develop more usefully for the economy. Or again, more positively, the principal contribution of the Bank to the founding of the Utility Tariff Board was to establish clearly the economic need and to urge the Colombians to fill this need; exactly how they filled it, in terms of the constitutional position of the body created, was something in which the Bank interfered little. The result was not the independent Board the Bank originally thought of, but the Board within the Planning Department seems to have worked fairly satisfactorily.

All of this tends to suggest that the most constructive role for the Bank in connection with institution building is assistance in the identification and specification of economic and social needs for new or stronger institutions and in the design and implementation of the details of effective institutional mechanisms to meet these needs. What comes at the pinnacle of these institutional mechanisms is something that can only be determined by the Colombians, to fit their evolving socio-political structure. It is really not clear that the notion of the autonomous corporation, so favored in the 1950s, has contributed very much in Colombian

circumstances. Autonomy for the Bogota and Medellin power companies, the argument about which held up the first loans to them for considerable time, may possibly have reduced political influences in their staffing; but they were already considered to be the best run and best staffed utilities in Colombia -- and rather well run and well staffed -- before they were given autonomy. As regards the railways, it is not clear that they have ever in fact been permitted much autonomy, whatever their name or Charter. The autonomous National Highways Authority, urged at the start of the 1960s, was never accepted. The Bank's contribution can be greatest in seeking appropriate institutional mechanisms within the limits of the constitutional position assigned to an entity.

There is another form of insulation from political interference which has been used more in the 1960s: establishment of a special project office, as for education and agriculture. This procedure has limitations. It does not prevent major change of staff for political reasons. It limits the spread effect of any changes. It can cause serious problems of coordination. But it may well be the most effective way to start a relationship with a major organization. As the years pass and the Bank becomes more fully familiar with the problems of the organization, it may become possible to find more satisfactory and more comprehensive solutions -- very much as has been happening and should continue to occur with the Ministry of Public Works. In many cases the process probably could and should be shortened significantly by devoting more Bank staff-time earlier to broad studies, as a basis for setting broad loan conditions.

Recommendations

1. Economics should orient institution-building efforts, in the sense that an economic or social problem (opportunity) is identified and an institutional solution is then sought. Projects should not be undertaken on the ground they will have major institutional impact, without solid and careful analysis of the underlying economics.

2. Principal emphasis in institution-building efforts should be on basic purposes of the institution and how it functions. Particularly important seem to be (a) staff, training, incentives and personnel policies, (b) internal organizational structure, (c) planning capabilities, and (d) management information systems providing links between departments

and with management and yielding performance data more significant than the purely financial.

3. The Bank should give more attention to adequacy of salaries, salary structures, incentives for training and payment of special premia. Poor salary structures and instability of salaries in real terms seem to be at the heart of many problems in Colombian Government agencies, also causing excessive reliance on consultants.

4. For projects in selection of which institution-building aspects are important, appraisal reports should contain a clear delineation of the problems and a precisely agreed and phased program for overcoming the most important of these difficulties, with periodic (quarterly or half-yearly) targets against which performance may be checked. The Bank should try to improve existing methods to assess the efficiency levels of institutions and to design objective indicators of institutional improvement.

CHAPTER X - PRINCIPAL OPERATIONAL IMPLICATIONS

The fundamental problems of Colombia are rural poverty, unemployment and underemployment, and these problems, which reflect an underutilization of the country's natural and physical resources, have not diminished over the last twenty years and may have got worse. The Bank has contributed importantly to overcoming some major infrastructural bottlenecks to development and to promoting and supporting a greater public investment effort in the country. However, despite major advances made, structural and institutional problems and inadequate policies have limited the advantage that Colombia has drawn from resources and opportunities available in the country and restricted the benefit derived from external resources provided.

The Bank, in its relations with Colombia, has rightly stressed the need to maximize the GNP growth rate -- but seemingly not in as efficient a way as Colombia should be able to attain. Among the five key issues in Colombian development earlier identified, the Bank has tended to put rather exclusive emphasis on two in the decade of the 1960s -- the balance of payments and fiscal constraints. In regard to improvements in exchange rate and fiscal policies it has probably achieved as much as it could be expected to have done. But it has given much less attention to the key problems of mobilization of domestic resources -- natural as well as financial -- and participation in the development effort, the factors limiting them and the constraints they impose on growth. Some of the Bank's efforts have had, as a by-product, beneficial impact on these problems and several useful initiatives have been taken. But neither the Bank's main lending lines in Colombia -- infrastructure projects and credit to the private sector through intermediaries -- nor its policy advice have so far made a great contribution to coping with the problems. As regards the fifth issue in Colombian development -- the weakness of public sector institutions -- the Bank has made some useful contributions over the years, but mainly with institutions not directly involved with these two key issues. These problems require a more prominent place in the formulation of all aspects of the Bank's assistance strategy -- policy advice, lending and institution-building efforts.

Over the last twenty years the Bank has developed a combination of its initial investment bank approach, emphasizing strong institutions, with a broader macroeconomic outlook; this combination could make it a very effective instrument for helping the Colombian authorities in their efforts to secure a better pattern and pace of development than has been secured in the past. The Bank has applied, with ingenuity and diplomacy, a system for negotiating regular written agreements on major development policies, to form the basis of its own lending program and of its recommendations to the Consultative Group members; this system should clearly be maintained, possibly in a less formal way (e.g. Government statements

at Consultative Group meetings instead of full memoranda), and broadened to deal with some of the key issues of sector policy constraining the country's development capacity. The Bank has helped build up the Consultative Group of industrialized countries and international agencies, and increasing amounts of financial and technical assistance to Colombian development should be obtainable from most of them, especially with the growing effort that the Bank has put into meetings with them, together and individually, and into follow-up on individual projects.

The Bank's contributions through projects it has helped finance have generally tended to improve over the years in the fields in which it has long been involved -- utilities, highways and railways -- and no doubt this improvement will continue and apply also to the fields -- such as agriculture, industry and education -- that it has entered more recently. Bank lending should be expanded to provide for sector lending where improvements in sector policy are the main contribution that the Bank can make and to provide for project lending where the Bank has not yet lent but where it can help to overcome key institutional constraints; combinations of these two types of lending may also be appropriate. With both courses the close involvement and detailed supervision that are characteristic of project lending will be crucial to achievement of the Bank's full potential for assisting Colombian development.

There are ten key operational points for the Bank which emerge from this study, and these are briefly discussed in the following paragraphs.

1. Perspective. Underlying its operations and orienting them, the Bank should have a longer-run view than it has had in the past of how the land and people of Colombia can be mobilized to the maximum extent for development. We are not thinking of anything very elaborate but rather of a rough strategy defined in quite simple terms, showing how the economy can move to "full employment" -- of people and also of natural and physical resources -- and indicating, for instance, whether, with the labor force and resources existing and in prospect, this can be achieved by accelerated urbanization, with high technology, or whether Colombia should rather pursue a more gradual path, emphasizing the use of technologies (and related incentives) appropriate to existing relative availabilities of land, labor and capital. Important elements in the overall framework are matters such as demographic trends, employment, rural-urban migration, costs and productivity of infrastructure in towns of different size, the factors affecting patterns of urban and rural development, the role and effectiveness of institutions in different sectors and regions, alternative production technologies and adequacy of technological research. Some of these issues are of course highly complex, and not too much is known about them. The National Planning Department and other institutions in Colombia would always do the main work on them. But, particularly since these issues have a direct bearing on the selection and design of long-run

development projects, it would seem worthwhile for the Bank to try to maintain on a running basis a general framework showing in a broad way how Colombia's resources can best be combined now and in the future, allowing for anticipated growth of labor force, savings capability and public revenues, etc. and incorporating data about costs of job-creation, infrastructure requirements in towns of different sizes, productivities in different jobs and places, etc. An excellent basis on many of these points has been laid by the Bank's major 1970 Economic Report on Colombia and it would seem advantageous to capitalize on this basis, perhaps by trying to reserve a half man-year of staff time each year for maintenance and up-dating of the framework, in light of latest available information.

2. Land Reform. In the context of such a perspective the Bank should make some estimates of the feasible combination of policies -- including land redistribution, provision of more working capital to small farmers, and better supporting services -- which could cope with rural poverty within a generation. If it is determined that the implementation of a land reform is one of the major policies required, then the Bank should clearly express that it favors such a policy, and it should demonstrate that it could effectively contribute in its implementation. If, on the other hand, it is determined that land redistribution is not critical, then the set of alternative solutions to the problem of rural poverty and underutilization of resources should be explicitly formulated. Assuming that the effective implementation of a land reform program would significantly improve Colombian development, the Bank should concentrate its contribution to the agricultural sector, prior to the effective implementation of this policy, on the financing of small farmers cultivating high value crops, for example fruits and vegetables for export.

3. Capital Market. The Bank should give greater attention to the adequacy of Colombia's efforts at mobilizing and channelling for development domestic financial resources beyond the fiscal resources on which it has hitherto focussed attention. The Bank should actively encourage Colombia to pursue unification of credit markets and more appropriate regulation of them, with more competition, in order to mobilize savings, generate projects using local resources, and encourage use of techniques appropriate to the scarcity of capital in Colombia. Subsidized credit programs should be maintained only for small farmers and small industry, and these programs should be expanded as rapidly as feasible, in some cases with appropriate technical assistance. Taxation of underutilized and unutilized urban land should be encouraged as means to strengthen capital markets by providing a disincentive to invest in land and, at the same time, reduce uneconomic use of installed urban infrastructure. The Bank should investigate the meaning, mechanics and implications of the negative association that appears to exist for the 1960s between inflows of long-term capital from abroad to the private sector and domestic private savings.

4. Economic Reporting. Within the framework of the longer view urged above the Bank should concentrate its scarce economic expertise to a greater extent than now on specific highly focussed problem-solving studies and less on broad comprehensive reviews. Extensive summary and synthesis of the best of current policy views, an older view of what an economic report should be, seems less useful now to the various recipients of this report in Colombia and elsewhere than a minimally brief overview of the current situation (probably taking greater advantage of IMF work) supported by deeper studies of highly selected problem areas, often of a more structural and longer-run nature -- e.g., urbanization and employment, relation between foreign capital inflows and domestic savings, adequacy of a sector's institutional structure for efficient exploitation of resources, development of lumber/furniture industry, structure of interest rates and unification of capital markets, stock market development, distributive impact of exchange rate changes, problems in the structure of import tariffs, potentials for development benefits (as opposed to cost savings) in power, distributive impact of utility tariffs, labor legislation, factors affecting urban land development. It may well be worthwhile to carry out more studies of this sort than the Bank could possibly manage with its own staff and specialists. Then there are several alternatives: (a) to ask the Colombian Planning Department to undertake the study -- which worked quite well with the sector study of municipal water supply in 1968-1969, (b) to hire special consultants to carry out the studies -- as in the very successful case of the 1970 review of the public health sector, (c) to subcontract studies with research institutes in Colombia or elsewhere, or (d) to encourage other Consultative Group members to provide appropriate technical assistance. The last two alternatives do not seem to have been tried but would merit consideration. It would be desirable that reports, whether general or special, whether prepared by the Bank or sponsored by it, should be made available more widely in Colombia than they are now; perhaps the Government should be encouraged to distribute Bank reports more broadly or they could be made available from the office of the Bank's Resident Representative in Bogota.

5. Sector Lending. The Bank should consider lending to national Colombian agencies for sectoral or sub-sectoral development programs, as opposed to individual projects, especially where the main need now is to help improve sector policies, for instance in ways defined by studies of the type described above. Two early candidates for such treatment would be industry and highways. The PIF should be given a much larger role in future lending for private sector industrial development, and negotiations and loan conditions should center on key issues of sectoral policy. Enough seems to be known and agreed now about crucial steps required in connection with capital market development for the Bank, in negotiating the next such loan, to be able to reach agreement on appropriate steps relating to the following topics: (a) removal of interest rate ceilings, (b) reduction of forced investments by commercial banks and other financial intermediaries, and (c) encouragement (fiscal incentives?) to

companies for listing of stock. Negotiations for later loans might deal with further steps in capital market improvement, as needed, or with other policy matters affecting industrial development such as import tariffs and prohibitions or corporate taxation structure. As regards highways, adoption of a sectoral approach would have a number of advantages -- focussing greater attention on the question of how much resources in total should be dedicated to the sector and how particular roads and highways should be allocated among different classifications, in terms of design standards, given the budget constraint; leaving more flexibility for adjusting the timing of the various components of the program in light of interim developments; helping to extend the improved planning, engineering and contracting procedures, introduced with Bank assistance and presently limited to Bank-financed highways, to other roads, as appropriate; enabling special Bank efforts, within the overall loan, on institutional problems of Caminos Vecinales, the entity responsible for feeder roads, which have lagged and are poorly coordinated with the other highway programs. Beyond industry and highways the Bank might explicitly try to develop agencies which would be appropriate channels for such sector lending, as it has already begun with INSFOPAL for water supply projects and as it should begin with INCORA or Caja Agraria for projects promoting cultivation by small farmers of fruits, flowers and vegetables for export.

6. Housing. Judging by experience in Colombia, which is probably paralleled in this respect in several other countries, the Bank should seriously consider entering the field of housing, principally because of the institutional contributions it could make. This is not an easy field and both IDB and US AID have encountered difficulties in it, but it appears to have important unrealized potential in Colombia. Although house construction is particularly intensive in use of labor and rather independent of imports, housing supply in Colombia is lagging seriously behind effective demand, and more seriously behind needs, partly due to deficient institutional arrangements for mobilizing savings and organizing construction and structural deficiencies in the urban land market. The first step should be a thorough study to assess the economics of the housing industry, its relations with the rest of the economic activities, and the effects a major expansion here would have on other sectors, employment, import requirements, etc. If this study shows that housing is a sector with considerable economic potential and also that institutional innovations would be required to release that potential, then the second step would be initiation of an experimental program. The Bank may be able to contribute not only with respect to appropriate financial institutions but also with respect to new techniques of building or manufacturing building components and new patterns of organizing housing schemes -- such as site and service plans undertaken by public utilities or municipal authorities.

7. Institution-building. As regards future project (as opposed to sector) lending in Colombia, the prime criterion in selecting projects for

financing by the Bank, rather than some other source, should be the extent of institutional development and improvement that could be expected to result, since Colombian development and efficiency in use of resources are severely constrained by institutional and structural weakness. This approach has sometimes been partially appliedin the past, but we are proposing a stronger and fuller application of it, even at the risk of slowing down the lending pace (which would be compensated to some extent by use of sector lending, as proposed). Projects should be selected in light of the overall institutional strengths of the country for making the most of resources available to it and oriented to strengthening weak points, as for instance in housing, labor-intensive high-value crops, rural education, small town water supply and public health at present. This will require greater initiative and effort in project preparation, more intensive supervision and, in some areas, development of new Bank capabilities. If projects are selected with a view to maximizing the Bank's contribution to the country's development then other factors such as foreign exchange component or whether expenditures are traditionally classified as investment or current can be considered in a much wider context, in terms of objectives to be attained (provided that policy agreements with the Bank together with measures to improve capital markets ensure that Bank financing of local currency expenditures will not have a negative effect on domestic resource mobilization). Giving sufficient priority to institutional considerations requires careful attention to a project's basic economic validity, more explicit recognition of risk elements in development and greater emphasis on indicators and measures of institutional performance and progress. Since the history reviewed suggests that automatic demonstration effect is rare, special attention should be given, in the selection and design of projects with an institution-building focus, to mechanisms for achieving positive spread effect.

8. Development Impact. Just as projects should be selected with a view to maximizing the Bank's development impact (through its contribution to overcoming the crucial institutional constraint) so more attention should be given than in the past to ensuring that the projects chosen will have as great a development impact as they can have. This applies particularly to infrastructure projects and it requires looking at unemployment and unutilized or underutilized resources in the area to be affected by the project and at the institutional mechanisms for securing the project's potential contribution to mobilization of these resources. In power for instance, attention should be given to utility policies regarding new connections and system extension, possible constraints to realization of development benefits imposed by rigidity in the tariff structure or by deficiencies in municipal planning and possible need for self-help efforts of the Accion Comunal type for distribution system extension. In transport infrastructure attention should be given to the development potential of the area traversed and the adequacy of plans, public agencies, and other infrastructure in the area for obtaining the most positive impact possible from the highway or railway; this may mean attention to feeder

road plans, agricultural extension and marketing services, regional development plans, conservation practices, competitiveness of bus and freight services -- or even to adequacy of municipal water supply services, which turned out to have been a significant obstacle to realization of regional development benefits in so many cases studied.

9. Project Monitoring. Project supervision in most fields needs strengthening by fuller information flows on project performance and more analysis of this information. Attention has tended to be concentrated on loan disbursements as an indicator of project performance, in the absence of more relevant data, or else on a few general financial indicators which sometimes hide problems rather than reveal them. It should be possible to devise at the time of project appraisal a system of information flows about a few key variables, generally of a technical nature, or concerned with regional impact, which will show whether the main benefits expected of the project are materializing on schedule or not; in some cases, especially where there are difficult problems in institutional performance, it may be appropriate at the time of loan negotiations to agree on specific targets for these variables while in other cases the comparison may be rather with forecasts made. The need for this type of information flow may have to be taken into account more explicitly in the design of management information systems for borrowers, for which the Bank has often financed consultant assistance. Improved flows of performance data are particularly required for sub-projects financed by loans to industrial and agricultural finance intermediaries. In these cases the purpose should be partly to enable the Bank to know what results its loan funds are producing and partly to provide case data which would deepen understanding of the factors at work affecting the sector so that improvements could be made in project design or advice could be given to Government about appropriate policy changes. Strengthened information flows about projects and sub-projects will be all the more important to the extent that the Bank makes more use of intermediaries in different fields and of sector lending techniques. Better information systems of the type described are also needed by the Colombian Planning Department and work on this subject for Colombia might perhaps usefully be coordinated with it.

10. Evaluation of Consultants. The Bank should make a more systematic effort at evaluation of consultants' performance. Especially in cases where the Bank has recommended or required the hiring of consultants, or where international firms are involved, it should be a standard requirement that staff responsible for supervising a project discuss consultants' performance with the borrower and others, and write a brief evaluation, at least once a year, of the performance of the consultants as a firm and as individuals. These evaluations would give the Bank an up-to-date view of firms' current level of performance for use in advising borrowers about selection of consultants for further jobs and in hiring consultants itself. The evaluation should be comprehensive, briefly covering all the principal tasks the consultant was expected to perform, including training. A

procedure of the sort described could help to secure better consultant performance for borrowers in general and also help to introduce new consultants, initially encountered in their own country, to work in other countries.

ANNEX TABLE 1.1

COLOMBIA: ECONOMIC DEVELOPMENT STATISTICS 1950-1970

			1950	1951	1952	1953	1954	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970	Period Rates of Change (Ave. p.a.) 1950-55	1955-60	1960-65	1965-70	1950-70		
	POPULATION																													
1.	Total mid-year	millions	12.2	12.6	12.9	13.3	13.7	14.1	14.5	14.9	15.4	15.8	16.3	16.9	17.4	18.0	18.5	19.1	19.7	20.4	21.1	21.8	22.5	2.8	3.1	3.2	3.3	3.1	1.	Demographic estimates based on R. Albert Berry
2.	Assumed growth rate	% change	2.7	2.8	2.8	2.9	2.9	2.9	3.0	3.0	3.0	3.1	3.1	3.2	3.2	3.2	3.2	3.2	3.3	3.3	3.3	3.3	3.2	-	-	-	-	-	2.	
3.	Crude birth-rate	per 1000	47.0							47.0								47.0					46.0	-	-	-	-	-	3.	
4.	Crude death-rate	per 1000	20.0							17.0								15.0					14.0	-	-	-	-	-	4.	
	MONEY & PRICES																													
5.	Money & Quasi Money	% change	10.1	18.8	17.4	15.5	26.4	8.4	33.3	4.1	16.6	12.6	9.7	23.6	23.6	15.4	19.9	19.3	11.9	18.1	19.6	23.8	-	17.2	14.9	20.0	18.3*	17.6*	5.	IMF, International Financial Statistics (IFS) figures for Dec. 31
6.	Exchange Rate (Peso)	per US$	1.96	2.39	2.51	2.51	2.51	2.51	2.51	4.20	6.50	6.50	6.60	6.70	6.80	8.90	9.00	9.90	13.00	14.30	15.90	17.00	18.00	5.0	21.0	8.5	12.7	11.7	6.	Average annual rate for goods or services weighted by volume of transactions
7.	Exchange Rate	% change	0	21.9	5.0	0	0	0	0	67.3	54.7	0	1.5	1.5	1.4	30.8	1.1	10.0	31.3	10.0	11.1	6.9	5.9	-	-	-	-	-	7.	Year-to-year change in annual averages (line 6)
8.	Cost of Living Index	% change	20.0	9.3	-2.5	7.3	8.9	-0.9	3.5	17.4	13.2	8.2	5.6	8.4	4.3	27.3	17.6	7.0	16.6	8.0	7.4	4.1	6.7	4.3	9.5	12.7	11.3	9.4	8.	Year-to-year change in annual averages for wage-labor (obreros)
9.	GDP Implicit Deflator	% change	n.a.	10.2	1.5	4.8	11.3	-0.2	7.8	17.1	13.3	6.6	8.5	8.2	6.6	23.2	16.3	9.1	14.9	8.8	9.4	8.2	9.6	5.5	10.6	12.5	10.0	9.7	9.	BOR Cuentas Nacionales
	PRODUCTION & INCOME																													
10.	GNP per cap. at f.c.	US$	195	196	203	209	217	220	222	219	217	227	229	233	237	236	243	244	248	252	259	266	275	2.5	0.9	1.2	2.5	1.7	10.	Based on 1968 conversion into US$ at Ps. 15.90 and, for other years, on line 11
11.	GNP per cap. at f.c.	1958 Ps.	1,101	1,108	1,150	1,182	1,228	1,243	1,255	1,239	1,231	1,285	1,299	1,318	1,341	1,335	1,375	1,379	1,405	1,424	1,466	1,505	1,556	2.5	0.9	1.2	2.5	1.7	11.	BOR Cuentas Nacionales and population in line 1
12.	Terms of Trade, effect per cap.	1958 Ps.	53	20	18	56	103	55	57	42	-	-27	-30	-30	-28	-28	6	-8	-11	-25	-27	-21	-3	-	-	-	-	-	12.	Ditto
13.	GNI per cap. at f.c.	1958 Ps.	1,154	1,128	1,168	1,238	1,331	1,298	1,312	1,281	1,231	1,258	1,269	1,288	1,313	1,307	1,381	1,371	1,394	1,399	1,439	1,484	1,553	2.4	-0.5	1.6	2.5	1.5	13.	(= 11 + 12)
14.	GNP real growth rate	% change		3.4	6.8	5.7	6.9	4.1	4.0	1.6	2.3	7.7	4.2	4.7	4.9	2.8	6.3	3.5	5.3	4.6	6.3	6.0	6.7	5.4	3.9	4.4	5.8	4.9	14.	BOR Cuentas Nacionales series in constant 1958 prices
15.	GNI real growth rate	% change		0.4	6.4	9.0	10.6	0.2	4.1	0.5	-1.0	5.3	3.9	4.7	5.2	2.7	9.0	2.4	5.0	3.6	6.3	6.5	8.0	5.3	2.6	4.8	5.9	4.6	15.	Ditto
16.	Per cap. GNP real growth rate	% change		0.6	3.8	2.8	3.9	1.2	1.0	-1.3	-0.6	4.4	1.1	1.5	1.7	-0.5	3.0	0.3	1.9	1.4	2.9	2.7	3.4	2.5	0.9	1.2	2.5	1.7	16.	Derived from line 11
17.	Per cap. GNI real growth rate	% change		-2.3	3.5	6.0	7.5	-2.5	1.1	-2.4	-3.9	2.2	0.9	1.5	1.9	-0.5	5.7	-0.7	1.7	0.4	2.9	3.1	4.6	2.4	0.5	1.6	2.5	1.5	17.	Derived from line 13
	STRUCTURE OF PRODUCTION																													
18.	Agricultural Production	% change		1.2	6.8	0.3	2.6	2.5	3.1	6.1	3.2	5.0	..	3.9	3.3	0.6	5.6	..	3.3	4.8	7.2	3.8	5.9	2.7	3.5	2.6	4.9	3.4	18.	BOR Cuentas Nacionales series in constant 1958 prices
19.	Coffee	% change		9.6	11.6	0.5	-1.7	-8.9	8.6	18.6	0.9	5.1	-9.1	9.9	-5.1	0.3	6.7	-5.5	3.3	-5.3	3.8	-1.2	..	1.9	4.4	1.1	..	1.8	19.	IMF 1971 and use of BOR coffee production index for years before 1961
20.	Other Agriculture	% change		-1.7	4.9	0.2	4.5	7.0	1.3	1.6	4.1	5.0	3.9	1.8	6.6	0.7	5.2	1.8	3.3	8.1	8.1	5.2	6.4	2.9	3.2	3.2	6.2	3.9	20.	Ditto
21.	Manufacturing Production	% change		3.1	6.9	8.9	9.0	6.6	7.2	4.5	4.4	8.2	6.1	5.9	6.8	4.7	5.8	4.6	6.6	3.6	6.1	7.2	11.0	6.9	6.0	5.5	6.9	6.4	21.	BOR Cuentas Nacionales series in constant 1958 prices
22.	Construction Activity	% change		-4.9	7.3	24.9	30.4	7.6	3.4	-5.4	-3.1	11.2	-6.0	13.5	7.0	-9.1	0.3	2.2	17.8	20.8	10.2	9.6	5.8	12.3	..	2.5	12.7	6.7	22.	Ditto
23.	Agriculture	% of	40.0	39.3	39.5	37.4	36.0	35.5	35.2	36.5	36.7	36.0	34.6	34.2	33.5	32.7	32.5	31.4	30.9	31.0	31.3	30.6	29.9	-	-	-	-	-	23.	Ditto
24.	Coffee	GDP @	10.5	11.2	11.7	11.1	10.3	9.0	9.4	10.9	10.7	10.5	9.2	9.6	8.6	8.4	8.4	7.7	7.6	6.9	6.7	6.2	5.8	-	-	-	-	-	24.	Same as line 19
25.	Other	f.c. in	29.5	28.1	27.8	26.3	25.8	26.5	25.8	25.6	26.0	25.5	25.4	24.6	24.9	24.3	24.1	23.7	23.3	24.1	24.6	24.3	24.1	-	-	-	-	-	25.	Ditto
26.	Manufacturing	1958 Ps.	13.9	13.9	14.0	14.4	14.8	15.1	15.6	15.9	16.2	16.4	16.7	16.8	17.0	17.3	17.2	17.4	17.6	17.5	17.5	17.7	18.2	-	-	-	-	-	26.	BOR Cuentas Nacionales series in constant 1958 prices
27.	Food Production per cap.	1958 Ps.	338	354	362	341	340	337	339	339	336	343	336	342	355	346	350	347	343	342	322	335	356	..	..	..	..	..	27.	USDA series on food production and population as in line 1
	CONSUMPTION																													
28.	Total per capita	1958 Ps.	972	959	993	1,034	1,089	1,100	1,085	1,066	1,054	1,072	1,092	1,127	1,182	1,203	1,265	1,218	1,283	1,263	1,294	1,343	1,421	2.5	..	2.2	3.1	1.9	28.	BOR Cuentas Nacionales and population as in line 1
29.	Family Consumption	1958 Ps.	902	882	914	941	996	1,006	996	989	976	995	1,010	1,043	1,094	1,113	1,176	1,127	1,191	1,169	1,200	1,245	1,317	2.2	..	2.2	3.2	1.9	29.	Ditto
30.	Government Consumption	1958 Ps.	70	77	79	93	93	94	89	77	78	77	82	84	88	90	89	91	92	94	94	98	104	6.0	-2.5	2.1	2.7	2.0	30.	Ditto
	RESOURCES & USES, at current m.p.																													
31.	Gross Domestic Product (GDP)	mln. Ps.	7,861	8,941	9,651	10,734	12,759	13,250	14,863	17,811	20,683	23,649	26,747	30,421	34,199	43,526	53,761	60,798	73,612	83,083	96,422	110,953	130,705	5.2	4.0	4.7	5.8	4.9	31.	BOR Cuentas Nacionales; growth rates in real terms (1958 prices)
32.	Exports of goods & n.f. services	mln. Ps.	853	1,242	1,286	1,677	1,908	1,643	1,846	2,703	3,890	4,070	4,164	3,920	4,147	5,174	6,377	6,944	8,917	9,950	12,520	14,675	18,698	-	-	-	-	-	32.	BOR Cuentas Nacionales (implicit exchange rates approx. as line 6)
33.	Imports of goods & n.f. services	mln. Ps.	795	1,139	1,192	1,566	1,859	1,897	1,880	2,435	3,271	3,384	4,161	4,435	4,408	5,666	7,169	6,325	11,098	9,521	13,780	15,947	20,395	-	-	-	-	-	33.	Ditto
34.	Total Resources	mln. Ps.	7,803	8,838	9,557	10,623	12,710	13,504	14,897	17,543	20,064	22,963	26,744	30,936	34,460	44,018	54,553	60,179	75,793	82,654	97,688	112,225	131,808	-	-	-	-	-	34.	(= 31-32+33) (= 35+36)
35.	Total Consumption	mln. Ps.	6,478	7,477	8,064	8,983	10,568	11,123	12,192	14,010	16,201	18,567	21,249	24,601	28,055	36,173	44,951	49,437	60,753	67,313	77,276	89,062	104,872	5.4	2.9	5.5	6.5	5.0	35.	BOR Cuentas Nacionales; growth rates in real terms (1958 prices)
36.	Gross Domestic Investment	mln. Ps.	1,325	1,361	1,493	1,640	2,142	2,381	2,705	3,533	3,863	4,396	5,495	6,335	6,405	7,845	9,602	10,742	15,040	15,341	20,406	23,163	26,930	8.8	-4.6	0.5	13.4	4.0	36.	Ditto
	OUTPUT, EXPENDITURE & SAVINGS																													
37.	Gross National Product (GNP)	% GDP m.p.	99.1	98.9	99.2	99.2	99.4	99.5	99.4	98.7	98.1	98.7	98.9	98.7	98.5	98.1	98.5	98.5	98.3	98.2	97.9	97.6	97.6	-	-	-	-	-	37.	All national income parameters based on series in current prices (BOR)
38.	Gross Domestic Savings	% GDP m.p.	17.6	16.4	16.5	16.4	17.2	16.0	18.0	21.4	21.6	21.5	20.6	19.1	18.0	16.9	16.3	18.7	17.4	19.0	19.9	19.7	19.4	-	-	-	-	-	38.	(=GDP or 100% less line 40)
39.	Gross National Savings	% GDP m.p.	16.7	15.3	15.7	15.6	16.6	15.5	17.4	20.1	19.7	20.2	19.5	17.8	16.5	15.0	14.8	17.2	15.7	17.2	17.8	17.3	17.0	-	-	-	-	-	39.	(= 37-40) (= 52+53+54+55)
40.	Total Consumption	% GDP m.p.	82.4	83.6	83.5	83.6	82.8	84.0	82.0	78.6	78.4	78.5	79.4	80.9	82.0	83.1	83.7	81.3	82.6	81.0	80.1	80.3	80.6	5.4	2.9	5.5	6.5	5.0	40.	
41.	Private	% GDP m.p.	76.9	77.8	77.5	76.9	76.1	76.9	75.5	72.9	72.6	72.7	73.2	74.3	75.1	75.9	77.2	74.8	75.9	74.1	73.3	73.2	73.6	5.1	3.1	5.5	6.6	5.0	41.	
42.	General Government	% GDP m.p.	5.5	5.8	6.0	6.7	6.7	7.1	6.5	5.7	5.8	5.8	6.2	6.6	6.9	7.2	6.5	6.5	6.7	6.9	6.8	7.1	7.0	9.2	0.2	5.4	6.1	5.1	42.	
43.	Gross Domestic Investment (GDI)	% GDP m.p.	16.9	15.2	15.5	15.3	16.8	18.0	18.2	19.9	18.6	18.6	20.5	20.8	18.7	18.0	17.8	17.7	20.4	18.5	21.2	20.9	20.7	8.8	-4.6	0.5	13.4	4.0	43.	(= 44+45+46) (=39+51)
44.	Private - stocks	% GDP m.p.	2.7	1.9	1.7	-1.3	-0.1	..	1.2	5.0	2.5	2.1	2.4	2.5	0.8	1.5	1.7	2.1	3.7	0.7	1.7	1.7	0.7	-	-	-	-	-	44.	No allowance in Colombian national accounts is made for Government inventory
45.	- fixed	% GDP m.p.	12.3	10.9	11.6	13.9	14.1	14.1	13.3	11.7	13.1	13.3	15.1	14.5	14.1	13.3	13.2	12.5	12.6	12.6	13.9	13.2	13.4	10.5	-2.2	1.2	4.8	3.4	45.	investment
46.	Public - fixed	% GDP m.p.	1.9	2.4	2.2	2.7	2.8	3.9	3.7	3.2	3.0	3.1	3.0	3.8	3.8	3.2	2.9	3.1	4.1	5.2	5.6	6.0	6.6	24.0	-4.9	1.8	24.0	10.0	46.	
47.	Gross Fixed Capital Formation	% GDP m.p.	14.2	13.3	13.8	16.6	16.9	18.0	17.0	14.9	16.2	16.4	18.1	18.3	17.9	16.5	16.1	15.6	16.7	17.8	19.5	19.2	20.0	12.3	-2.7	1.2	8.6	4.6	47.	(45+46)
48.	Total Expenditure	% GDP m.p.	99.3	98.8	99.0	98.9	99.6	102.0	100.2	98.5	97.0	97.1	99.9	101.7	100.7	101.1	101.5	99.0	103.0	99.5	101.3	101.2	101.3	-	-	-	-	-	48.	(= 40+43)
49.	Resource Gap	% GDP m.p.	-0.7	-1.2	-1.0	-1.1	-0.4	2.0	0.2	-1.5	-3.0	-2.9	-0.1	1.7	0.7	1.1	1.5	-1.0	3.0	-0.5	1.3	1.2	1.3	-	-	-	-	-	49.	(= 48-100%) (= 51-50)
50.	Net Factor Payments to Abroad	% GDP m.p.	0.9	1.1	0.8	0.8	0.6	0.5	0.6	1.3	1.9	1.3	1.1	1.3	1.5	1.9	1.5	1.5	1.7	1.8	2.1	2.4	2.4	-	-	-	-	-	50.	(= GDP-GNP), essentially payments for services of foreign capital loans and investments
51.	Balance of Payment c/a deficit	% GDP m.p.	0.2	-0.1	-0.2	-0.3	0.2	2.5	0.8	-0.2	-1.1	-1.6	1.0	3.0	2.2	3.0	3.0	0.5	4.7	1.3	3.4	3.6	3.7	-	-	-	-	-	51.	(= 49+50); taken here before allowance for unrequited transfers (line 78)
52.	Family Savings	% GDP m.p.	6.2	3.4	3.7	3.9	4.3	2.6	4.3	4.9	1.0	1.7	1.9	2.7	3.2	1.4	0.7	2.6	-0.3	1.5	1.7	0.2	n.a.	-	-	-	-	-	52.	
53.	Business Savings	% GDP m.p.	1.1	1.0	0.9	1.0	1.4	1.3	1.6	1.8	2.2	2.6	2.9	2.5	2.3	2.8	2.5	2.8	2.8	2.4	2.4	2.4	n.a.	-	-	-	-	-	53.	
54.	Government Savings	% GDP m.p.	3.3	4.3	4.4	4.0	4.6	4.7	4.3	4.2	4.7	5.1	4.7	3.5	1.8	1.4	3.6	3.6	4.7	4.8	5.3	6.6	n.a.	-	-	-	-	-	54.	
55.	Depreciation	% GDP m.p.	6.1	6.6	6.7	6.7	6.3	6.9	7.2	9.2	11.8	10.8	10.0	9.2	9.2	9.4	8.0	8.2	8.5	8.5	8.4	8.1	n.a.	-	-	-	-	-	55.	Private sector only. Cuentas Nacionales make no allowance for public sector depreciation
	FOREIGN LOAN ASSISTANCE																													
56.	Public Loan Disbursements - gross	% GDP m.p.	0.3	0.3	0.7	0.3	0.3	0.2	0.3	1.7	1.7	1.3	0.4	1.7	1.4	2.2	1.8	1.4	1.9	2.2	2.6	2.3	n.a.	-	-	-	-	-	56.	Loan disbursements from Balance of Payments table
57.	- net	% GDP m.p.	0.2	0.2	0.5	..	0.1	0.1	0.2	1.4	1.3	0.5	-0.4	1.1	1.0	1.6	1.4	0.7	1.3	1.7	2.1	1.8	n.a.	-	-	-	-	-	57.	
58.	Program Loan Disbursements	% GDP m.p.	-	-	-	-	-	-	-	-	-	-	-	0.9	0.6	1.0	0.5	0.5	0.8	0.8	1.2	1.1	n.a.	-	-	-	-	-	58.	
59.	Public Loan Disbursements - gross	% GDI	2.0	2.2	4.3	2.1	1.5	1.4	1.9	8.3	9.0	6.8	1.8	8.1	7.7	12.2	10.1	7.8	9.5	11.9	12.4	11.0	n.a.	-	-	-	-	-	59.	
60.	- net	% GDI	1.5	1.5	3.4	0.2	0.7	0.5	1.0	7.1	7.1	2.5	-2.1	5.2	5.3	8.7	7.6	4.0	6.1	9.2	9.9	8.8	n.a.	-	-	-	-	-	60.	
61.	IBRD/IDA Loan Disbursements - gross	% GDI	0.7	1.0	2.0	1.4	0.9	1.3	1.9	2.0	1.3	1.0	1.8	2.5	3.3	4.9	5.1	2.9	3.0	3.5	3.2	2.9	3.9	-	-	-	-	-	61.	
62.	- net	% GDI	0.7	1.0	1.9	1.2	0.7	1.0	1.4	1.3	0.2	-0.2	0.9	1.7	2.7	4.2	4.6	2.3	2.1	2.4	2.1	1.7	2.7	-	-	-	-	-	62.	
63.	IBRD/IDA to public entities - gross	% Pub. Inv.	-	6.1	14.5	8.0	5.7	5.1	7.9	12.4	8.0	5.9	12.6	13.9	16.4	28.0	30.6	15.4	10.2	7.8	7.3	7.0	8.8	-	-	-	-	-	63.	Excluding IBRD lending to Paz del Rio, DFCs and early agricultural credit loans
	CENTRAL GOVERNMENT																													
64.	Current Revenue	% GDP m.p.	6.3	7.5	7.3	7.8	8.2	8.2	7.7	6.9	7.7	7.8	8.0	7.2	6.2	7.1	7.2	6.5	8.2	8.1	8.4	8.5	9.2	12.0	2.7	0.4	13.3	6.9	64.	From 1961 cash figures; for earlier years estimated cash figures; based on Planeacion, Plan
65.	Current Expenditure	% GDP m.p.	5.0	3.7	5.3	5.2	5.1	7.0	5.9	4.5	5.2	4.4	4.7	5.0	5.6	5.8	5.4	5.0	5.6	5.2	5.3	5.8	6.0	13.0	-3.4	5.6	10.0	6.0	65.	de Desarrollo Economico y Social 1970-73, IBRD Economic Reports, DANE
66.	C/a Surplus	% GDP m.p.	1.3	3.8	2.0	2.6	3.1	1.5	1.8	2.4	2.5	3.4	3.3	2.2	0.6	1.3	1.8	1.5	2.6	2.9	3.1	2.7	3.1	-	-	-	-	-	66.	Boletin de Estadisticas December 1970 and Taylor Report (Fiscal Survey
67.	Investments	% GDP m.p.	1.5	2.3	2.0	2.5	3.0	4.9	3.2	2.5	2.0	2.8	3.0	4.3	3.1	3.0	2.9	2.2	2.5	3.2	3.8	3.6	4.0	30.0	-2.2	-1.8	19.4	10.4	67.	of Colombia, 1965). See table on Central Government Operations
68.	Overall Surplus	% GDP m.p.	-0.2	1.5	..	0.1	0.1	-3.4	-1.4	-0.1	0.5	0.6	0.3	-2.1	-2.5	-1.7	-1.1	-0.7	0.1	-0.3	-0.7	-0.9	-0.9	-	-	-	-	-	68.	
	EXTERNAL ACCOUNT																													
69.	N.Y. price Manizales coffee	USc/lb.	53.3	58.7	57.0	59.9	79.9	64.6	74.0	63.9	52.3	45.2	44.9	43.6	40.8	39.5	48.8	48.5	47.4	41.9	42.6	44.9	56.7	-	-	-	-	-	69.	
70.	Coffee Exports (adjusted)	$ mln.	308	360	380	492	550	483	529	408	366	346	302	311	307	315	444	373	331	333	368	370	478	9.4	-6.6	4.3	5.1	2.2	70.	Adjusted for unregistered shipments and overseas stock changes
71.	Coffee Share of Export Earnings	%	71.3	71.1	72.7	73.9	76.8	75.2	73.2	59.6	59.1	56.8	51.3	53.8	53.8	53.4	59.3	52.6	49.9	46.8	46.7	42.2		-	-	-	-	-	71.	
72.	Growth of Total Export Earnings	% change		17.1	3.3	27.3	7.5	-10.3	14.2	-6.7	-9.5	-1.6	-3.3	-1.9	-1.2	3.3	26.9	-5.3	-6.5	7.4	10.7	11.3		8.2	-1.6	3.8	5.4*	3.8*	72.	Rate of change in line 74
73.	Growth of Total Import Payments	% change		18.0	-1.1	32.6	18.2	0.7	-2.0	-20.5	-14.3	2.8	23.8	5.7	3.0	-5.0	24.8	-20.3	32.8	-19.7	24.4	9.7		12.9	-2.9	0.6	9.8*	4.2*	73.	Rate of change in line 75
74.	Total Exports Goods & n.f.s.	$ mln.	432	506	523	666	716	642	733	684	619	609	589	578	571	590	749	709	663	712	788	877		8.2	-1.6	3.8	5.4*	3.8*	74.	Balance of Payments follows IMF Balance of Payments Yearbook
75.	Total Imports Goods & n.f.s.	$ mln.	-406	-479	-473	-627	-741	-746	-731	-581	-498	-512	-634	-670	-690	-656	-819	-653	-867	-696	-866	-950		12.9	-2.9	0.6	9.8*	4.2*	75.	
76.	Net Factor Income	$ mln.	-39	-36	-19	-23	-15	-23	-16	-26	-62	-36	-40	-50	-57	-81	-73	-79	-86	-105	-113	-144	-170	-7.1	11.7	14.6	16.6	7.6	76.	
77.	C/a Surplus	$ mln.	-13	-9	31	16	-40	-127	-14	77	59	61	-85	-142	-176	-147	-143	-23	-290	-89	-191	-217	-262	-	-	-	-	-	77.	
78.	Unrequited Transfers	$ mln.	-1	14	-2	-1	-2	3	2	3	5	2	6	9	14	18	14	12	10	22	31	42	36	-	-	-	-	-	78.	See detailed Balance of Payments table
79.	Capital Movements	$ mln.	5	8	48	27	93	-15	246	80	-44	7	-18	75	65	161	292	-12	246	2	136	217		-	-	-	-	-	79.	Ditto
80.	Monetary Movements and E & O	$ mln.	9	-13	-77	-42	-51	139	-234	-160	-20	-70	97	58	97	-32	-163	23	34	65	24	-42		-	-	-	-	-	80.	Ditto
81.	Gold and for. exch. reserves, gross	$ mln.	101	125	155	190	257	136	131	145	160	212	178	149	96	87	104	96	77	83	173	221		-	-	-	-	-	81.	IMF International Financial Statistics, figures for Dec. 31
82.	External Public Debt - total	$ mln.	157	212	261	250	261	276	278	445	456	394	376	474	671	768	890	994	1,019	1,163	1,321	1,516		11.9	6.4	21.4	11.1*	12.7*	82.	See tables on Foreign Debt and Loans
83.	- disbursed	$ mln.						217	235	383	398	360	312	343	444	502	567	643	708	800	949	1,079			7.5	15.6	13.8*		83.	
84.	IBRD/IDA Share of Total Debt	%	7.1	14.1	20.7	26.9	26.8	31.5	35.3	20.8	19.5	24.8	36.4	36.1	32.6	37.3	36.3	31.8	34.1	31.1	34.3	32.6		-	-	-	-	-	84.	Includes undisbursed, and related to line 82
85.	Debt Service Ratio	%	2.8	2.4	3.1	5.1	4.5	6.4	5.0	10.2	20.4	21.0	13.9	12.8	13.1	15.3	13.0	14.2	16.4	13.2	12.6	11.3		18.0	16.7	0.4	-4.8*	7.2*	85.	Ratio between service on publicly guaranteed debt and total export earnings (line 74)
86.	Total Debt Service	$ mln.	12	12	16	34	32	41	37	70	126	128	82	74	75	90	97	101	109	94	99	99		27.7	14.9	4.2	.. *	11.7*	86.	
87.	IBRD/IDA Share of Debt Service	%	1.0	2.5	10.6	6.5	11.9	13.7	19.7	12.6	7.7	8.9	14.0	15.3	14.8	16.1	15.4	15.8	18.7	25.3	28.6	31.5		-	-	-	-	-	87.	Debt service on IBRD/IDA loans and credits as % of line 86.

GNI = Gross National Income; f.c. = factor cost; BOR = Banco de la Republica; m.p. = market prices; n.f.s. = non-factor services (i.e. not capital); E & O = Errors and Omissions.

.. = negligible; - = not applicable; n.a. = not available; * = through 1969 only.

COMPARISON OF TEN-YEAR GENERAL PLAN, 1962 IBRD MISSION RECOMMENDATIONS AND ACTUAL DEVELOPMENT 1960-70

		1959	1960	1961	1962	1963	1964	1965	1969	1970	Annual Rates of Growth a/ 1959-64	1964-70	1959-70
1962 TEN-YEAR GENERAL PLAN OF ECONOMIC AND SOCIAL DEVELOPMENT													
Population	mlns	14.5	14.9	-	-	-	-	-	-	19.7	-	-	2.8
Participation Rate	%	32.4	-	-	-	-	-	-	-	34.0	-	-	-
Economically Active Population	mlns	4.7	-	-	-	-	-	-	-	6.7	-	-	3.3
Agriculture	mlns	2.2	-	-	-	-	-	-	-	2.7	-	-	1.9
Non-agriculture	mlns	2.5	-	-	-	-	-	-	-	4.0	-	-	4.4
Productivity per Person	1958 Ps.	4623.0	-	-	-	-	-	-	-	6003.0	-	-	2.4
Agriculture	1958 Ps.	3125.0	-	-	-	-	-	-	-	4195.0	-	-	2.7
Non-agriculture	1958 Ps.	5975.0	-	-	-	-	-	-	-	7195.0	-	-	1.7
GDP: Agriculture	bln 1958 Ps.	7.0	-	-	-	-	-	-	-	11.2	-	-	4.4
Non-agriculture	bln 1958 Ps.	14.9	-	-	-	-	-	-	-	29.0	-	-	6.2
Total	bln 1958 Ps.	21.9	23.0	24.3	-	-	28.9	-	-	40.2	5.7	5.7	5.7
Investment Rate	%	18.7	-	23.8	-	-	25.9	-	-	25.3	-	-	-
Gross Investment	bln 1958 Ps.	4.1	-	5.8	-	-	7.5	-	-	10.2	12.8	5.3	8.6
Public Fixed	bln 1958 Ps.	0.8	-	1.6	1.8	2.0	2.2	-	-	3.2	22.4	6.4	13.4
Private Fixed	bln 1958 Ps.	2.7	-	3.4	3.7	4.1	4.5	-	-	5.9	10.8	4.7	7.4
Inventories	bln 1958 Ps.	0.5	-	0.8	-	-	0.8	-	-	1.1	-	-	-
Public Savings	bln 1958 Ps.	1.1	-	1.2	-	-	1.6	-	-	3.1	7.8	11.7	9.9
Private Savings	bln 1958 Ps.	3.4	-	4.0	-	-	5.1	-	-	7.0	8.5	5.4	6.8
Foreign Savings	bln 1958 Ps.	-0.4	-	0.6	-	-	0.8	-	-	0.1	-	-	-
B.of P.Current Acct.Deficit	mln $	-61	86	100	121	122	125	134	41	9	-	-	-
Imports of goods & n.f.s.	mln $	-	-	684	717	756	795	812	879	897	-	2.2	-
Net Factor Payments	mln $	48	n.a.	52	55	63	80	100	136	142	-	7.3	-
Exports of n.f.s.	mln $	-	-	92	102	110	118	126	-	172	-	6.4	-
Exports of goods	mln $	-	532	544	549	587	632	652	-	857	4.2	5.6	4.8
of wh. Petroleum	mln $	-	80	89	96	111	127	119	-	167	8.3	7.0	7.6
Bananas	mln $	-	14	16	17	21	25	32	-	43	17.4	6.1	11.9
Cotton	mln $	-	13	15	17	20	24	27	-	39	15.7	7.6	11.6
Livestock & Products	mln $	-	1	1	4	6	8	14	-	62	69.5	34.7	51.0
Chemicals	mln $	-	1	- b/	- b/	- b/	20	- b/	-	35	-	-	42.7
Tobacco	mln $	-	2	3	3	3	3	3	-	5	8.5	10.8	9.6
Other visible	mln $	-	34	39	44	50	40	64	-	71	13.5	1.8	7.6
Contraband	mln $	-	54	53	30	30	30	30	-	30	-	-	-
Coffee	mln $	-	333	328	338	346	355	363	-	405	1.7	2.2	2.0
Price/lb.	US ¢	-	44.9	44.0	43.1	42.2	41.4	40.6	-	40.6	-	-	-
Volume	mln bags	-	5.9	6.0	6.3	6.6	6.9	7.2	-	8.0	4.1	2.2	6.3
Unrequited Transfers (net)	mln $	-	-	12	17	17	18	18	20	21	-	3.1	-
Foreign Direct Investment	mln $	-	-	19	35	35	18	15	15	15	-	0.1	-
Official Long-term Loans (gross)	mln $	-	-	137	109	108	134	141	42	13	-	-	-
Amortization	mln $	-	-	-68	-40	-38	-45	-40	-36	-40	-	-	-
Balancing Item	mln $	-	-	0	0	0	0	0	0	0	-	-	-
IBRD 1962 ADJUSTED PLAN b/													
GDP: Total	bln 1958 Ps.	21.9	23.0	24.3	-	-	28.9	-	-	40.2	7.2	5.7	5.7
Investment Rate	%	18.7	-	21.3	-	-	27.3	-	-	27.3	-	-	-
Gross Investment	bln 1958 Ps.	4.1	-	5.2	-	-	7.9	-	-	11.0	14.0	5.7	9.4
Public Fixed	bln 1958 Ps.	0.8	-	1.3	-	-	2.2	-	-	3.4	22.4	7.5	14.1
Private Fixed	bln 1958 Ps.	2.7	-	3.1	-	-	4.8	-	-	6.4	12.2	4.9	8.2
Inventories	bln 1958 Ps.	0.5	-	0.8	-	-	0.9	-	-	1.2	12.5	4.9	8.3
Public Savings	bln 1958 Ps.	1.1	-	-	-	-	1.6	-	-	3.1	7.8	11.7	9.9
Private Savings	bln 1958 Ps.	3.4	-	-	-	-	5.1	-	-	7.0	8.4	5.4	6.8
Foreign Savings	bln 1958 Ps.	-0.4	-	-	-	-	1.2	-	-	0.9	-	-	-
B.of P. Current Acct.Deficit	mln $	-	-	119	160	171	184	199	-	147	-	-	-
Imports of goods & n.f.s.	mln $	-	-	-	-	-	-	-	-	-	-	-	-
Net Factor Payments	mln $	48	n.a.	n.a.	42	49	62	81	-	127	-	-	-
Exports of n.f.s.	mln $	-	-	-	-	-	-	-	-	-	-	-	-
Exports of goods	mln $	528	532	498	523	555	586	600	-	730	2.4	3.9	3.2
of wh. Petroleum	mln $	-	80	70	96	111	127	119	-	167	8.3	7.0	7.6
Bananas	mln $	-	14	15	17	21	25	32	-	43	17.4	6.1	11.9
Cotton	mln $	-	13	7	15	18	22	26	-	40	14.9	9.0	11.9
Livestock & Products	mln $	-	..	..	..	..	1 c/	1 c/	-	15 c/	-	71.8	-
Chemicals	mln $	-	1	1	2	8	10	11	-	12	82.1	1.7	28.2
Tobacco	mln $	-	2	4	5	7	9	10	-	15	38.0	8.4	22.7
Other visible	mln $	-	35	38	43	40	42	51	-	68	7.8	5.9	6.9
Contraband	mln $	-	54	53	30	30	30	30	-	30	-	-	-
Coffee	mln $	-	333	310	315	320	320	320	-	340	-0.7	1.3	0.4
Price/lb.	US ¢	-	44.9	43.7	40.5	39.5	38.5	37.5	-	33.0	-	-	-
Volume	mln bags	-	5.9	5.7	5.9	6.1	6.3	6.5	-	7.7	1.9	3.4	2.7
Unrequited Transfers (net)	mln $	-	-	20	25	20	20	20	-	-	-	-	-
Foreign Direct Investment	mln $	-	-	9	15	20	20	20	-	-	-	-	-
Official Long-term Loans	mln $	-	-	79	146	206 d/	244 d/	222 d/	-	-	-	-	-
Amortization	mln $	-	-	-69	-55	-60	-63	-53	-	-	-	-	-
Balancing Item	mln $	-	-	80	29	-15	-37	-10	-	-	-	-	-
ACTUAL DEVELOPMENT e/													
Population	mlns	15.8	16.3	16.9	17.4	18.0	18.5	19.1	21.8	22.5	3.2	3.3	3.3
Participation Rate	%	29.8	-	-	-	-	28.8	-	28.8	28.8	-	-	-
Economically Active Population	mlns	4.7	-	-	-	-	5.3	-	6.3	6.5	2.4	3.5	3.0
Agriculture	mlns	2.2	-	-	-	-	2.5	-	2.7	2.7	2.6	1.3	1.9
Non-agriculture	mlns	2.5	-	-	-	-	2.8	-	3.6	3.8	2.2	5.2	3.9
Productivity per Person	1958 Ps.	4686.0	-	-	-	-	5266.0	-	5751.0	5954.0	2.2	2.1	2.2
Agriculture	1958 Ps.	3343.0	-	-	-	-	3368.0	-	3777.0	3960.0	0.2	2.7	1.5
Non-agriculture	1958 Ps.	5897.0	-	-	-	-	6996.0	-	7258.0	7415.0	2.3	1.0	2.1
GDP: Agriculture	bln 1958 Ps.	7.5	-	-	-	-	8.6	-	10.3	11.6	2.8	5.1	4.1
Non-agriculture	bln 1958 Ps.	14.7	-	-	-	-	19.5	-	25.8	27.0	5.8	5.6	5.7
Total	bln 1958 Ps.	22.2	23.1	24.3	25.6	26.5	28.1	29.1	36.1	38.6	4.8	5.4	5.2
Investment Rate	%	18.4	20.7	21.8	18.8	17.7	19.2	17.9	19.1	19.7	-	-	-
Gross Investment	bln 1958 Ps.	4.1	4.8	5.3	4.8	4.7	5.4	5.2	6.9	7.6	5.7	5.9	5.8
Public Fixed	bln 1958 Ps.	0.6	0.6	0.8	0.8	0.6	0.7	0.7	1.6	1.8	3.1	17.1	10.5
Private Fixed	bln 1958 Ps.	3.0	3.6	3.8	3.8	3.6	4.1	3.8	4.5	5.5	6.5	5.0	5.7
Inventories	bln 1958 Ps.	0.5	0.5	0.7	0.2	0.5	0.6	0.7	0.8	0.3	-	-	-
Public Savings f/	bln 1958 Ps.	1.1	1.1	0.8	0.5	0.4	1.0	1.0	2.4	-	-1.9	-	8.1 h/
Private Savings f/	bln 1958 Ps.	3.4	3.4	3.5	3.7	3.6	3.2	4.0	3.8	-	-1.2	-	1.1 h/
Foreign Savings	bln 1958 Ps.	-0.4	0.2	0.7	0.6	0.8	0.8	0.1	1.3	-	-	-	-
B.of P. Current Acct.Deficit	mln $	-61	85	142	176	147	143	23	217	262	-	-	-
Imports of goods & n.f.s.	mln $	512	634	670	690	656	819	653	950	n.a.	0.6	-	4.6 i/
Net Factor Payments	mln $	36	40	50	57	81	73	79	144	170	14.6	16.6	15.6 i/
Exports of n.f.s.	mln $	81	94	102	95	105	113	118	205	n.a.	4.6	-	9.0
Exports of goods	mln $	528	495	476	476	485	636	591	672	799	3.6	6.2	4.9
of wh. Petroleum	mln $	-	80	68	61	77	75	88	57	55	19	-9.0	-0.7
Bananas	mln $	-	14	14	11	13	12	19	20	17	6.3	-2.3	2.0
Cotton	mln $	-	13	10	16	9	6	8	33	32	-9.3	32.0	9.4
Livestock & Products	mln $	-	..	..	..	..	..	8	13	24	-	-	-
Chemicals	mln $	-	1	1	1	2	4	6	n.a.	n.a.	43.5	-	-
Tobacco	mln $	-	2	4	6	7	9	7	7	8	28.5	2.7	14.9
Other visible	mln $	-	38	43	49	47	61	70	139	150	13.0	16.5	14.7
Contraband	mln $	-	45	25	25	15	25	12	33	35	-	-	-
Coffee	mln $	-	302	311	307	315	444	373	370	478	4.3	5.1	4.7
Price/lb.	US ¢	-	44.9	43.6	40.8	39.6	48.8	48.5	44.9	56.4	-	-	-
Volume	mln bags	-	5.9	5.7	6.6	6.1	6.4	5.6	6.0	6.5	-1.0	3.0	1.9
Unrequited Transfers (net)	mln $	2	6	9	14	18	14	12	42	-	14.9	-	24.2 j/
Foreign Direct Investment	mln $	1	3	6	10	18	66	10	50	-	27.2	-	36.7 j/
Official Long-term Loans (gross)	mln $	74	22	92	158	127	132	156	196	-	47.9	-	27.5
Amortization	mln $	-111	-69	-60	-56	-69	-73	-79	-66	-	-	-	-
Balancing Item	mln $	-27	123	98	50	53	4	-76	-5	-	-	-	-

Notes

a/ Included in other visible.

b/ Not all of these projections were made explicit in the Bank Mission report and some of them had to be pieced together from various remarks, in particular those relating to investment. At some points the Mission implies acceptance of the Plan's investment estimates, but at other points it implies that it considers them too low. Since it explicitly approves the savings targets as reasonable and also recommends increased capital inflow it has been assumed here that the projections assumed valid were those implying a higher investment rate.

c/ Meat only.

d/ Including $40 million p.a. for the Private Investment Fund.

e/ Sources are Cuentas Nacionales of Banco de la Republica, and tables given elsewhere in this report.

f/ Calculated arbitrarily by applying savings rates calculated on the basis of national accounts series in current prices to GDP expressed in constant 1958 Pesos.

g/ For the balance of payments accounts and coffee annual rates of growth are shown not for the periods indicated but for 1960-65, 1965-70, and 1960-70.

h/ For period 1959-69; first column of growth rates is for 1959-64.

i/ For period 1960-69; first column of growth rates is for 1960-65.

P & B
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ANNEX TABLE 1.3

CENTRAL GOVERNMENT OPERATIONS

(In million Pesos, on Treasury cash-flow basis for 1963 and following years; estimated approximate cash flows for earlier years)

	1950	1951	1952	1953	1954	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970
I. Current Account Income	494	669	704	840	1,043	1,132	1,138	1,227	1,592	1,855	2,139	2,199	2,114	3,069	3,847	3,948	6,026	6,688	8,057	9,470	11,950
1. Income Taxes	203	253	299	308	415	500	546	553	703	810	952	990	1,065	1,383	1,881	1,961	2,310	2,862	3,591	4,327	5,454
2. Inheritance Tax	10	16	18	23	26	38	45	32	31	40	n.a.	n.a.	70	90	90	100	109	119	150	159	170
3. Customs Duties	91	215	196	249	335	269	220	184	193	361	572	592	540	565	659	670	1,911	1,117	1,364	1,589	2,199
4. Import Surcharge (3%)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	73	184	218	296
5. Exchange Differential	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	532	626	340	346	371	428	510	785
6. Sales Taxes	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	222	644	724	770	877	1,029
7. Stamp Taxes	57	40	45	60	54	62	55	66	39	39	43	88	98	117	152	153	311	410	477	525	599
8. Fuel Taxes	-	-	-	-	-	-	-	-	-	-	-	-	-	-	44	56	62	649	694	725	836
9. Other Taxes 10. Non-Tax Revenues	133	145	146	200	213	263	272	394	626	605	572	529	341	382	395	446	96 237	43 320	56 343	112 428	19 563
II. Current Account Expenditures	390	334	513	555	656	936	876	803	1,080	1,047	1,264	1,515	1,914	2,509	2,878	3,010	4,120	4,293	5,122	6,418	7,858
1.																					
1. Personal Services	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	792	805	1,175	1,439	1,560	2,150	2,440	2,474	2,950	3,109
2. General Expenditures	66	83	119	163	178	192	207	164	223	190	252	265	275	453	279	283	409	418	485	590	722
3. Transfers	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	389	624	707	962	970	1,227	1,122	1,794	2,465	3,397
4. Interest on Public Debt	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	31	42	55	n.a.	n.a.	69	120	174	198	198	334	313	369	413	630
a. External	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	29	50	71	90	83	84	100	130	171	249
b. Internal	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	40	70	103	108	115	250	213	239	242	381
III. Current Account Surplus	104	335	191	285	387	196	262	424	512	808	875	684	200	560	968	938	1,906	2,395	2,935	3,052	4,092
IV. Investment	115	208	189	265	382	550	471	439	412	664	811	1,303	1,046	1,296	1,562	1,330	1,852	2,626	3,646	3,987	5,233
V. Overall Surplus/Deficit (-)	-11	127	2	20	5	-354	-209	-15	100	144	64	-619	-846	-736	-594	-392	54	-231	-711	-935	-1,141
1. Internal Credit - Individuals	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	-163	-55	-147	49	-159	135	304	7	163	-132	46	-171	-211
2. Internal Credit - Central Bank	3	-39	14	123	4	177	198	-1	35	-14	103	292	837	100	440	468	-279	2	-400	-166	-106
3. External Credit	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	28	-75	-20	278	168	501	-150	-95	80	367	1,063	1,272	1,458
U.S. AID Counterpart	-	-	-	-	-	-	-	-	-	-	-	-	119	n.a.	3	48	218	605	1,206	1,344	1,641
Other Funds	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	32	26	48	48	118	180	197
Less Amortization	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	185	-169	-186	-286	-261	-252	-380
Memo Items:																					
As % of GNP																					
GDP at current m.p.	7,860	8,941	9,651	10,735	12,759	13,250	14,863	17,811	20,683	23,649	26,747	30,421	34,199	43,526	53,760	60,798	73,612	83,083	96,422	110,953	130,026
Taxes on Income & Wealth (1 + 2)	2.7	3.0	3.3	3.1	3.5	4.1	4.0	3.3	3.5	3.6	(3.6)*	(3.3)*	3.3	3.4	3.7	3.4	3.3	3.6	3.9	4.0	4.3
Taxes on Foreign Trade (3, 4, 5)	0.2	2.4	2.0	2.3	2.6	2.0	1.5	1.0	0.9	1.5	2.1	1.9	1.6	2.5	2.4	1.7	3.1	1.9	2.0	2.1	2.5
Total Current Account Income	6.3	7.5	7.3	7.8	8.2	8.5	7.7	6.9	7.7	7.8	8.0	7.2	6.2	7.1	7.2	6.5	8.2	8.1	8.4	8.5	9.2
Current Account Expenditures	5.0	3.7	5.3	5.2	5.1	7.0	5.9	4.5	5.2	4.4	4.7	5.0	5.6	5.8	5.4	5.0	5.6	5.2	5.3	5.8	6.0
Current Account Surplus	1.3	3.8	2.0	2.6	3.1	1.5	1.8	2.4	2.5	3.4	3.3	2.2	0.6	1.3	1.8	1.5	2.6	2.9	3.1	2.7	3.1
Investment	1.5	2.3	2.0	2.5	3.0	4.9	3.2	2.5	2.0	2.8	3.0	4.3	3.1	3.0	2.9	2.2	2.5	3.2	3.8	3.6	4.0
External Credit (net)	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	0.1	-0.3	-0.1	0.9	0.5	1.2	-0.3	-0.2	0.1	0.4	1.1	1.1	1.1
In Constant 1968 Prices a/																					
Taxes on Income & Wealth	1,131	1,297	1,506	1,499	1,795	2,190	2,234	1,884	2,085	2,270	(2,342)*	(2,247)*	2,418	2,548	2,937	2,803	2,854	3,249	3,741	4,127	4,724
Taxes on Foreign Trade	483	1,036	931	1,128	1,363	1,095	832	592	548	964	1,407	1,344	1,150	1,898	1,915	1,374	2,663	1,701	1,976	2,132	2,755
Total Current Account Income	2,623	3,225	3,344	3,805	4,245	4,607	4,302	3,951	4,521	4,953	5,262	4,992	4,503	5,309	5,732	5,369	7,111	7,290	8,057	8,712	10,038
Current Account Expenditures	2,071	1,610	2,437	2,514	2,670	3,810	3,311	2,586	3,067	2,795	3,109	3,439	4,077	4,341	4,288	4,094	4,862	4,679	5,122	5,905	6,601
Investment	611	1,003	898	1,200	1,555	2,239	1,780	1,414	1,170	1,773	1,995	2,958	2,228	2,242	2,327	1,809	2,185	2,862	3,646	3,668	4,396
Annual Real Growth Rates %																					
Taxes on Income & Wealth	-	14.7	16.1	-0.5	19.7	22.0	2.0	-15.7	10.7	8.9	(3.2)*	(-4.1)*	(7.6)*	5.4	15.3	-4.6	1.8	13.8	15.1	10.3	14.5
Taxes on Foreign Trade	-	114.5	-10.1	21.2	20.8	-19.7	-14.0	-28.8	-7.4	75.9	46.0	-4.5	-14.4	65.0	0.9	-28.3	93.8	-36.1	16.2	7.9	29.2
Total Current Account Income	-	23.0	3.7	13.8	11.6	8.5	-16.6	-8.2	14.4	9.6	6.2	-5.1	-9.8	17.9	8.0	6.3	32.4	2.5	10.5	8.1	15.2
Current Account Expenditures	-	-12.3	51.4	3.2	6.2	42.7	-13.1	-11.9	18.6	-8.9	11.2	10.6	18.6	6.5	-1.2	-4.5	18.8	-3.8	9.5	15.3	11.8
Investment	-	64.2	-10.5	33.6	29.6	44.0	-10.5	-20.6	-17.3	51.5	12.5	48.3	-14.7	0.6	3.8	-22.3	20.8	31.0	27.4	0.6	19.8
Number of Income Tax Payers (thousands)	80	93	107	113	119	147	160	n.a.	305	356	429	489	531	583	658	551	n.a.	829	922	1,172	1,224
Natural Persons	79	92	106	112	111	138	151	n.a.	293	343	414	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	1,199
Legal Persons	1	1	1	1	8	9	9	n.a.	12	13	15	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	25

* Inheritance tax not available.

a/ Converted using GDP deflator.

Sources: Departamento Nacional de Planeacion, Plan de Desarrollo Economico y Social 1970-73
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ANNEX TABLE 1.4

DISTRIBUTION OF NATIONAL GOVERNMENT EXPENDITURES
(Accrual basis; millions of 1968 Pesos)

		1951	1952	1953	1954	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970
Expenditures on Economic Development																					
Agriculture	Mln Ps.	123.6	126.5	166.6	107.0	105.3	82.8	68.6	228.5	80.2	129.0	372.2	253.8	172.4	272.9	566.4	556.2	584.4	800.1	804.3	985.6
	% of Total	10.9	12.2	12.1	7.1	3.1	4.5	5.2	14.7	5.8	8.3	11.5	10.5	7.7	13.6	28.6	24.1	21.8	21.3	18.0	25.1
Mining & Energy	Mln Ps.	117.1	173.7	170.7	189.3	1448.0	182.8	108.0	142.7	164.5	261.4	252.3	347.4	518.7	246.1	110.8	167.4	189.5	310.4	982.8	494.7
	% of Total	10.4	16.7	12.4	12.5	42.7	9.9	8.1	9.2	11.9	16.8	7.8	14.4	23.3	12.3	5.6	7.2	7.1	8.3	22.0	12.6
Industry	Mln Ps.	2.8	25.6	13.7	3.8	2.9	4.5	2.1	59.3	8.2	11.3	33.6	43.3	38.3	83.9	16.4	36.3	114.0	320.5	230.6	a/
	% of Total	0.2	2.5	1.0	0.3	0.1	0.2	0.2	3.8	0.6	0.7	1.0	1.8	1.7	4.2	0.8	1.6	4.3	8.5	5.2	
Buildings	Mln Ps.	63.2	54.1	87.2	95.6	144.3	196.4	102.7	68.3	61.9	98.8	147.8	166.9	176.5	35.6	79.6	135.6	106.9	264.2	116.8	85.2
	% of Total	5.6	5.2	6.4	6.3	4.3	10.6	7.7	4.4	4.5	6.4	4.6	6.9	7.9	1.8	4.0	5.9	4.0	6.9	2.6	2.2
Transport	Mln Ps.	648.7	449.2	669.0	813.4	1226.0	1102.6	898.3	658.6	937.7	778.9	1444.6	1144.7	925.1	1039.4	1041.0	1204.0	1353.4	1510.0	1736.7	1894.0
	% of Total	57.4	43.3	48.7	53.7	36.2	59.6	67.7	42.2	67.8	50.1	44.8	47.5	41.5	51.9	52.5	52.1	50.5	40.2	38.9	48.2
Services	Mln Ps.	160.3	194.3	207.6	103.5	130.5	188.1	59.4	110.1	95.9	171.7	531.0	307.6	107.2	139.6	134.6	171.0	250.4	352.3	470.0	330.4
	% of Total	14.2	18.7	15.1	6.8	3.8	10.2	4.5	7.1	6.9	11.0	16.5	12.8	4.8	7.0	6.8	7.4	9.3	9.4	10.5	8.4
Other b/	Mln Ps.	14.4	14.3	57.8	202.7	333.8	98.9	88.5	291.6	33.9	104.4	442.3	145.0	290.2	184.0	35.2	41.3	81.2	203.0	120.3	136.1
	% of Total	1.3	1.4	4.2	13.4	9.8	5.0	6.7	18.7	2.5	6.7	13.7	6.0	13.0	9.2	1.8	1.8	3.0	5.4	2.7	3.5
Total	Mln Ps.	1130.1	1037.3	1372.5	1515.2	3391.0	1849.0	1327.4	1559.2	1382.3	1555.6	3223.9	2408.7	2228.4	2001.4	1983.8	2311.8	2679.7	3760.6	4461.5	3926.1
	% of Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
All Expenditures																					
Economic Development	Mln Ps.	1130.1	1037.3	1372.5	1515.2	3391.0	1849.0	1327.4	1559.2	1382.3	1555.6	3223.9	2408.7	2228.4	2001.4	1983.8	2311.8	2679.7	3760.6	4461.5	3926.1
	% of Total	33.9	29.8	32.5	33.5	36.9	36.0	29.3	32.8	28.2	27.6	40.6	33.4	30.8	28.5	25.1	25.4	30.2	34.2	33.1	31.9
Social Development	Mln Ps.	417.8	472.7	534.1	641.0	728.3	737.9	595.9	747.7	788.5	907.6	1134.9	1406.7	1471.5	1727.5	1702.9	1869.5	1987.9	2506.1	3125.9	2959.2
	% of Total	12.5	13.6	12.7	14.2	7.9	14.4	14.0	15.7	16.1	16.1	14.3	19.5	20.4	24.6	21.6	20.5	22.4	22.8	23.2	24.0
Education	Mln Ps.	150.8	181.2	209.4	271.3	300.2	309.2	237.2	362.0	383.8	454.0	602.0	805.2	815.4	1034.4	1009.0	1071.8	1126.9	1357.6	1666.5	1580.5
	% of Total	4.5	5.2	5.0	6.0	3.3	6.0	5.6	7.6	7.8	8.0	7.6	11.2	11.3	14.7	12.8	11.8	12.7	12.3	12.4	12.8
General Expenditures	Mln Ps.	1352.5	1497.7	1831.1	2027.0	2192.8	2160.9	1917.4	1894.1	2240.6	2691.1	2938.6	2813.2	2832.1	2398.5	2422.5	2607.8	2665.0	3297.9	4416.1	3856.1
	% of Total	40.6	43.0	43.4	44.9	23.8	42.1	45.0	39.9	45.8	47.7	37.0	39.0	39.2	34.2	30.7	28.6	30.1	29.9	32.7	31.3
Defense	Mln Ps.	527.0	706.2	967.3	1116.3	1103.8	1084.1	870.7	819.9	792.2	879.3	912.2	928.7	867.2	804.5	859.2	848.8	883.2	1118.4	1007.8	1064.2
	% of Total	15.8	20.3	22.9	24.7	12.0	21.1	20.4	17.2	16.2	15.6	11.4	12.9	12.0	11.5	10.9	9.3	10.0	10.2	7.5	8.6
Police/Justice	Mln Ps.	249.7	331.8	312.9	388.6	427.4	450.1	407.5	367.5	485.2	648.3	1019.8	959.1	1007.3	884.3	954.5	1103.5	1137.4	1264.7	1382.3	1318.0
	% of Total	7.5	9.5	7.4	8.6	4.6	8.8	9.6	7.7	9.9	11.5	12.8	13.3	14.0	12.6	12.1	12.1	12.8	11.5	10.3	10.7
Total	Mln Ps.	3328.3	3480.3	4216.1	4516.9	9197.0	5128.7	4258.2	4752.1	4895.1	5644.3	7934.1	7212.2	7224.2	7011.9	7898.7	9109.2	8864.0	11011.3	13491.0	12317.0
	% of Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Source: 1951-1969 Contraloria General de la Republica - Informes Financieros
1970 Direccion General del Presupuesto - Ley de Presupuesto

a/ Included in "Development of Mining & Energy."

b/ Includes Special Economic Services.

ANNEX TABLE 1.5

COLOMBIA: BALANCE OF PAYMENTS 1950-70

(US$ Millions)

	1950	1951	1952	1953	1954	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970
Merchandise Exports (f.o.b.)																					
Coffee (Adjusted[a])	308	360	380	492	550	483	529	408	366	346	302	311	307	315	444	373	331	333	368	370	478
Crude Petroleum	65	74	71	76	76	61	70	76	67	73	80	68	61	77	75	88	71	61	36	57	55
Gold (Non-monetary)	12	14	14	14	13	13	15	11	12	14	15	14	14	11	13	11	10	9	6	5	6
'Minor'	23	26	22	40	31	35	54	46	39	40	53	58	69	67	79	107	109	127	171	212	231
Unrecorded Trade[b]	-	-	-	-	-	-	-	60	55	55	45	25	25	15	25	12	13	28	28	33	35
Subtotal	408	474	487	622	670	592	668	601	539	528	495	476	476	485	636	591	534	558	609	672	799
Exports of Services																					
Transportation	9	14	16	16	13	23	26	29	29	34	39	43	48	49	55	62	64	72	71	90	
Travel	7	8	9	11	13	14	9	11	17	17	23	23	13	19	25	28	33	46	45	52	
Other	8	10	11	17	20	13	30	43	34	30	32	36	34	37	33	28	32	36	63	63	
Subtotal	24	32	36	44	46	50	65	83	80	81	94	102	95	105	113	118	129	154	179	205	
Total Exports	432	506	523	666	716	642	733	684	619	609	589	578	571	590	749	709	663	712	788	877	
Merchandise Imports (c.i.f.)																					
Consumption Goods[c]	76	74	74	105	144	145	81	53	45	32	43	68	39	32	29	25	52	40	42	72	85
Intermediate Goods[c]	168	206	191	232	281	261	313	277	215	247	281	301	303	295	339	217	377	251	300	305	345
Capital Goods[c]	121	137	150	210	247	263	263	152	140	137	195	188	198	179	218	211	245	206	301	308	405
Unrecorded trade[d]	-	-	-	-	-	-	-	20	20	20	20	20	51	40	50	30	25	28	33	37	40
Subtotal	365	417	415	547	672	669	657	502	420	436	539	577	591	546	636	483	699	525	676	722	870
Imports of Services																					
Travel	13	15	19	20	23	23	22	28	23	22	28	24	23	25	55	50	54	58	60	70	
Government	13	29	24	26	23	30	29	14	11	7	9	9	14	8	10	13	12	14	23	29	
Other	15	18	15	34	23	24	23	37	44	47	58	60	62	77	118	107	102	99	107	129	
Subtotal	41	62	58	80	69	77	74	79	78	76	95	93	99	110	183	170	168	171	190	228	
Total Imports	406	479	473	627	741	746	731	581	498	512	634	670	690	656	819	653	867	696	866	950	
Net Factor Payments																					
Income on Direct Investment	36	30	15	11	8	16	9	19	48	19	27	36	35	39	16	25	30	36	47	74	90
Interest Payments on Public Debt	3	4	3	10	5	7	7	7	14	17	13	14	19	21	24	22	23	25	28	33	)
Interest Payments on Other Debt	-	2	1	2	2	-	-	-	-	-	-	-	3	21	33	32	33	44	38	37	) 80
Subtotal	39	36	19	23	15	23	16	26	62	36	40	50	57	81	73	79	86	105	113	144	170
Current Account Balance	-13	-9	31	16	-40	-127	-14	77	59	61	-85	-142	-176	-147	-143	-23	-290	-89	-191	-217	-262
Net Transfers (Donations)	-1	14	-2	-1	-2	3	2	3	5	2	6	9	14	18	14	12	10	22	31	42	36
Foreign Direct Investment																					
Inflow	1	3	8	11	15	..	12	4	-	1	3	6	10	18	66	10	40	42	50	54	
Outflow	-	-15	-	-10	-	-	-	-	-1	-	-	-	-	-	-	-	-	-2	-2	-4	
Subtotal	1	-12	8	1	15	-	12	4	-1	1	3	6	10	18	66	10	40	40	48	50	
Officially Guaranteed Loans[e]																					
Disbursements - IBRD	5	5	12	9	8	13	20	17	8	7	15	24	28	41	53	29	32	33	40	39	
- Other	8	11	48	26	27	20	30	189	121	67	7	68	130	86	79	127	119	128	182	157	
Repayments - IBRD	-	-	-1	-1	-2	-4	-5	-6	-6	-8	-8	-7	-6	-7	-5	-6	-10	-12	-14	-16	
- Other	-9	-8	-12	-23	-25	-30	-25	-57	-106	-103	-61	-53	-50	-62	-68	-73	-76	-57	-57	-50	
Subtotal	4	8	47	11	8	-1	20	143	17	-37	-47	32	102	58	59	77	65	92	151	130	
Other Loans, etc.																					
Disbursements	7	28	15	20	70	13	230	-	-	45	43	88	133	238	235	-	141	10	-	96	
Repayments	-7	-5	-22	-5	-	-27	-16	-67	-60	-2	-17	-51	-180	-153	-68	-99	-	-140	-63	-59	
Subtotal	0	23	-7	15	70	-14	214	-67	-60	43	26	37	-47	85	167	-99	141	-130	-63	37	
Other Monetary Movements (Net)	48	-51	-12	-14	1	144	30	-140	-9	-67	60	77	33	46	-35	-12	19	20	102	52	
Change in Reserves (Inc. = -)[f]	-22	26	-28	-10	-	-	28	-5	-10	1	-7	-10	31	-4	4	8	19	-6	-90	-49	
Net Errors & Omissions	-17	1	-37	-18	-52	-5	-292	-15	-1	-4	44	-9	33	-74	-132	27	-4	51	12	-45	
Memo Items:																					
Public Debt Service	12	12	16	34	32	41	37	70	126	128	82	74	75	90	97	101	109	94	99	99	
IBRD/IDA Debt Service	0.1	0.3	1.7	2.2	3.8	5.6	7.3	8.8	9.7	11.4	11.5	11.3	11.1	14.5	14.9	16.0	20.4	23.8	28.3	31.2	

a/ Adjusted to include unrecorded coffee exports and to allow for valuation adjustment and foreign stock changes.
b/ Unrecorded border exports, of which a large proportion is cattle on the hoof going to Venezuela.
c/ Breakdown in Leonidas Mora, Arturo Gutierrez and Octavio Barbosa, "Tendencia de la Industrializacion y del Comercio Exterior en Colombia," CID, Universidad Nacional, March 1970 and DANE.
d/ Unrecorded border imports.
e/ See Table of Disbursements of Loans Guaranteed by Governments
f/ Consistent with Annex Table 1.1 for 1965 and after because reserves in both places represent official holdings of gold and foreign exchange, but inconsistent for prior years because reserves in this table then refer only to gold.

Sources: Principally IMF Balance of Payments Yearbook, also: Table on Loan Disbursements, IBRD Economic Reports, IBRD Controller's Department, and IMF.

ANNEX TABLE 1.6

DISBURSEMENTS ON FOREIGN LOANS GUARANTEED BY COLOMBIAN GOVERNMENT

(US$ millions)

		1950	1951	1952	1953	1954	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970
Loans from Private Sector																						
Supplier Credits	Gross disbursement	)						17.1	3.4	4.4	2.2	6.3	10.0	36.2	6.9	12.4	16.7	33.1	15.4	38.8	37.0	
	Amortization	) -	4.2	34.2	20.8	21.8	20.6	- 8.2	-12.9	-12.5	- 9.1	-10.1	-11.7	-13.4	-11.2	-12.0	-10.8	-16.5	-17.9	-16.1	-15.8	
Others Privately Placed	Gross disbursement	)-4.1	-2.6	- 5.8	- 9.7	-18.2	-23.9	12.3	132.8	71.2	26.2	-	5.4	48.5	13.0	11.7	54.9	7.7	17.4	24.9	8.6	
	Amortization	)						-10.5	-37.5	-86.1	-71.3	-22.0	-18.6	-16.6	-24.2	-31.3	-24.8	-27.6	-20.0	-21.0	-18.0	
Publicly Issued Bonds	Gross disbursement	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Amortization	-1.5	-1.7	- 1.8	- 1.8	- 1.7	- 1.9	- 1.8	- 2.0	- 2.4	- 2.5	- 3.0	- 2.9	- 2.7	- 2.8	- 2.7	- 2.6	- 2.6	- 2.7	- 2.4	- 2.2	
Subtotal	Gross disbursement	-	4.2	34.2	20.8	21.8	20.6	29.4	136.2	75.6	28.4	6.3	15.4	84.7	19.9	24.1	71.6	40.8	32.8	63.7	45.6	
	Amortization	-5.6	-4.3	- 7.6	-11.5	-19.9	-25.8	-20.5	-52.4	-101.0	-82.9	-35.1	-33.2	-32.7	-38.2	-46.0	-38.2	-46.7	-40.6	-39.5	-36.0	
	Net inflow	-5.6	-0.1	26.6	9.3	1.9	- 5.2	8.9	83.8	- 25.4	-54.5	-28.8	-17.8	52.0	18.3	-21.9	33.4	- 5.9	- 7.8	24.2	9.6	
Loans from Public Sector																						
IBRD	Gross disbursement	4.8	5.6	12.2	9.1	8.1	12.8	20.2	16.5	7.7	6.8	15.4	23.9	27.6	41.2	52.7	29.3	31.8	32.8	39.9	38.8	57.9
	Amortization	-	-	- 1.0	- 1.1	- 2.4	- 3.5	- 5.0	- 5.7	- 6.4	- 8.0	- 8.3	- 7.4	- 5.6	- 6.9	- 5.2	- 6.2	-10.2	-11.4	-14.3	-15.6	-16.9
	Net inflow	4.8	5.6	11.2	8.0	5.7	9.3	15.2	10.8	1.3	- 1.2	7.1	16.5	22.0	34.3	47.5	23.1	21.6	21.4	25.6	23.2	41.0
IDB	Gross disbursement	-	-	-	-	-	-	-	-	-	-	-	-	1.7	2.4	12.6	5.3	5.8	11.3	13.1	12.4	
	Amortization	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	- 0.2	- 1.1	- 2.0	- 2.7	- 3.3	
	Net inflow	-	-	-	-	-	-	-	-	-	-	-	-	1.7	2.4	12.6	5.1	4.7	9.3	10.4	9.1	
IDA		-	-	-	-	-	-	-	-	-	-	-	-	3.9	2.4	2.0	2.3	2.6	4.8	1.4	0.1	
US EXIM Bank	Gross disbursement	8.6	6.8	13.2	4.9	5.0	0.1	0.3	53.6	46.0	39.0	-	51.3	1.8	1.6	0.2	7.1	9.4	15.3	13.1	13.0	
	Amortization	-3.5	-3.9	- 4.2	-11.8	- 4.9	- 4.8	-4.9	- 4.5	- 4.9	-20.6	-25.0	-19.7	-17.4	-23.4	-21.3	-34.3	-27.0	-12.0	-10.0	- 6.5	
	Net inflow	5.1	2.9	9.0	- 6.9	0.1	- 4.7	-4.6	49.1	41.1	18.4	-25.0	31.6	-15.6	-21.8	-21.1	-27.2	-17.6	3.3.	3.1	6.5	
US AID	Gross disbursement	-	-	-	-	-	-	-	-	-	-	-	1.5	37.8	59.7	38.1	40.6	59.8	61.5	86.5	81.5	
	Amortization	-	-	-	-	-	-	-	-	-	-	-	-	..	- 0.1	- 0.1	- 0.2	- 0.7	- 3.3	- 4.1	- 4.3	
	Net inflow	-	-	-	-	-	-	-	-	-	-	-	1.5	37.8	59.6	38.0	40.4	59.1	58.2	82.4	77.2	
Other Governments	Gross disbursement	-	-	-	-	-	-	-	-	-	-	-	-	-	..	1.8	0.2	0.7	2.3	4.6	4.7	
	Amortization	-	-	-	-	-	-	-	-	-	-	-	-	-	-	..	-	- 0.2	- 0.1	- 0.5	- 0.4	
	Net inflow	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.8	0.2	0.5	2.2	4.1	4.3	
Subtotal	Gross disbursement	13.4	12.4	25.4	14.0	13.1	12.9	20.5	70.1	53.7	45.8	15.4	76.7	72.8	107.3	107.4	84.8	110.1	128.0	158.6	150.5	
	Amortization	-3.5	-3.9	- 5.2	-12.9	- 7.3	- 8.3	- 9.9	-10.2	-11.3	-28.6	-33.3	-27.1	-23.0	-30.4	-26.6	-40.9	-39.2	-28.8	-31.6	-30.1	
	Net inflow	9.9	8.5	20.2	1.1	5.8	4.6	10.6	59.9	42.4	17.2	-17.9	49.6	49.8	76.9	80.8	43.9	70.9	99.2	127.0	120.4	
TOTAL	Gross disbursement	13.4	16.6	59.6	34.8	34.9	33.5	49.9	206.3	129.3	74.2	21.7	92.1	157.5	127.2	131.5	156.4	150.9	160.8	222.3	196.1	
	Amortization	-9.1	-8.2	-12.8	-24.4	-27.2	-34.1	-30.4	-62.6	-112.3	-111.5	-68.4	-60.3	-55.7	-68.6	-72.6	-79.1	-85.9	-69.4	-71.1	-66.1	
	Net inflow	4.3	8.4	46.8	-10.4	7.7	- 0.6	19.5	143.7	17.0	- 37.3	-46.7	31.8	101.8	58.6	58.9	77.3	65.0	91.4	151.2	130.0	
Memo Item: Program Loan Disbursements		-	-	-	-	-	-	-	-	-	-	-	40.0	30.0	50.6	31.7	27.9	43.7	45.2	74.8	71.8	

Sources: IBRD Debt Data, especially since 1956.
IMF Balance of Payments Yearbooks, especially for years prior to 1956.
Columbia University School of Law, "Public International Development Financing in Colombia" (June 1963).

ANNEX TABLE 1.7

COLOMBIA: FOREIGN EXCHANGE RATES

	(1) Av. Annual Rate for buying U. S. Dollars in Colombia in non-preferential official market (pesos per US$)	(2) Approximate Av. Annual Official Rate for imports of goods & services weighted by volume of transactions (pesos per US$)	(3) Exchange Rate Index based on Column (2) 1958 = 100	(4) Estimated Scarcity Price of Foreign Exchange	(5) Ratio of Scarcity Price to Official Price (4)/(2) x 100
1948	1.76	1.76	27.1		
1949	1.96	1.96	30.2		
1950	1.96	1.96	30.2	4.12	210
1951	2.39	2.39	36.8	4.64	194
1952	2.51	2.51	38.6	4.81	192
1953	2.51	2.51	38.6	3.76	150
1954	2.51	2.51	38.6	2.88	115
1955	2.51	2.51	38.6	3.43	137
1956	2.51	2.51	38.6	4.10	163
1957	5.06	4.20	64.6	8.33	198
1958	6.41	6.50	100.0	10.82	166
1959	6.40	6.50	100.0	13.38	206
1960	6.65	6.60	101.5	12.31	187
1961	6.70	6.70	103.1	12.42	185
1962	6.90	6.80	104.6	14.14	208
1963	9.00	8.90	136.9	19.47	219
1964	9.00	9.00	138.5	21.46	238
1965	10.50	9.90	152.3	29.04	293
1966	13.50	13.00	200.0	30.21	232
1967	14.73	14.30	220.0	37.86	265
1968	16.38	15.90	244.6	34.79	219
1969	17.37	17.00	261.5	n.a.	n.a.
1970	18.49	18.00	276.9	n.a.	n.a.

ANNEX TABLE 2.1

COLOMBIA AND THE IBRD: SUMMARY CHRONOLOGY 1948-59

	Colombia	Foreign Exchange Developments	IBRD Lending	IBRD - TA
1948				
April 9	Assassination of J. E. Gaitan - Bogotazo			
July-August			First IBRD Economic Mission	
November-December				Arrangements begin for General Survey Mission
December 15		10% devaluation (IMF) to 1.95		
1949				
April		Stringent import controls		
June	Congress. elections: slight majority for Liberals			
July-December				General Survey Mission in field under Lauchlin Currie
August 19			Agricultural Machinery ($5 mln)	
November 9	State of siege and Congress closed			
November 20	Pres. elections: Liberals boycott and Laureano Gomez elected			
1950				
July		Restrictive tariff law passed		
July 27				Report of General Survey Mission sent to President Ospina Perez
August 7	Pres. Laureano Gomez takes office			
September	Committee for Economic Development established to review G.S. Mission plan			
October		Restrictive credit policies adopted		
November 2			Chidral-Anchicaya ($3.53 mln)	
December 28			CHEC-La Insula ($2.6 mln)	
1951				
January 1		Tariffs sharply increased		
February	The 3 Liberal Members of Econ. Dev. Committee expelled from Lib. Party			
March 20		28% devaluation to 2.50 and import licensing dropped. Coffee: 2.10		
April 10			Highways ($16.5 mln)	Moreland appointed IBRD Highway Representative
September	Congress. elections: most Liberals boycott			
October	Laureano Gomez retires temporarily, and Urdaneta Arbelaez takes over			
November				IBRD sent Alfonso Manero to review Colombian financial markets
November 13			Lebrija Power ($2.4 mln)	
December		Tariffs reduced		
1952				
April	National Planning Council established to take over work of Econ. Dev. Committee			Hirschman obtained by IBRD to advise Nat. Plg. Council
April				F. Green becomes new IBRD Highway Representative
July				Manero report delivered to Government
July			IBRD turns down Barranquilla water project	
August 26			Atlantico Railway ($25 mln)	
November				Torfs sent to help establish Planning Office
1953				
March	Congress. elections: Liberals boycott			
May		Prior deposits introduced on imports		
June 10	Army deposes Pres. and Chief of Staff Gen. Rojas Pinilla assumes power			
June 17	Constitutional Assembly legitimizes Gen. Rojas Pinilla as President			
July	1-year surtax for high tax payers			
September 10			Highways II ($14.35 mln)	
October	Dividends brought within taxable income and income tax made more progressive			
1954				
January	Nat. Plg. Council replaced by Nat. Office of Economic and Fiscal Planning reporting to President			
January		Gradual devaluation of coffee rate halted at 2.38		
February		Abolition of import prohibition		
March		Coffee price reaches all-time high (USc 91)		
March	Cauca Valley citizens invite Lilienthal			
April		$5/bag coffee tax introduced		
June	Lilienthal reports to Rojas on a Cauca Valley Corporation (CVC)			
October 27	Rojas issues decree establishing Colombian National Railways (CNR)			
October	Nat. Economic Council and National Planning Committee established			
December 17	Bogota made Distrito Especial			
December		IMF permits $25 million drawing		
December 29			Agricultural Machinery($5 mln)	
December 31		Commercial arrears reach $75 mln; coffee tax meantime withdrawn		

	Colombia	Foreign Exchange Developments	IBRD Lending	IBRD - TA
1955				
January				Advisory Mission to CVC
January		Import taxes increased		
March 24			Chidral Power ($4.5 mln)	
March-June				7-man Agricultural Mission (Stewart)
April				Lacayo Fiallos becomes IBRD Highway Representative
May		Official free market introduced for capital and minor exports: fluctuated around 4.0		
June			Govt. agrees with IBRD Vice-President to general moratorium on foreign borrowing	
June 15			Atlantico Railway II ($15.9 mln)	
July	Rojas issues decree 1829 establishing Charter of CVC			
September-October				11-man Public Investment Mission (Waterston) with special group on steel industry
December 31		Commercial arrears reach $125 million		
1956				
February				Agricultural Mission Report issued
March			Report of Public Investment Mission sent to Government with covering letter	
April		Add'l imports shifted to free market, prior deposits doubled, some tariffs increased and measures taken to restrict credit		
June		Free market exch. rate reaches 4.70		
June 6			Highways III ($16.5 mln)	
July			Further lending depends on policy improvement	
October			IBRD President reaffirms lending suspension	
November			IBRD discussions with new Finance Minister	
November				Craig-Martin posted to Bogota to assist in implementing Agricultural Mission proposals
December		Free market exch. rate reaches 6.80 and commercial arrears $310 million		
1957				
May	Pres. Rojas Pinilla overthrown and replaced by military junta			
June		Austerity measures: fluctuating certificate foreign exchange market and parallel free market for capital and tourism only; export taxes; extensive prohibited imports. Credit restrictions tightened. Certificate rate for imports was pegged at 6.40		
June		Two-year IMF Stand-by ($25 mln)		
July	Gomez-Lleras conversations in Spain			
August 19		EXIM 4-year loan of $60 mln for arrears		
September		100% prior deposits on imports		
November 8	Decree 290 to encourage land-use by taxation of presumptive income			
December	Plebiscite for National Front: 66% voter turn-out and big victory			
1958				
March 31	A. Lleras gets support of Liberal Convention			
April				IBRD decides to resume lending
April		Coffee exch. rate fixed at 6.10. Others continue to fluctuate		
April 15	L. Gomez publicly supports A. Lleras			
April 24	Alberto Lleras accepts to be Presidential candidate for both parties			
May 4	Alberto Lleras elected by majority of 80%			
May		Import loans of $78 mln from EXIM (8 yrs.) and $25 mln from U.S. banks obtained		
July 20	Congress reinstalled			
August 7	President Alberto Lleras takes office			
December 15			Chidral power ($2.8 mln)	
1959				
January	Planning Department established			
January 30			CHEC power ($4.6 mln)	
May		Tariffs on manufactured and agricultural consumer goods and some intermediates sharply increased to encourage domestic production		
May 20			Medellin power ($12.0 million)	
July 27	Senate approves alternation of Presidency			
September				de Vries assigned to help prepare plan
October		One-year IMF Stand-by ($41.3 mln)		
November		$51 mln loans from EXIM & U.S. banks		

COLOMBIA, THE IBRD AND THE CONSULTATIVE GROUP: SUMMARY CHRONOLOGY 1960-70

ANNEX TABLE 2.2

	Colombia	Consultative Group	U.S. Program Loans & IMF	IBRD/IDA Loans & T.A.
1960				
Jan. 20				Bogota Power ($17.6 mln)
May 10				CVC/Chidral Power ($25.0 mln)
August	Comite Agrario appointed to prepare land reform bill			
Sept. 20				Railways Rolling Stock ($5.4 mln)
Oct. 24	Draft land reform bill completed			
Nov.			One-year IMF Stand-by ($75.0 mln)	
December	Four-Year Public Inv. Program published			
1961				
May 10			EXIM Bank General Import Loan ($45.4 mln)	
May 12				Medellin Power ($22.0 mln)
June 8	Senate approves land reform bill			
Aug. 28				Highways ($39.0 mln)
November	House approves land reform bill			
Dec. 13	President signs Land Reform Law (Law 135)			
1962				
January			One-year IMF Stand-by ($10.0 mln)	
January	Ten-Year General Plan published			
Jan.-Feb.		Major IBRD Mission to review Plan		
Mar. 18	Congress.Elections: Nat. Front falls short of two-thirds majority in House		US AID Program Loan ($30.0 mln)	
Apr. 20				
May 6	Pres. Elections: Nat. Front candidate Valencia (Cons.) wins 62% of vote			Bogota Power ($50.0 mln)
May 23				
August 7	Pres. Valencia takes office	Preliminary C.G. Meeting in Washington		
August		Kerr appointed IBRD Res. Rep. in Bogota		
September	International Coffee Agreement signed		US AID Program Loan ($60.0 mln), of which $30.0 mln released	
November	34% devaluation of exch. rate to 9.0			
December 18			One-year IMF Stand-by ($52.5 mln)	
1963				
January				
January	Congress approves new minimum wage			
January 22		First Meeting C.G. - Washington		
		Project List 1/1/63-6/30-64		
Mar. 7	Private Investment Fund (PIF) created			
April				T.A. mission to CVC (Conger) starts
May	N.Y. price of coffee reaches lowest level in last twenty years (US¢ 39)			
June 3				CVC/Chidral Power ($8.8 mln)
June 21				Railways Rehabilitation ($30.0 mln)
June 28				Paz del Rio Steel Mill ($30.0 mln)
July 16				Electribol Power-Cospique ($5.0 mln)
October 11			Second tranche ($30.0 mln) of 1962 Program Loan released	
November	Junta Monetaria created			
1964				
February			One-year IMF Stand-by ($10.0 mln)	
February 7				Medellin Power ($45.0 mln)
Mar. 11			US AID Program Loan ($15.0 mln). Signed but not released	
Mar. 14	Congress. Elections: Nat. Front wins two-thirds of House seats but ANAPO seats increase from 6 to 27			
June 1		Second Meeting C.G.-Washington		
		Project List 7/1/64-12/31/65		
July 13			US AID Program Loan ($45.0 mln). Signed but not released	
August		Res. Rep. Kerr leaves Bogota		Transport Engr. Lacayo posted to Bogota
October		Iverson appointed IBRD Res. Rep. in Bogota		
Oct. 28			$15.0 mln Program Loan released	
December 28			$25.0 mln released out of $45.0 mln loan.	
1965				
June 15			$10.0 mln released out of $45.0 mln loan	
September	38% devaluation of exch. rate to 12.40			
November				CVC T.A. mission terminated
December 13			$10.0 mln released out of $45.0 mln loan	
December 17		First Econ. Pol. Memo agreed & signed		
December 20			US AID Program Loan ($45.0 mln) of which $20.0 released	
1966				
January			One-year IMF Stand-by ($36.5 mln)	
March 18			$15.0 mln released out of $65.0 mln loan	
March 20	Congress. Elections: Nat. Front wins less than two-thirds majority in both houses & ANAPO strength increases			
May 1	Pres. Elections: Nat. Front candidate C. Lleras R. (Lib.) wins large majority			
May 16				Livestock ($16.7 mln)
May 31				Financieras ($25.0 mln)
June 15			$15.0 mln released out of $65.0 mln loan	
August 7	Pres. Lleras takes office			
August 19			$15.0 mln released out of $65.0 mln loan	
November 26	Negotiations with IMF broken off			
November 29	Exchange controls imposed			
December 15	Congress approves law for 51% majority			
1967				
March 22	Decree Law 444 establishes flexible exch. rate			
April 21		Second Econ. Pol. Memo. agreed & signed		
April			One-year IMF Stand-by ($60.0 mln)	
May 27			US AID Program Loan ($10.0 mln) of which $40.0 released	
				Telecommunications ($16.0 mln)
June 15		Third Meeting C.G. - Paris		
June 20-21		Project List 7/1/67-6/30/68		
		C.G. Joint Financing Meeting - Paris		Atlantico Irrigation ($9.0 mln)
June 22				
June 29			$20.0 mln released out of $100.0 mln loan	
August 11	Reunification of MRL with Official Liberals			
September 14		2nd Joint Financing Meeting - Paris		
October 26			$20.0 mln released out of $100.0 mln loan	
December 16				
1968				
February	Law 1 strengthens law reform			
March 17	Congress. Elections: Nat Front increases its representation			
			One-year IMF Stand-by ($33.5 mln)	
April			$20.0 mln released out of $100.0 mln loan	
May 10				Financieras ($12.5 mln)
May 22				
May 31		Third Econ. Pol. Memo. agreed & signed		Bogota Water ($14.0 mln)
June 3				Bogota Power ($18.0 mln)
June 3			US AID Program Loan ($58.0 mln), of which $35.0 mln released	
July 15			US AID Agriculture Sector Loan ($15.0 mln), of which $8.0 mln released	
July 15				Highways ($17.2 mln)
July 25				Railways ($18.3 mln)
July 25				Education ($7.6 mln)
July 31			$23.0 mln released out of $58.0 mln loan	
December 2			$7.0 mln released out of $15.0 mln loan	
December 2				Power Interconnection ($18.0 mln)
December 2				
1969				
January		Teigeiro appointed IBRD Res. Rep. in Bogota		
January/February		IBRD-sponsored visit to Colombia by journalists of C.C. member countries		
		Fourth Meeting C.C. - Paris		
January 30-31		Project List 1/1/69-12/31/69		
March 1		Fourth Econ. Pol. Memo. agreed & signed		
April			One-year IMF Stand-by ($33.3 mln)	
May 19			US AID Program Loan ($60.0 mln)	
May 19			US AID Agriculture Sector Loan ($15.0 mln)	
May 19			US AID Education Sector Loan ($10.0 mln)	
June 27				Agricultural Credit ($17.0 mln)
June 27				Financieras ($25.0 mln)
December 12		First Chivor Joint Financing Meeting - Paris		
December 29				Livestock
1970				
March 12		Second Chivor Joint Financing Meeting - Paris		
March	Congress. Elections: Nat'l. Front retains majority while ANAPO doubles its representation thereby acquiring 1/3 of the Congressional seats (110)			
		Project List 1/1/70-12/31/70		
April 13			One-year IMF Standby ($38.5 mln)	
April				
May	Pres. Elections: Misael Pastrana (Cons.) of the Nat. Front gains 40.2% of the vote majority defeating Gustavo Rojas Pinilla of ANAPO who had 38.8%			
May 15		Fifth Econ. Pol. Memo. agreed & signed		
June 4				Chivor Power ($52.3 mln)
June 4				Cali Water ($18.5 mln)
June 4				Highways ($32.0 mln)
June 4				Education ($6.5 mln)
June 4			US AID Program Loan ($40.0 mln)	
June 11			US AID Agriculture Sector Loan ($15.0 mln)	
June 11			US AID Education Sector Loan ($13.0 mln)	
August		Favilla appointed IBRD Res. Rep. in Bogota		
August 7	Pres. Pastrana takes office			
1971				
February		CIAP Meetings and Policy Agreements		
February 16-17		Fifth Meeting C.C. - Paris		
		Project List 1/1/71-12/31/74		
April 21			One year IMF Stand-by ($38.0 mln)	

ANNEX TABLE 2.3

IBRD/IDA LOAN & CREDIT COMMITMENTS

(in $ millions)

Loan/ Credit No.		1949	1950	1951	1952	1953	1954	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970	Total
	Agriculture																							
18	Agricultural Credit (Caja) I	5.0																						
108	Agricultural Credit (Caja) II						5.0															17.0		
624	Agricultural Credit (INCORA)																			9.0				
502	Irrigation																		16.7					
448	Livestock I																					18.3		
651	Livestock II																							71.0 (6)
	Dev. Fin. Cos.																							
451	Five DFCs I																		25.0					
534	Five DFCs II																				12.5			
625	Five DFCs III																					25.0		62.5 (3)
	Education																							
552	Comp. Secondary I																				7.6			
679	Comp. Secondary II																						6.5	14.1 (2)
	Industry																							
345	Steel - Paz del Rio															30.0								30.0 (1)
	Highways																							
43	Highways I			16.5																				
84	Highways II					14.4																		
144	Highways III								16.5															
295/5	Highways IV													39.0										
550	Highways V																				17.2			
680	Highways VI																						32.0	135.6 (6)
	Railways																							
68	Atlantico I				25.0																			
119	Atlantico II							15.9																
267	Rolling Stock												5.4											
343	Rehabilitation I															30.0								
551	Rehabilitation II																				18.3			94.6 (5)
	Electric Power																							
38	Anchicaya (Cauca)		3.5																					
113	Anchicaya & Yumbo							4.5																
215	Yumbo										2.8													
255	Yumbo & Calima I												25.0											
339	Calima I															8.8								
39	La Insula (Caldas)		2.6																					
217	Esmeralda											4.6												
225	Guadalupe III (Medellin)											12.0												
282	Guadalupe III													22.0										
369	Nare																45.0							
246	Salto II (Bogota)												17.6											
313	El Colegio														50.0									
537	El Colegio & Canoas																				18.0			
575	230 Kv Transm. (ISA)																				18.0			
681	Chivor																						52.3	
54	Lebrija (Bucaramanga)			2.4																				
347	Cospique (Cartagena)															5.0								294.1 (17)
	Telecommunications																							
499	Telecom																			16.0				16.0
	Water Supply																							
536	Bogota																				14.0			
682	Cali																						18.5	32.5 (2)
	TOTAL	5.0 (1)	6.1 (2)	18.9 (2)	25.0 (1)	14.4 (1)	5.0 (1)	20.4 (2)	16.5 (1)	--	2.8 (1)	16.6 (2)	48.0 (3)	61.0 (2)	50.0 (1)	73.8 (4)	45.0 (1)	--	41.7 (2)	25.0 (2)	105.6 (7)	60.3 (3)	109.3 (4)	750.4 (43)

IBRD/IDA LOAN DISBURSEMENTS
(in $ millions)

ANNEX TABLE 2.4

Loan/ Credit No.		1950	1951	1952	1953	1954	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970	Total
	Agriculture																						
18	Ag. Credit (Caja) I	4.76	.17																				4.93
108	Ag. Credit (Caja) II						2.29	2.71															5.00
624	Ag. Credit (INCORA)																					.44	.44
502	Irrigation																			.24	.09	1.83	2.16
448	Livestock I																	.03	2.14	5.29	2.80	.85	11.11
651	Livestock II																						
	Subtotal	4.76	.17	-	-	-	2.29	2.71	-	-	-	-	-	-	-	-	-	.03	2.14	5.53	2.89	3.12	23.64
	Dev. Fin. Cos.																						
451	Five DFCs I																		7.48	11.28	3.18	2.24	24.18
534	Five DFCs II																			.14	5.63	4.05	9.82
625	Five DFCs III																					8.92	8.92
	Subtotal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7.48	11.42	8.81	15.21	42.92
	Education																						
552	Comp. Secondary I																				.23	3.05	3.28
679	Comp. Secondary II																						-
	Subtotal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	.23	3.05	3.28
	Industry																						
345	Steel - Paz del Rio	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.31	2.49	10.53	6.58	5.22	2.77	.20	29.10
	Highways																						
43	Highways I		2.68	8.60	3.49	1.42	.31																16.30
84	Highways II					2.14	7.49	3.96	.76														14.35
144	Highways III							6.05	3.65	1.92	.73	2.19	1.44	.46	.06								16.50
295/5	Highways IV													8.32	8.51	3.63	4.24	4.15	8.70	1.40	.05		39.00
550	Highways V																			.18	4.98	4.48	9.64
680	Highways VI																						-
	Subtotal	-	2.68	8.60	3.49	3.56	7.80	10.01	4.41	1.92	.73	2.19	1.44	8.78	8.57	3.63	4.24	4.15	8.70	1.58	5.03	4.48	95.99
	Railways																						
68	Atlantico I				4.22	3.89	1.72	3.33	5.17	1.63	2.14	1.78	.57	.26	.29								25.00
119	Atlantico II							2.23	5.52	3.89	.48	2.18	.19	.16	.56	.69							15.90
267	Rolling Stock												4.10	.80	.33	.17							5.40
343	Rehabilitation I														4.04	15.18	4.85	3.14	2.61	0.03			29.85
551	Rehabilitation II																				1.06	5.07	6.13
	Subtotal	-	-	-	4.22	3.89	1.72	5.56	10.69	5.52	2.62	3.96	4.86	1.22	5.22	16.04	4.85	3.14	2.61	0.03	1.06	5.07	82.28
	Electric Power																						
38	Anchicaya (Cauca)		.72	1.56	.74	.50	.01																3.53
113	Anchicaya & Yumbo						.96	1.91	1.38	.25													4.50
215	Yumbo											1.72	.63	.41	.04								2.80
255	Yumbo & Calima											1.72	5.36	4.79	7.35	4.76	.93	.09					25.00
339	Calima I														.59	6.12	2.09						8.80
39	La Insula (Caldas)		2.07	.45	.08																		2.60
217	Esmeralda										.76	2.09	.81	.41	.25	.25	.03						4.60
225	Guadalupe III (Medellin)										2.67	1.98	4.49	2.82	.04								12.00
282	Guadalupe III												.06	2.73	4.19	6.26	4.94	2.82	.81	.19			22.00
369	Nare															1.36	2.14	4.68	5.94	7.77	6.35	5.70	33.94
246	Salto II (Bogota)											1.74	6.20	6.75	2.79	.12							17.60
313	El Colegio													3.54	14.40	13.51	8.77	7.46	2.30	.02			50.00
537	El Colegio & Camoas																			5.07	2.58	2.81	10.46
575	230 Kv Transm. (ISA)																				3.23	2.90	6.13
681	Chivor																					9.13	9.13
54	Lebrija (Bucaramanga)			1.61	.62	.17																	2.40
347	Cospique (Cartagena)														.19	1.38	1.13	1.49	.78	.03			5.00
	Subtotal	-	2.79	3.62	1.44	.67	.97	1.91	1.38	.25	3.43	9.25	17.55	21.45	29.84	33.76	20.03	16.54	9.83	13.08	12.16	20.54	220.49
	Telecommunications																						
499	Telecom	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	.25	2.92	2.41	3.25	8.83
	Water Supply																						
536	Bogota																			1.49	3.47	2.93	7.89
682	Cali																						-
	Subtotal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.49	3.47	2.93	7.89
	TOTAL	4.76	5.64	12.22	9.15	8.12	12.78	20.19	16.48	7.69	6.78	15.40	23.85	31.45	43.63	54.74	31.61	34.39	37.59	41.27	38.83	57.85	514.42

ANNEX TABLE 3.1

Colombia. Highway and Railway Projects Built under Bank Loans.

I Highways[a/]

Road Section[b/]	Construction Period	Construction Distance (km)	Average Cost Per Kilometer (000's of 1968 Ps)	Total Cost of Construction (000's of 1968 Ps)	Total Cost of Construction (000's US$)
Western Trunk Road					
1. Cartagena - El Carmen					
Cartagena - Gambote	1951-1955	45	971	43,717	2,750
2. Sincelejo - El Carmen					
Gambote - Sincelejo	1951-1957	152	576	87,609	5,510
3. Sincelejo - Caucasia					
Sincelejo - Planeta Rica	1951-1957	123	204	25,132	1,581
½ Planeta Rica - Taraza	1951-1955	60	331[c/]	44,023[c/]	2,769[c/]
4. Medellin - Caucasia					
½ Planeta Rica - Taraza	1951-1955	73		[c/]	[c/]
Medellin - Taraza	1951-1958	257	267	68,593	4,314
5. Cali - Medellin					
Cali - Tulua	1951-1956	97	235	22,766	1,432
Tulua - Arquia	1951-1957	240	295	70,681	4,445
Arquia - Medellin	1951-1957	132	605	79,912	5,026
Cerritos - La Pintada	1957-1960	192	249	47,827	3,008
Buga - Tulua	1964-1967	28	1,295	36,267	2,281
6. Manizales - Anserma					
Cauya - Manizales	1951-1954	66	159	10,511	661
7. Cali - Santander					
part of Popayan - Cali	1961-1967	56	669	37,448	2,355
8. Santander - Popayan					
part of Popayan - Cali	1961-1967	66	1,700	112,242	7,059
Eastern Trunk Road					
9. Gamarra - Bucaramanga					
Gamarra - Bucaramanga	1951-1958	160	851	136,118	8,561
Rio Negro - Malpaso	1961-1968	44	770	33,894	2,132
10. Bucaramanga - Barbosa	1951-1958	217	533	115,609	7,271
11. Tunja - Bogota					
Villapinzon - Tunja	1961-1963	30	1,092	32,765	2,061
12. Bogota - Girardot					
Bogota - Fusagasuga	1955-1958	60	532	31,916	2,007
Fusagasuga - Girardot	1952-1956	70	907	63,452	3,991
Chusaca - Fusagasuga	1961-1966	47	1,022	48,042	3,022
13. Girardot - Neiva					
Neiva - Espinal	1961-1969	159	468	74,526	4,687
Coastal Transverse Road					
14. Baranquilla - Cartagena	1951-1955	134	361	48,348	3,041
Central Transverse Roads					
15. Bogota-Honda					
Facatativa - Honda	1952-1957	121	780	94,412	5,938
16. Honda - Dorada	1952-1957	31	413	12,798	805
17. Honda - Manizales	1953-1958	143			
18. Manizales - Pereira					
part of Cartago - Manizales	1953-1958	54			
19. Pereira - Cartago			862	357,837	22,505
part of Cartago - Manizales	1953-1958	30			
20. Uribe - Armenia					
Murillo - Calarca	1953-1958	90			
21. Armenia - Ibague	1953-1958	98			
part of Espinal - Armenia	1961-1969	105	469	74,525[d/]	4,687[d/]
22. Ibague - Girardot					
Espinal - Ibague	1952-1956	54	546	29,493	1,855
Girardot - Espinal	1952-1956	19	345	6,561	413
part of Espinal - Armenia	1961-1969	54		[d/]	[d/]
Other Roads					
23. Gamarra - Cucuta					
Gamarra - Cucuta	1951-1954	74	241	17,821	1,121
Cucuta - Frontera	1959-1961	7.5	1,637	12,277	772
Cucuta - Zulia	1959-1961	18	905	16,298	1,025
24. Bucaramanga - Cucuta	1951-1958	216	517	111,595	7,019
25. Pedregal - Tumaco	1961-1964	20	209	4,170	262
26. Buenaventura - Buga	1961-1970	164		56,407[e/]	3,548
27. Buenaventura - Cali	1951-1957	168	369	62,004	3,900
Total Highways					133,814

II Railways[a/]

	Construction Period	Peso Expenditure in Pesos (000's of 1968 Pesos)	Peso Expenditure 000's US$ Equivalent	Expenditure in 000's US$	Total Cost of Construction (000's US$)
The Atlantic Railroad, 1953-1968					
La Dorada - Gamarra[f/]	1953-1961	696,261	43,790	24,215	68,005
Gamarra - Fundacion	1953-1961	299,929	18,863	10,901	29,764
Consolidation la Dorada-Fundacion	1965-1968	100,409	6,315	445	6,760
Capulco Port Facilities	1958-1963	10,514	661	285	946
Rehabilitation Fundacion - Santa Marta		156,721	9,857	940	10,797
Total		1,263,834	79,486	36,786	116,272

	Peso Expenditure in Pesos (000's of 1968 Pesos)	Peso Expenditure 000's US$ Equivalent	Expenditure in 000's US$ Loans	Expenditure in 000's US$ Gov't. Funds	Total Cost of Construction (000's of US$)
The Railway Rehabilitation Program, 1958-1968					
Rolling Stock	52,448	3,299	30,768	5,176	39,243
Diesel Locomotives	725	46	17,179	1,386	18,611
Cars & Other Rolling Equipment	51,723	3,253	13,589	3,790	20,632
Line Rehabilitation	262,747	16,525	8,165	5,367	30,057
Rehabilitation of the Way	232,336	14,612	7,715	5,043	27,370
Shops and Shop Equipment	30,411	1,913	450	324	2,687
Miscellaneous	15,178	955	-	-	955
	330,373	20,779	38,933	10,543	70,255

a/ Road improvements Financed with Loans 43-CO (1951), 84 - CO (1953), 144 - CO (1956), and 295 - CO (1961); Railroad improvements financed with Loans 68-CO, 119-CO, 267-CO, 343-CO.
b/ The roads with numbers in front of their names are main roads between two centers; the roads listed below them (without numbers) correspond to the sections of the main roads which were improved with Bank financing, as defined by the construction contracts.
c/ Total Cost Planeta Rica - Taraza is included in one line because only an arbitrary breakdown is possible.
d/ A single figure is given for construction work on Espinal - Armenia work because it is impossible to break costs down between the two parts.
e/ Partial Costs
f/ Excluding Capulco Port expenditures.

ANNEX TABLE 3.2

Colombia. Passenger Traffic.

	Railways				Air				Waterways			
Year	Passengers (Thousands)	Rate of Growth %	Pass-kms (millions)	Rate of Growth %	Passengers (Thousands)	Rate of Growth %	Pass-kms (Millions)	Rate of Growth %	Passengers (Thousands)	Rate of Growth %	Pass-kms (Millions)	Rate of Growth %
1950	11,912		743		874		298		204			
1951	11,762	-1.3	731	-1.6	896	2.5	321	7.7	215	5.4	28	
1952	10,929	-7.1	694	-7.1	967	7.9	372	15.9	222	3.3	24	-14.3
1953	10,560	-3.4	668	-3.7	1,010	4.4	415	11.6	226	1.8	23	-4.2
1954	9,829	-6.9	674	0.9	976	-3.4	426	2.7	283	25.2	20	-13.0
1955	9,064	-7.8	586	-13.1	1,090	11.7	484	13.6	315	11.3	23	15.0
1956	9,389	3.6	562	-4.1	1,389	27.4	563	8.9	363	15.2	42	82.6
1957	9,960	6.1	592	5.3	1,490	7.3	615	9.4	360	-0.8	34	-19.0
1958	10,400	4.4	652	10.1	1,436	-3.6	632	2.7	290	-19.4	24	-29.4
1959	9,900	-4.8	651	-0.2	1,484	3.3	681	7.7	211	-27.2	n.a.	
1960	9,024	-8.8	598	-8.1	1,515	2.1	745	9.5	168	-20.4	10	
1961	8,700	-3.6	556	-7.0	1,685	11.2	823	10.4	98	-41.7		
1962	8,200	-5.7	571	2.7	2,074	23.1	993	20.7	62	-36.7		
1963	8,600	4.9	627	9.8	2,316	11.7	1,220	22.8	66	6.5		
1964	7,400	-13.9	546	-12.9	2,571	11.0	1,344	10.2				
1965	6,500	-12.2	513	-6.0	2,519	-2.0	1,337	-0.5				
1966	5,800	-10.8	491	-4.3	2,511	-0.3	1,430	6.9				
1967	4,800	-17.2	418	-14.9	2,432	-3.1	1,526	6.7				
1968	3,690	-13.1	351	-16.0	2,462	1.2	1,611	5.6				
1969	2,654	-28.1	273	-22.2	2,723	10.6	1,797	11.6				

Colombia. Freight Traffic. (Millions of ton-kms)

	Rail			Truck			River			Coastal Shipping			Air		
Year	Ton-kms	% of Total	Rate of Growth %	Ton-kms	% of Total	Rate of Growth %	Ton-kms	% of Total	Rate of Growth %	Ton-kms	% of Total	Rate of Growth %	Ton-kms	% of Total	Rate of Growth %
1950													56		
1951	513	19.5		1,135	43.2		822	31.3		81	3.3		68	2.6	
1952	523	21.3	1.9	1,034	42.1	-8.9	713	29.0	-13.3	127	5.2	46.0	62	2.5	-8.8
1953	588	19.3	12.4	1,417	46.5	37.0	861	28.2	20.8	125	4.1	-1.6	59	1.9	-4.8
1954	593	17.4	0.9	1,767	51.8	24.7	867	25.4	0.7	119	3.5	-4.8	62	1.8	5.1
1955	559	15.8	-5.7	1,857	52.5	5.1	937	26.5	8.1	123	3.5	3.4	61	1.7	-1.6
1956	572	15.2	2.3	2,037	54.2	9.7	944	25.1	0.7	139	3.7	13.0	63	1.7	3.3
1957	652	17.7	14.0	1,940	52.6	-4.8	903	24.5	-4.3	136	3.7	-2.2	56	1.5	-11.1
1958	653	16.9	0.2	1,900	49.2	-2.1	757	19.6	-16.2	483	12.5	55.1	52	1.3	-7.1
1959	801	19.5	22.7	2,256	55.0	18.7	734	17.9	-3.0	261	6.4	-46.0	53	1.3	1.9
1960	766	17.0	-4.4	2,560	57.0	13.5	776	17.3	5.7	344	7.7	31.8	45	1.0	-15.1
1961	768	15.9	0.3	2,679	55.4	4.6	835	17.3	7.6	501	10.4	45.6	48	1.0	6.7
1962	918	17.0	19.5	2,934	54.3	9.5	872	16.1	4.4	626	11.6	25.0	54	1.0	12.5
1963	891	16.4	-2.9	3,060	56.4	4.3	919	16.9	5.4	490	9.0	-21.7	67	1.2	24.1
1964	952	16.2	6.8	3,210	54.6	4.9	950	16.2	3.4	717	12.2	46.3	71	1.2	6.0
1965	891	14.8	-6.4	3,383	56.2	5.4	887	14.7	-6.4	791	13.1	10.3	64	1.1	-9.9
1966	1,114	16.6	25.0	3,566	53.1	5.4	1,125	16.8	26.8	837	12.5	5.8	74	1.1	15.6
1967	996		-10.6										69		-6.8
1968	1,124		12.6										72		4.3
1969	1,158		3.0										77		6.9
1970	1,180		1.9												

Passenger Traffic Sources: Railways: Colombian National Railways.
Air: DANE, Boletin Mensual de Estadistica, various issues.
Waterways: 1950-1956: Jaime Salazar, El Transporte en Colombia. Presidencia de la Republica, Bogota 1958.
Waterways: 1957-63: DANE, Boletin Mensual de Estadistica, various issues.

Freight Traffic Sources: Rail Traffic 1951-66: National Railroads of Colombia, Outlook for Freight Traffic 1967-1976. Prepared by Madigan Hyland, de la Cruz.
Rail Traffic 1967-70: Ferrocarriles Nacionales de Colombia.
Truck, River, Coastal shipping and pipelines (1958-1966): Harvard University: An analysis of Investment Alternatives in the Colombia Transport System. Transport Research Program; Cambridge, Mass.
Truck, River and Pipelines 1951-1957: Parsons Brickenhoff: Plan for Improvements in National Transportation, Colombia, Ministry of Public Works, December, 1961.
Air 1950-57 and 1967-70: DANE, Boletin Mensual de Estadistica, various issues.

ANNEX TABLE 3.3

Colombia. Construction of the Atlantic Railroad: Projected and Actual Construction Costs Through 1961 a/

Peso Costs (000's of 1968 Ps)	Estimated Cost			Actual Cost			Amount of Over/Under Spending		
	La Dorada-Gamarra	Gamarra-Fundacion	Total Atlantic RR	La Dorada-Gamarra	Gamarra-Fundacion	Total Atlantic RR	La Dorada-Gamarra	Gamarra - Fundacion	Total Atlantic RR
Administration	-	4.1	4.1	97.1	50.8	147.9	97.1	46.7	143.8
Engineering	15.7	18.3	34.0	52.2	20.9	73.1	36.5	2.6	39.1
Earthwork	47.8	34.8	82.6	263.0	83.2	346.2	215.2	48.4	263.6
Construction Materials	21.2	19.7	40.9	23.8	15.6	39.4	2.6	-4.1	-1.5
Construction	12.5	3.8	16.3	19.5	8.6	28.1	7.0	4.8	11.8
Const. Rolling Stock	0.5	0.3	0.8	6.8	4.7	11.5	6.3	4.4	10.7
Ballast	18.5	38.4	56.9	33.6	19.2	52.8	15.1	-19.2	-4.1
Ties, Rails & Acc.	23.5	13.9	37.4	68.3	40.7	109.0	44.8	26.8	71.6
Fences & Right of Way	3.7	6.7	10.4	8.2	2.1	10.3	4.5	-4.6	-0.1
Bridges & Structures	49.6	9.7	59.3	59.2	17.5	76.7	9.6	7.8	17.4
Communications	3.4	2.7	6.1	4.3	3.5	7.8	0.9	0.8	1.7
Stations & Facilities	9.0	5.6	14.6	27.5	23.3	50.8	18.5	17.7	36.2
Provisional Maintenance	-	-	-	23.3	7.1	30.4	23.3	7.1	30.4
Contingencies	2.6	1.6	4.2	2.9	1.9	4.8	0.3	0.3	0.6
Capulco	6.9	-	6.9	1.0	-	1.0	-5.9	-	-5.9
Consultancy	2.7	-	2.7	6.6	0.8	7.4	3.9	0.8	4.7
Total	217.6	159.6	377.2	697.3	299.9	997.2	479.7	140.3	620.0
US$ Costs (000's of US$)									
Administration	-	-	-	0.02	-	0.02	0.02	-	0.02
Engineering	1.27	1.06	2.33	2.46	0.77	3.23	1.19	-0.29	0.90
Earthwork	-	-	-	0.70	-	0.70	0.70	-	0.70
Construction Materials	2.10	0.10	2.20	1.45	0.22	1.67	-0.65	0.12	-0.53
Construction	4.14	2.00	6.14	5.40	0.79	6.19	1.26	-1.21	0.05
Const. Rolling Stock	0.24	0.37	0.61	1.11	1.59	2.70	0.87	1.22	2.09
Ballast	0.32	0.10	0.42	-	-	-	0.32	-0.10	-0.42
Ties, Rails & Acc.	4.64	3.47	8.11	4.73	3.16	7.89	0.09	-0.31	-0.22
Fences & Right of Way	-	-	-	0.01	-	0.01	0.01	-	0.01
Bridges & Structures	3.40	2.09	5.49	6.72	3.79	10.51	3.32	1.70	5.02
Communications	0.34	0.27	0.61	0.17	0.37	0.54	-0.17	0.10	-0.07
Stations & Facilities	0.26	0.16	0.42	0.06	0.19	0.25	-0.20	0.03	-0.17
Provisional Maintenance	-	-	-	-	-	-	-	-	-
Contingencies	1.33	0.38	1.71	0.03	0.02	0.05	-1.30	-0.36	-1.66
Capulco	2.77	-	2.77	0.24	-	0.24	-2.53	-	-2.53
Bogota Workshops	3.62	-	3.62	-	-	-	-3.62	-	-3.62
Consultancy	0.57	-	0.57	1.35	-	1.35	0.78	-	0.78
Total	25.00	10.00	35.00	24.45	10.90	35.35	-0.55	0.90	0.35
Total Cost (000's of US$ Equivalent)									
Administration	-	0.26	0.26	6.13	3.19	9.32	6.13	2.94	9.07
Engineering	2.26	2.21	4.47	5.74	2.08	7.82	3.49	-0.13	3.36
Earthwork	3.01	2.19	5.20	17.24	5.23	22.47	14.23	3.04	17.27
Construction Materials	3.43	1.33	4.76	2.95	1.20	4.15	-0.49	-0.14	-0.63
Construction	4.93	2.24	7.16	6.63	1.33	7.96	1.70	-0.91	0.79
Const. Rolling Stock	0.27	0.39	0.66	1.54	1.89	3.43	1.27	1.50	2.77
Ballast	1.48	2.52	4.00	2.11	1.21	3.32	0.63	-1.31	-0.68
Ties, Rails & Acc.	6.12	4.34	10.46	9.03	5.72	14.75	2.91	1.38	4.29
Fences & Right of Way	0.23	0.42	0.65	0.53	0.13	0.66	0.29	-0.29	0.00
Bridges & Structures	6.52	2.70	9.22	10.44	4.89	15.33	3.92	2.19	6.11
Communications	0.55	0.44	0.99	0.44	0.59	1.03	-0.11	0.15	0.04
Stations & Facilities	0.83	0.51	1.34	1.79	1.66	3.45	0.96	1.14	2.10
Provisional Maintenance	-	-	-	1.47	0.45	1.92	1.46	0.45	1.91
Contingencies	1.49	0.48	1.97	0.21	0.14	0.35	-1.28	-0.34	-1.62
Capulco	3.20	-	3.20	0.30	-	0.30	-2.90	-	-2.90
Bogota Workshops	3.62	-	3.62	-	-	-	-3.62	-	-3.62
Consultancy	0.74	-	0.74	1.77	0.05	1.82	1.03	0.05	1.08
Total	38.68	20.03	58.70	68.32	29.76	98.08	29.62	9.72	39.34

a/ Financed with Loans 68-CO and 119-CO.

Source: Colombia. Ministry of Public Works. Madigan-Hyland Monthly Progress Reports on the Construction of the Atlantic Railroad (1953-1961).

ANNEX TABLE 3.4

Colombian National Railways Annual Expenditure on Railroad Rehabilitation Program[a], 1958-1968
(Thousands of Dollars and 1968 Pesos)

	Up to 1963	1963	1964	1965	1966	1967	1968	Total
Rolling Stock and Spares (000's of US$ equiv.)	10,091	4,909	13,951	3,482	2,232	2,091	2,486	39,242
Diesel and Spares (000's of US$ equiv.)	5,768	3,798	5,685	890	1,229	1,237	4	18,611
Loans (000's of US$)	5,768	3,798	5,079	758	744	1,032	-	17,179
Govt. Funds (000's of US$)	-	-	568	132	481	205	-	1,386
Govt. Funds (000's of 1968 Ps)	-	-	605	-	61	-	59	725
Freight Cars & Passenger Cars (000's US$ equiv.)	1,985	837	7,982	2,141	673	623	500	14,741
Loans (000's of US$)	1,985	837	7,708	1,809	488	350	-	13,177
Govt. Funds (000's of US$)	-	-	167	242	141	205	-	755
Govt. Funds (000's of 1968 Ps)	-	-	1,705	1,436	698	1,085	7,952	12,876
Others (000's of US$ equiv.)	2,338	274	284	451	330	231	1,982	5,890
Loans (000's of US$)	138	274	-	-	-	-	-	412
Govt. Funds (000's of US$)	2,200	-	233	377	151	74	-	3,035
Govt. Funds (000's of 1968 Ps)	-	-	813	1,181	2,841	2,497	31,515	38,847
Shops and Track Rehabilitation (000's of US$ equiv)	10	211	7,322	5,941	5,136	6,492	4,946	30,058
Rails and Accessories (000's of US$ equiv.)	-	73	3,727	1,921	391	1	-	6,113
Loans (000's of US$)	-	73	1,959	1,209	381	1	-	3,621
Govt. Funds (000's of US$)	-	-	1,768	712	10	-	-	2,490
Track Rehabilitation ('000s of US$ equiv.)	-	-	2,577	2,141	2,095	3,900	3,899	14,612
Govt. Funds (000's of 1968 Ps)	-	-	40,968	34,047	33,303	62,014	62,004	232,336
Others (000's of US$ equiv.)	10	138	1,018	1,879	2,650	2,591	1,047	9,333
Loans (000's of US$)	10	138	534	1,074	1,526	1,262	-	4,544
Govt. Funds (000's of US$)	-	-	431	760	910	776	-	2,877
Govt. Funds (000's of 1968 Ps)	-	-	837	714	3,409	8,800	16,651	30,411
Miscellaneous (000's of US$ equiv.)	-	115[b]	284	84	85	255	132	955
Govt. Funds (000's of 1968 Ps)	-	1,835[b]	4,513	1,335	1,351	4,047	2,097	15,178
Total (000's of US$ equiv.)	10,101	5,235	21,557	9,507	7,453	8,838	7,564	70,255
Loans (000's of US$)	7,901	5,120	15,280	4,850	3,139	2,643	-	38,933
Govt. Funds (000's of US$)	2,200	-	3,167	2,223	1,693	1,260	-	10,543
Govt. Funds (000's of 1968 Ps)	-	1,835[b]	49,441	38,713	41,663	78,443	120,278	330,373

a/ Government expenditures have been partly in pesos and partly in dollars. The two components are shown separately in this table, and the peso expenditures are given in pesos in their respective lines but included in subtotals for each particular item in terms of their dollar equivalent.

b/ These figures represent total expenditures up to 1964, financed with Loans 68-CO, 119-CO, 267-CO and 343-CO.

Source: Colombia. 1) Ministry of Public Works. Madigan-Hyland Monthly Progress Reports on the Railway Rehabilitation Program, 1963-1968.
2) Loan Files: 68-CO, 119-CO, 267-CO, 343-CO.

ANNEX TABLE 4.1

COLOMBIA - ELECTRIC ENERGY - COSTS PER KW INSTALLED OF IBRD AND IDB FINANCED PROJECTS
FORECAST AND ACTUAL
(Expressed in Dollar Equivalent)

Loan No.	Date of Agreement			Nature of Plants	Capacity (MW)	Generation Alone For. Ex.	Generation Alone Local Cur.	Generation Alone Total	Cost Overrun %	Generation and Transmission For. Ex.	Generation and Transmission Local Cur.	Generation and Transmission Total	Cost Overrun %
EEEB													
246-CO	1960	Laguneta unit 4 a/	Forecast	hydro	18.0	55.5	78.5	133.7		82.4	80.3	162.7	
			Actual	hydro	18.0	84.3	n.a.	n.a.	n.a.	126.1	n.a.	n.a.	n.a.
246-CO	1960	Salto II units 1 and 2 b/	Forecast	hydro	66.0	68.3	89.9	158.2		95.6	91.7	187.3	
			Actual	hydro	66.0	101.6	n.a.	n.a.	n.a.	143.0	n.a.	n.a.	n.a.
246-CO	1960	Zipaquira unit 1	Forecast	thermal	33.0	85.9	121.2	207.1		113.1	123.0	236.1	
			Actual	thermal	33.0	97.8	n.a.	n.a.	n.a.	139.0	n.a.	n.a.	n.a.
313-CO	1962	Zipaquira unit 2 c/	Forecast	thermal	33.0	212.7	49.9	262.6		240.8	64.3	305.1	
			Actual	thermal	37.5	149.3	66.3	215.7	-6.7	193.9	n.a.	n.a.	n.a.
313-CO	1962	Zipaquira units 1 and 2	Forecast	thermal	66.0	149.3	85.6	234.9		177.0	93.7	270.7	
			Actual	thermal	70.5	125.3	n.a.	n.a.	n.a.	168.2	n.a.	n.a.	n.a.
313-CO	1962	El Colegio units 1,2, and 3 d/	Forecast	hydro	150.0	161.3	98.4	259.7		186.0	111.1	297.1	
			Actual	hydro	150.0	184.0	112.3	296.3	+14.1	234.7	n.a.	n.a.	n.a.
537-CO	1968	El Colegio units 1,2,3,4,5 & 6	Forecast	hydro	300.0	100.9	51.6	152.5		128.9	65.9	194.8	
			Actual	hydro	300.0	114.3	64.6	178.9	+17.3	154.7	n.a.	n.a.	n.a.
537-CO	1968	Canoas	Forecast	hydro	50.0	116.4	128.6	245.0		147.7	144.5	292.2	
			Actual	hydro	50.0	-	-	-	-	-	-	-	-
EPM													
225-CO	1959	Troneras unit 1 e/	Forecast	hydro	16.0	81.2	198.0	279.2		93.7	201.6	295.3	
			Actual	hydro	18.0	81.7	243.0	324.7	+16.3	122.2	258.9	381.1	+29.1
282-CO	1961	Troneras units 1 and 2 f/	Forecast	hydro	36.0	73.1	99.4	172.5		89.2	111.1	200.3	
			Actual	hydro	36.0	79.7	155.7	235.4	+36.5	110.8	168.9	279.7	+39.6
225-CO	1959	Guadalupe III units 1 and 2 g/	Forecast	hydro	80.0	64.0	39.0	103.0		74.9	42.4	117.3	
			Actual	hydro	90.0	64.2	48.0	112.2	+ 8.9	102.3	61.9	164.2	+40.0
282-CO	1961	Guadalupe III units 1,2,3,4,5,+(6) h/	Forecast	hydro	215.0	76.0	33.7	109.7		92.9	47.6	140.5	
			Actual	hydro	270.0	65.2	61.4	126.6	+15.4	91.2	71.6	162.8	+15.9
369-CO	1964	Guatape units 1 and 2	Forecast	hydro	132.0	256.9	187.4	443.3		266.7	191.9	458.6	
			Actual	hydro	264.0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
369-CO	1964	Guatape units 1,2,3, and 4	Forecast	hydro	264.0	136.2	99.4	235.6		141.5	101.8	243.3	
			Actual	hydro	264.0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
CVC/CHIDRAL													
38-CO	1950	Anchicaya units 1 and 2 i/	Forecast	hydro	24.0	162.0	339.0	501.0		180.1	353.5	533.6	
			Actual	hydro	24.0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	638.8	+19.7
113-CO	1955	Anchicaya units 1,2, and 3	Forecast	hydro	44.0	120.4	205.8	326.2		130.8	213.1	343.9	
			Actual	hydro	44.0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	386.7	+12.4
113-CO	1955	Yumbo unit 1	Forecast	thermal	12.5	170.4	88.0	258.4		n.a.	n.a.	n.a.	
			Actual	thermal	10.0	n.a.	n.a.	437.0	+69.0	n.a.	n.a.	n.a.	n.a.
215-CO	1958	Yumbo units 1 and 2	Forecast	thermal	22.5	151.7	62.9	214.6		n.a.	n.a.	n.a.	
			Actual	thermal	20.0	n.a.	n.a.	283.0	+31.9	n.a.	n.a.	n.a.	n.a.
255-CO	1960	Yumbo unit 3	Forecast	thermal	33.0	133.3	37.6	170.9		133.3	37.6	170.9	
			Actual	thermal	33.0	112.1	83.9	196.1	+14.7	112.1	83.9	196.1	+14.7
5-CO	1960	Yumbo units 1,2, and 3	Forecast	thermal	55.5	140.8	47.9	188.7		n.a.	n.a.	n.a.	
			Actual		53.0	n.a.	n.a.	228.8	+21.3	n.a.	n.a.	322.5	n.a.
255-CO	1960	Calima units 1 and 2 j/	Forecast	hydro	60.0	241.7	133.0	374.7		271.4	140.6	412.0	
			Actual	hydro	60.0	266.8	136.5	403.3	+ 7.6	287.8	178.3	466.1	+13.1
339-CO	1963	Calima units 1,2,3, and 4 k/	Forecast	hydro	120.0	157.5	83.2	240.7		164.9	76.8	241.7	
			Actual	hydro	120.0	180.4	171.2	351.6	+46.1	190.9	186.9	377.8	+56.3
IDB	1969	Alto Anchicaya	Forecast	hydro	339.0	133.0	71.4	204.4		150.2	78.6	228.8	
			Actual	hydro	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
CHEC													
39-CO	1950	La Insula units 1 and 2 l/	Forecast	hydro	20.0	100.5	296.3	396.8		108.6	299.7	408.3	
			Actual	hydro	20.0	140.6	284.4	425.0	+ 7.1	160.3	301.7	462.0	+13.2
217-CO	1959	La Esmeralda units 1 and 2	Forecast	hydro	26.6	105.5	115.0	220.5		156.8	121.1	277.9	
			Actual	hydro	26.6	97.1	242.7	339.8	+54.1	196.4	285.8	482.2	+73.5
IDB	1966	San Francisco units 1 and 2	Forecast	hydro	90.0	64.5	71.8	136.3		70.9	74.7	145.6	
			Actual	hydro	90.0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	na.a
		San Francisco units 1,2, and 3	Forecast	hydro	135.0	43.0	47.8	90.8		47.3	49.8	97.1	
			Actual	hydro	135.0	54.9	61.7	116.6	+27.7	56.1	66.3	122.4	+26.1

a/ Includes 21.4 percent of Guatavita dam, reservoir, and engineering costs.
b/ Includes 78.6 percent of Guatavita dam, reservoir, and engineering costs.
c/ Includes 20 percent of Loan 313's common costs for construction equipment
d/ Includes cost of second stage of Guatavita dam, Muna II pumping station, and 80% of Loan 313's common costs for construction equipment.
e/ Includes 17% of costs of roads, construction equipment and diversion of the Concepcion and Tenche rivers.
f/ Includes 12% of cost of Miraflores dam and engineering.
g/ Includes 83% of cost of roads, construction equipment, and diversion of the Concepcion and Tenche rivers
h/ Unit 6 not included in forecast.
i/ Includes expenditures made before loan was signed
j/ The unit cost figures covering both generation and transmission include an allowance for the transmission line from Calima to Buga and an arbitrary small share of the line from Buga to Cali; 27% of 115 kv transmission investment under loan 255 was taken in total.

Sources: Empresas
IBRD

ANNEX TABLE 4.2

Principal Colombian Power Companies: Growth and Performance Indicators

	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970
EEEB																
Sales (Gwh)	321.7	353.3	394.1	456.0	516.9	605.8	625.3	676.9	783.1	909.1	1027.4	1117.4	1246.8	1452.7	1689.8	2032.8
Unit Cost of Production Based on Revalued Assets (constant 1968 centavos)	8.2	8.9	8.9	8.6	9.0	7.5	8.9	9.3	10.9	9.9	10.5	10.2	12.0	9.8	9.3	8.3
Financial Rate of Return on Revalued Assets (%)	30.9	31.1	21.6	13.4	9.7	19.3	18.4	22.0	12.4	10.3	10.9	8.3	8.5	8.6	9.9	11.1
Self-Financing Rate (%)	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	34.4	19.8	11.4	14.7	15.1	17.7	119.6	33.5	52.3	66.1
EPM																
Sales (Gwh)	464.6	489.2	548.2	581.7	644.3	710.3	724.5	779.4	901.2	979.2	1048.3	1131.8	1182.8	1219.1	1331.0	1496.0
Unit Cost of Production Based on Revalued Assets (constant 1968 centavos)	n.a.	n.a.	n.a.	4.9	6.1	5.9	6.7	7.1	7.9	7.2	7.6	8.7	9.1	9.0	8.3	n.a.
Financial Rate of Return on Revalued Assets (%)	n.a.	n.a.	n.a.	10.9	11.0	14.6	15.5	9.2	8.8	10.0	7.3	5.5	5.9	7.9	10.7	n.a.
Self-Financing Rate (%)	n.a.	n.a.	n.a.	n.a.	25.8	92.3	35.0	13.8	59.2	30.7	35.8	29.7	28.1	45.2	20.8	33.3
CHIDRAL																
Sales (Gwh)	59.6	156.7	195.5	223.4	264.9	301.4	348.2	463.0	563.0	649.8	671.5	788.7	846.1	910.7	942.5	n.a.
Unit Cost of Production Based on Revalued Assets (constant 1968 centavos)	9.2	6.9	9.0	10.6	9.7	8.4	8.4	7.7	9.3	8.6	9.3	11.6	10.0	9.6	10.2	n.a.
Financial Rate of Return on Revalued Assets (%)	n.a.	6.4	3.4	0.6	0.4	6.3	5.6	6.5	2.0	0.9	3.7	neg.	2.5	3.7	4.2	n.a.
Self-Financing Rate (%)	n.a.	24.8	15.2	neg.	3.8	neg.	26.8	10.6	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.

NOTE: Neg. means negative.

LIVESTOCK DEVELOPMENT PROJECT

ACTUAL VS. PROJECTED INVESTMENT PER BEEF CATTLE RANCH (LA COSTA)
(in Constant 1968 Pesos and US Dollars)

		Appraisal Report			Actual Project		
		Ps	US$	% of Total	Ps	US$	% of Total
Area	(ha.)	500			638		
Cattle	(Number)	1000			(720) a/		
Total Investment	per Farm	214848	13512.45	100	537297	33792.26	100
	per Head	215	13.52		1191	74.91	
	per Ha.	430	27.04		842	52.96	
Breeding Stock	per Farm	0	0	0	127000	7987.42	23.6
	per F. Head	-	-				
Bulls	per Farm	32635	2052.52	15.2	28246	1776.48	5.3
	per B. Head	10878	684.15		6077	382.20	
Land Clearance b/	per Farm	27196	1710.44	12.7	87067	5475.91	16.2
	per L. C. Ha.	1088	68.43		406	25.53	
	per Head	27	1.70		193	12.14	
Improved Pastures c/	per Farm	67990	4276.10	31.6	77530	4876.10	14.4
	per I. Ha.	1360	85.53		176	11.07	
	per Head	68	4.28		172	10.82	
Fencing	per Farm	19037	1197.30	8.9	50590	3181.76	9.4
	per km	5439	342.08		3066	192.83	
	per Head	19	1.19		112	7.04	
Barnyards	per Farm	9519	598.68	4.4	25644	1612.83	4.8
	per Head	9	0.57		57	3.58	
Farm Buildings	per Farm	0	0	0	61001	3836.54	11.4
Water Supply & Salt Licks	per Farm	40794	2565.66	19.0	8659	544.59	1.6
	per Head	41	2.58		19	1.19	
	per Ha.	81	5.09		14	0.88	
Machinery & Equipment	per Farm	17677	1111.76	8.2	32210	2025.79	6.0
	per Head	18	1.13		71	4.47	
Irrigation	per Farm	-	-	-	39336	2473.96	7.3

a/ Including crops and mountainous areas.
b/ The project financed 215 hectares per farm as compared to 25 hectares planned at appraisal.
c/ The project financed 441 hectares per farm as compared to 50 hectares planned at appraisal.

Note: The figures in the appraisal report were converted into constant 1968 Pesos by multiplying them with a factor of 1.36. Equivalent US$ figures were obtained by dividing the constant 1968 Pesos by a factor of 15.9.

LIVESTOCK DEVELOPMENT PROJECT

ACTUAL VS. PROJECTED PROJECT PARAMETERS

(Total Project Including La Costa, Los Llanos, Narino-Cauca, and Sheep Program)
(In Constant 1968 Pesos and US$)

Distribution of Investments	Project Appraisal	Actual Project Investments Committed through 3/31/71		
	%	%	Total in Pesos	Total in US$
Land Clearance	7.4	17.2	58,901,101	3,704,472
Pasture Improvement	26.9	11.2	38,386,762	2,414,262
Fencing	10.9	9.0	30,786,955	1,936,286
Water Supplies	12.6	5.7	19,613,010	1,233,523
Farm Machinery	8.7	4.4	14,927,038	938,807
Farm Building - Equipment	4.6	16.8	57,407,043	3,610,506
Breeding Stock	18.2	34.1	116,490,856	7,326,469
Contractor's Machinery	3.6	0		
Dairy Cooperatives	2.3	0		
Technical Services	4.8	1.1	3,917,356	246,375
Others	0	0.5	1,627,729	102,373
Total	100.0	100.0	342,057,850	21,513,073
Distribution of Financing				
Beef	67	91.8	310,461,893	19,525,905
Dairy	26	6.8	22,805,307	1,434,296
Sheep	7	1.4	4,873,294	306,496
Total	100	100.0	338,140,494	21,266,697
Farm Coverage (#)				
Beef Cattle - La Costa	800	409		
Beef Cattle - Los Llanos	90	169		
Dairy - Narino-Cauca	250	87		
Sheep	35	8		

ATLANTICO NO. 3 IRRIGATION AND LAND RECLAMATION PROJECT

ANNEX TABLE 7.3

DRY FARMING - ACTUAL VS. PROJECTED CROP PERFORMANCE
(In Constant 1968 Pesos and US$)

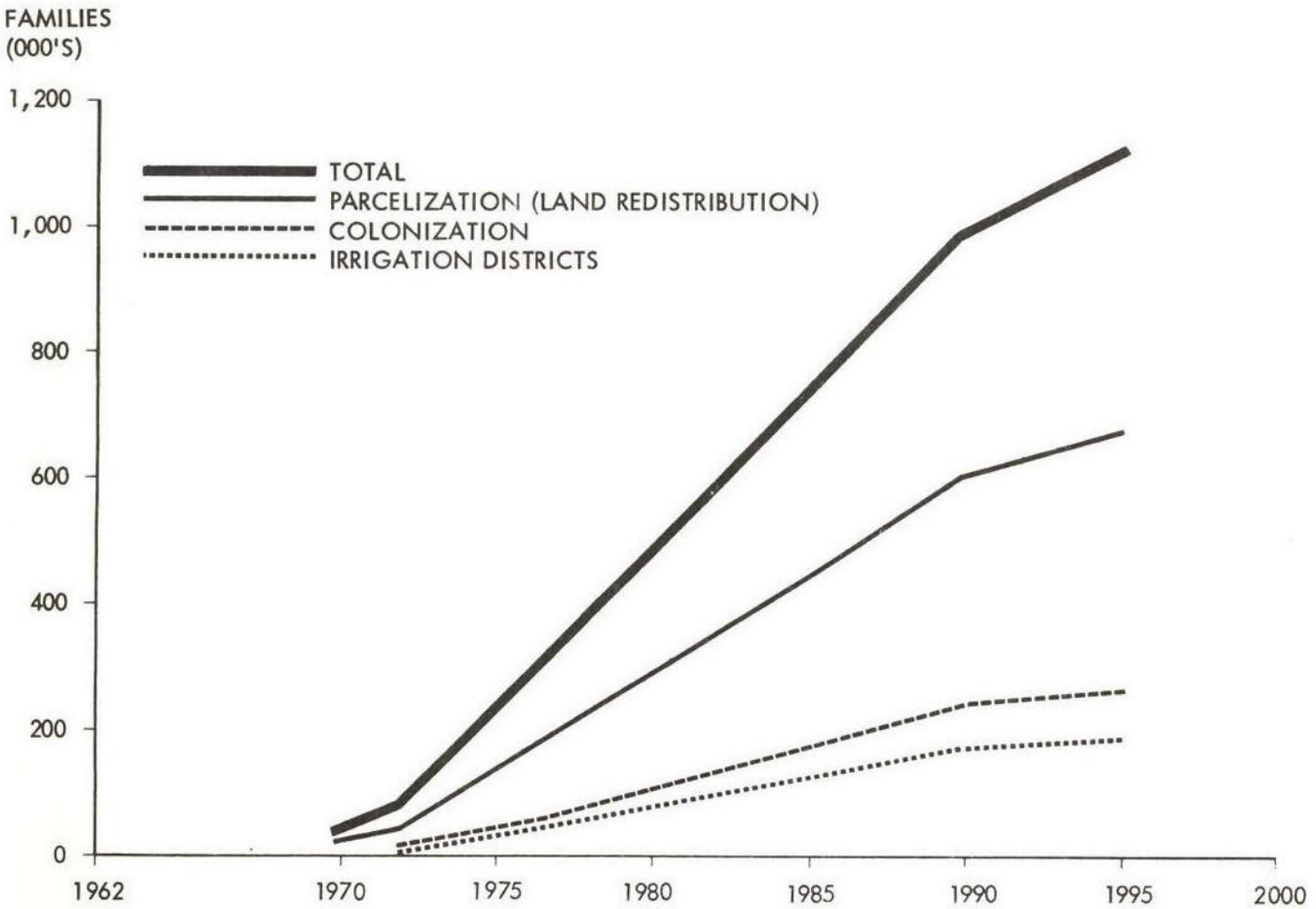
	FORECAST				ACTUAL									
	Stage II Appraisal Report [a]				Evaluation Project Sample [b]						INCORA REPORT [c] Total Project			
	Full Development		First Year		1968		1969		1970 [d]		1970 [e]			
	Ps	US$	Ps	US$	Ps	US$	Ps	US$	Ps	US$	Ps	US$		
No. of farmers:					230		292		342		500 - 600			
SORGHUM [f]														
Area (ha)					907		1681		2488		3171			
Yield (kg/ha)	3000		2400		3492		1911		1144		1102			
Price per ton	946	57.75	946	57.75	904	55.19	856	52.26	953	58.18	989	60.38		
Output per ha.	2838	173.26	2270	138.58	3159	192.86	1636	99.88	1090	66.54	1090	66.54		
Variable Production Costs per ha.	1462	89.26	1462	89.26	1662	99.02	1271	77.59	1138	69.48	n.a.	n.a.		
Total Labor Inputs per ha.	344	21.00	344	21.00	434	26.50	500	30.53	201	12.27	n.a.	n.a.		
Total Production Costs per ha.	1806	110.26	1806	110.26	2056	125.52	1771	108.12	1339	81.75	1548	94.51		
Net Income per ha.	1032	63.00	464	28.32	1103	67.34	- 135	- 8.24	- 249	- 15.21	- 458	- 27.97		
Family Labor (100%) [g] per ha.	344	21.00	344	21.00	434	26.50	500	30.53	201	12.27	264	16.12		
Cash Returns per ha.	1376	84.00	808	49.32	1537	93.84	365	22.29	- 48	- 2.94	- 194	- 11.85		
Project Charges and Taxes per ha.	344 [f]	21.00	202	12.33	(384) [h]	(23.44) [h]	(91) [h]	(5.56) [h]	-	-	-	-		
Net Family Income per ha.	1032 [f]	63.00	606	36.99	(1153)	(70.40)	(274)	(16.73)	-	-	-	-		
SESAME [i]														
Area (ha)					1081		1498		609		1894			
Yield (kg/ha)	700		560		368		200		294		167			
Price per ton	3784	231.01	3784	231.01	2646	161.54	3785	231.07	4272	260.81	4300	262.52		
Output per ha.	2649	161.72	2119	129.37	974	59.46	757	46.21	1256	76.68	718	43.83		
Variable Production Costs per ha.	774	47.25	774	47.25	763	46.58	592	36.14	853	52.08	n.a.	n.a.		
Total Labor Inputs per ha.	550	33.58	550	33.58	749	45.73	513	31.32	654	39.93	n.a.	n.a.		
Total Production Costs per ha.	1324	80.83	1324	80.83	1512	92.31	1105	67.46	1507	92.01	1290	78.75		
Net Income per ha.	1325	80.89	795	48.53	- 539	- 32.91	- 348	- 21.25	- 251	- 15.32	- 572	- 34.92		
Family Labor (100%) [g] per ha.	550	33.58	550	33.58	749	45.73	513	31.32	654	39.93	350	21.37		
Cash Returns per ha.	1875	114.47	1345	82.11	210	12.82	165	10.07	403	24.61	- 222	- 13.55		
Project Charges and Taxes per ha.	469	28.63	336	20.51	(53) [h]	(3.24) [h]	(41) [h]	(2.50) [h]	(100) [h]	(6.11) [h]	n.a.	n.a.		
Net Family Income per ha.	1406	85.84	1009	61.60	(157)	(9.58)	(124)	(7.57)	(303)	(18.50)	- 222	- 13.55		

a/ These figures are taken from the proposed Stage II Appraisal Report (PA-84) because no detailed breakdown of crop production parameters was given in the Appraisal Report of Stage I.
b/ Source: Supervised Credit Farmer Folder.
c/ In 1970, the cropping pattern included 3171 hectares of sorghum, 1894 hectares of sesame, 65 hectares of cotton, and 6 hectares of soybeans.
d/ The evaluation has intentionally selected a large group farming under the more favorable conditions existing in the project area. The sample covers 79% of the sorghum and 32% of the sesame planted.
e/ In 1971, it was reported that sorghum yielded 1552 kg/ha, and a net loss of Ps (-379) per hectare, while sesame yielded 539 kg/ha and a net gain of Ps 758 per hectare.
f/ Stage I projections on the performance of sorghum were 50% above the figures listed above, i.e., they projected a net income of US$90 per hectare (Ps 1500/ha) as compared to US$60 per hectare (Ps 1032/ha) listed above.
g/ It has been assumed that family labor has accounted for total labor inputs. Actually, however, a significant, although unspecified proportion of labor inputs, was provided by hired labor. Consequently, it is likely that farmers' cash returns are lower than indicated above.
h/ Bracketed figures are hypothetical since farmers do not pay taxes and project charges.
i/ In 1968 and 1969 some of the sesame was sold outside official (cooperative) channels and therefore is not reflected in these figures; this phenomenon had been brought under control by 1970. It is of course very unclear how much may have been so sold but INCORA officials have indicated that it may have been as much as 30% of the crop. Adjusted yields would then be 526 and 286 kgs., and cash returns per hectare $38.6 and $30.0, respectively for 1968 and 1969.

Note: Current pesos were converted into constant 1968 pesos by multiplying them with a factor of 0.93 for 1969 Pesos, 0.86 for 1970 Pesos. The exchange rate used is: 1 US$ = Ps 16.38.

CHART 7.1

COLOMBIA
PROJECTED PATTERN FOR AN EFFECTIVE IMPLEMENTATION OF AGRARIAN REFORM



Source: INCORA - La Realidad Rural y La Reforma Agraria Como Factor de Cambio, Oficina de Planeación, 1970.

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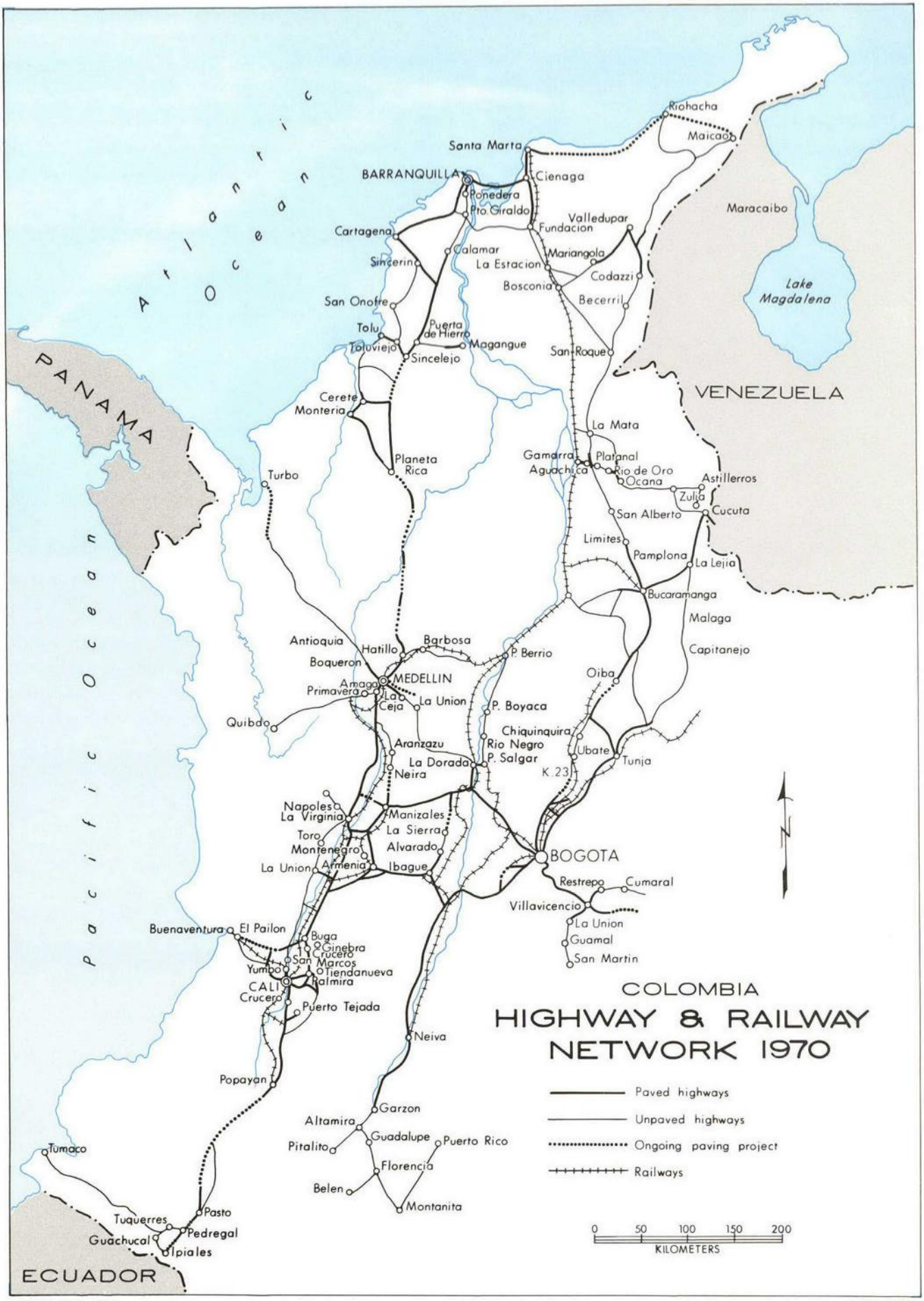

SEPTEMBER 1971

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