

**THE WORLD BANK GROUP ARCHIVES**

**PUBLIC DISCLOSURE AUTHORIZED**

**Folder Title:** India - Agriculture and Agricultural Projects - General - Correspondence - Volume 5

**Folder ID:** 1845913

**Dates:** 01/05/1968-12/27/1968

**Fonds:** Records of the South Asia Regional Vice Presidency

**ISAD Reference Code:** WB IBRD/IDA SAR

**Digitized:** 10/16/2020

To cite materials from this archival folder, please follow the following format:  
[Descriptive name of item], [Folder Title], Folder ID [Folder ID], ISAD(G) Reference Code [Reference Code], [Each Level Label as applicable], World Bank Group Archives, Washington, D.C., United States.

The records in this folder were created or received by The World Bank in the course of its business.

The records that were created by the staff of The World Bank are subject to the Bank's copyright.

Please refer to <http://www.worldbank.org/terms-of-use-earchives> for full copyright terms of use and disclaimers.



THE WORLD BANK

Washington, D.C.

© International Bank for Reconstruction and Development / International Development Association or

The World Bank

1818 H Street NW

Washington DC 20433

Telephone: 202-473-1000

Internet: [www.worldbank.org](http://www.worldbank.org)

**PUBLIC DISCLOSURE AUTHORIZED**

India - Agriculture & Projects Gen. - V /1968

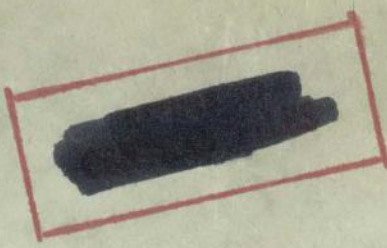
Vol. 5

**Archives**

  
**1845913**

A1995-162 Other #: 61 181674B

India - Agriculture and Agricultural Projects - General - Correspondence - Volume 5



**DECLASSIFIED**  
WBG Archives



CONSORTIUM MEETINGS - AGRICULTURE  
JANUARY 5, 1968 TO December 1968

1. Letter from G. Votaw to ROBERT Piccotto  
(UP Mission). Jan. 5
2. Letter from R. Piccotto to G. B. Votaw  
(agricultural projects). Jan. 5
3. Letter from G. Votaw to W. Gilmartin (Bill  
Wapeahan's visit). Jan. 17
4. Memo from R. Piccotto "Andhra Pradesh  
- Groundwater Development Prospect". Jan. 30
5. Letter from Wapenhans to "Jim"  
"Andhra Agriculture" (visit to India). Feb. 5  
Feb. 7
6. Letter from B. B. King to R. Piccotto  
(Andhra Pradesh). Feb. 15
7. Memo from D. A. Dunn "GOI request to UNDP for  
assistance in a Farmer Training & Functional  
Literary Project". Feb. 13
8. Letter from Piccotto to Jim. Feb. 13
9. Letter from Wapenhans to Jim Feb. 14
10. Memo from Wapenhans "Discussions on  
Agricultural Credit" Feb. 21
11. Letter from LW Bartsel to R. Piccotto  
(Groundwater Studies in India) Mar. 1
12. Letter from Gilmartin to Cargill  
(High Yielding Varieties Program) Mar. 21
13. Memo from W. A. Wapenhan's "Lending for  
Agriculture" Mar. 28
14. Letter from Wapenhans to Sivaraman Mar. 26
15. Study: Serial Apraying Against Crop Pests  
and Diseases Mar. 1968
16. Report from P. Kirpich : K. Myint and P. Naylor  
"Punjab & Haryana Drainage Project &  
Agricultural Study" Apr. 25

17. Letter from J G Crawford to R. Picciotto May 1
18. Background Memo "Prospects for Indian Agriculture" (from American Embassy) May 7
18. Memo from R. Picciotto "Memo on Indian Agriculture from U. S. Embassy" May 8
19. Memo from R. Picciotto "Innovation in Agriculture" May 8
20. Memo from G. B. Votaw - "Agricultural Research". May 9
21. Memo from R. Picciotto "Lending for Agriculture" May 17
22. Note "Significant Agricultural Changes Ahead - Eugene Hayden - Crop Quality Council Minnesota May 20
23. Memo from W. Ladejrusky "On Wheat Procurement in Punjab, Prices & Agricultural Take Off" May 21
24. Memo From H. Hoffman "Indian Food Problem" May 28
25. Memo From G. Votaw & R. Picciotto "Lending for Agriculture" Jun. 13
26. Memo From Wappenhans "Agricultural Reconnaissance Missions" Jun. 28
27. Letter from I H Ergas to Jim: "India - Discussions with Finance Ministry" Jul 8
28. Report on India's Grain Marketing Problems. (By Olen Salisbury) Jul. 12
29. Memo From G. B. Votaw "DAC Report on Aid to Agriculture" Jul. 16
30. Memo From R. Picciotto "IV Plan - Agriculture" Jul. 26
31. Letter from Gil Martin to Kirk (Agriculture and IV Plan) Jul. 29
32. Memo From LJC Evan's "Missions to India & Pakistan" Aug. 20
33. Letter from Crawford to Ladejinsky (Agricultural Progress) Jun. 27



34. Letter from Crawford to Gil Martin  
(Comment on Bob Picciotto's Study) Aug 25
35. Letter from Gil Martin to Crawford  
(Financing Possibilities in Agriculture) Aug. 25
36. Memo From R. Picciotto "Agricultural  
Finance Corporation" Sept. 1
37. Memo From T. C. Greyke "Consulting Assistance" Sept. 6
38. Incoming Cable from Picciotto (Monsoon and  
Grain Output) Sept 27
39. Annual Report of Agricultural Reference Corp.  
for 1967-68 Oct. 4
40. Cross Reference Sheet "Report of Activities" Oct. 21
41. Letter from R. Picciotto to G. B. Votaw  
(Meeting with Sivraman) Oct. 25
42. Cross Reference Sheet "New Concepts for Aid  
to India" Oct. 31
43. Outgoing Wire from Votaw (Consortium) Nov. 1
44. Memo From G. B. Votaw "Assignment to Office  
of Bank's President Representative in India" Nov. 6
45. Letter from L J C Evans to R. Picciotto Nov. 8
46. Letter from D. A. Dunn to Picciotto  
(Irrigation Mission) Nov. 12
47. Outgoing wire from Ladejinski (Phillipines  
and Rice Breakthrough) Nov. 14
48. Meeting in Fertilizer and Oil  
(World Bank and G O I) Nov. 18
49. Kosi Project - Meeting of the Bihar Gov.,  
Central Govt. and World Bank. Nov. 25
50. Meeting with Govt. of West Bengal -  
G O I and IBRD Nov. 26
51. Meeting on Agriculture Irrigation & Food,  
West Bengal Nov. 28

- |   |         |
|---|---------|
| 52. Meeting of McNamara with State Govt. Officials<br>Madras.               | Dec. 9  |
| 53. Notes on Meeting about agricultural research<br>(Mr. McNamara's Visit)  | Dec. 17 |
| 54. Cross reference Sheet - General Negotiations                            | Dec. 17 |
| 55. Memo From Wapenhans "Agricultural Projects"                             | Dec. 23 |
| 56. Letter from Wapenhans to Crawford<br>(India's Agricultural Development) | Dec. 27 |



FILE NO. V

FROM. Jan 5. 1968 TO. Dec 1968

(1)

SNo	SUBJECT	DATE
1	Letter from G. Volaw to Robert Picciotto (UP Mission)	Jan 5.
2	Letter from R. Picciotto to G.B. Volaw (agricultural projects)	Jan 15
3	Letter from G. Volaw to W. Gilmartin (Bill Wapenhaus's visit)	Jan 17
4	Memo from R. Picciotto "Andhra Pradesh - Groundwater Development Project" "Andhra Agriculture"	Jan 30.
5	Letter from Wapenhaus to "Jim" (visit to India).	Feb 5 Feb 7
6	Letter from B.B. King to R. Picciotto (Andhra Pradesh).	Feb 15
7	Memo from SA Sumi "GOI request to UNDP for assistance in a Farmer Training & Functional Literacy Project"	Feb 13

CONSORTIUM MEETINGS

FILE NO.

FROM.

TO.

(2)

SNo	SUBJECT	DATE
8	Letter from Piciotto to Tim.	Feb 13
9	Letter from Wapenhans to Tim.	Feb 14
10	Memo from Wapenhans "Discussion on Agr'l Credit"	Feb 21
11	Letter from LW Bartsch to R. Piciotto. (Groundwater studies in India).	Mar 1.
12	Letter from Gilman to Lergill. (High yielding varieties program)	Mar 21
13	Memo from WA Wapenhans "Lending for Agriculture."	Mar 28
14	Letter from Wapenhans to Sivaraman.	Mar 26
15	Study: Aerial spraying against crop pests & diseases.	Mar. 1968
16	Report from P. Kirpich : K. Hyint : and P. Naylor "Project & Haryana Drainage Project & Agricultural Study".	Apr. 25



CONSORTIUM MEETINGS

FILE NO.

FROM.

TO.

(3)

S No	SUBJECT	DATE
17	Letter from JG Crawford to R. Piciotto.	1st. May
18	Background Memo for "Prospect for Indian Agriculture" (from American Embassy)	May 7
18	Memo from R. Piciotto "Memo on Indian Agri. from US Embassy".	May 8
19	Memo from R. Piciotto "Innovation in Agriculture".	May 8.
20	Memo from GB Volaw - "Agr'l Research".	May 9
21	Memo from Robert Piciotto "Lending <del>from</del> for Agriculture"	May 17
22	Note "Significant Agricultural Changes Ahead" - Eugene Hayden - Crop Quality Council - Minnesota.	May 20
23	Memo from W. Sadejinskiy "On Wheat Procurement in Iraq, Prices & Agricultural Take off".	May 21

CONSORTIUM MEETINGS

FILE NO.

FROM.

TO.

(4)

SNo	SUBJECT	DATE
24	Memo from W Hoffman "Indian Food Problem"	May 28
25	Memo from G. Volaw & R. Picciotto "Lending for Agriculture"	June 13
26	Memo from Wapenhans "Agr'l Reconnaissance Missions"	June 28
27	Letter from IH Ergas to Tim: "India - Discussions with Finance Ministry"	Jul. 5
28	Report on India's Grain marketing Problems. (By Glen Salisbury)	Jul 12
29	Memo from GB Volaw "DAC Report on Aid to Agriculture"	Jul 16
30	Memo from R. Picciotto "IV Plan - Agriculture)	Jul. 26
31	Letter from Gitmartin to Kirk. (Agriculture and IV Plan)	Jul. 29.



CONSORTIUM MEETINGS

FILE NO.

FROM.

TO.

(5)

S No	SUBJECT	DATE
32	Memo from LTC Evans "Missions to India & Pakistan".	Aug 20
33	Letter from Crawford to Ladejinsky (agr'l program).	Jan 27
34	Letter from Crawford to Gilmartin (comment on Bob Picciotto study).	Aug 12.
35	Letter from Gilmartin to Crawford. (financing possibilities in Agriculture)	Aug 25
36	Memo from R. Picciotto "Agricultural Finance Corporation".	Sept. 1.
37	Memo from TC Greyke "Consulting Assistance".	Sept '6
38	Incoming Cable from Picciotto. (Monsoon & output Grain output)	Sept. 27
39	Annual Report of Agricultural Refinance Corp. for 1967-68.	Oct 4

**CONSORTIUM MEETINGS**

**FILE NO.**

**FROM.**

**TO.**

6

SN	SUBJECT	DATE
40	Cross Reference Sheet. " Report of Activities "	Oct. 21
41	Letter from Robert Piciotto to GB Volaw ( meeting with Sivaraman)	Oct. 25
42	Cross Reference Sheet " New concept for Aid to India "	Oct. 31
43	Outgoing Wire from Volaw - (Consentum).	Nov. 1.
44	Memo from GB Volaw " Assignment to Office of Bank's Resident Representative in India "	Nov. 6.
45	Letter from LTC Evans to R. Piciotto.	Nov. 8
46	Letter from DA Dunn to Piciotto (Irrigation Mission).	Nov 12.



CONSORTIUM MEETINGS

FILE NO.

FROM.

TO.

⑦

SNo	SUBJECT	DATE
47	Outgoing Ware from Ladejinski. (Philippines and Rice breakthrough)	Nov. 14
48	Meeting on Fertilizer and Oil. (World Bank & GOI)	Nov. 18
49	Kosi Project - Meeting of the Bihar Govt., Central Govt, and World Bank.	Nov 25
50	Meeting with Govt. of W. Bengal - GOI and IBRD.	Nov 26
51	Meeting on Agriculture Irrigation & Food, W. Bengal.	Nov 28
52	Meeting of McNamara w/ State Govt. Officials - Madras.	Dec - 9.
53	Notes on meeting about agricultural Research - (Mr. McNamara's Visit).	Dec 17
54	Cross Reference Sheet - General Negotiations	Dec - 17

## CONSORTIUM MEETINGS

**FILE NO.**

**FROM.**

**TO.**

8

[illegible]

THIS FILE IS CLOSED AS OF

DECEMBER 1968.

FOR FURTHER CORRESPONDENCE SEE:

1969 - 1971.

RECORDS MANAGEMENT SECTION  
February 1969



## OFFICE MEMORANDUM

TO: Files

DATE: December 23, 1968

FROM: W. A. Wapenhans

SUBJECT: INDIA : Agricultural Projects

1. I visited India from November 25 to December 3 to discuss the progress of the Credit Review Mission and to prepare for the irrigation reconnaissance mission. In addition, discussions were held with Indian officials on fisheries, grain storage, and rice drying and marketing requirements. There was a marked improvement in atmosphere compared against that prevailing during my visit to India in January, 1968.

Credit Review Mission

2. The mission's principal task was to find suitable institutional channels for agricultural credit capable of supporting such lending programs as the mission might identify. Initially the GOI proposed a rather extensive list of States to be included in the mission's review. It soon became evident that in view of its limited resources the mission had to concentrate on fewer States than those proposed, and even amongst those vary the depths of analysis. The following States were chosen on the basis of their past performance in the field of agricultural credit and the strengths of their existing credit institutions: Gujerat, Punjab/Haryana, Andhra Pradesh and Madras. Gujerat and Punjab/Haryana may offer fairly immediate prospects for agricultural credit projects. Possibilities in Andhra Pradesh and Madras need to be further reviewed and prepared.

3. Following initial review of credit possibilities in the States mentioned, the mission split up into two groups to concentrate their efforts in Gujerat and Punjab/Haryana. The agricultural credit scheme in Gujerat would consist mainly of on-farm development such as land improvement for better use of existing surface irrigation supplies and/or private tubewell development complementary to the availability of surface water supply. While of high priority such a project would have a small foreign exchange component. The Punjab/Haryana credit project would be mainly for on-farm mechanisation and grain storage with a potentially high import component.

4. The Agriculture Refinance Corporation (ARC) together with the Land Development Banks in Gujerat and Punjab/Haryana would appear to offer suitable channels for credit. This would need to be confirmed by further analysis. Private banks are not yet adequately represented in these rural areas to absorb a significant portion of any credit project. However, limited participation, especially for selected activities such as small contractors, service units and agricultural industries should be considered. These banks would also have access to ARC's refinance facilities. In the formulation of agricultural credit projects careful attention will need to be given to the terms and conditions of on-lending by regional banks to ultimate beneficiaries as well as to those offered by ARC to regional lending institutions.



### Irrigation Reconnaissance Mission

5. Agreement was reached with the Indian authorities on the priorities on which the forthcoming irrigation mission should concentrate. A list of the projects proposed for review is given in Annex 1. All projects proposed by GOI are concentrated in four river systems:

- a) Cauvery system in Madras with emphasis on rehabilitation and remodelling of the existing distribution system in the Cauvery Delta;
- b) Godavari and Krishna systems originating in the States of Maharashtra and Mysore and in their lower reaches flowing through Andhra Pradesh forming extensive adjacent deltas through which they discharge into the Bay of Bengal. Project possibilities in these systems are listed in the attached project list;
- c) Narmada system rising in the State of Madhya Pradesh and discharging into the Arabian Sea in the State of Gujarat with initial emphasis on the tributary Tawa where an irrigation project with the potentially irrigable area of 750,000 acres has been initiated.

This should enable the mission to adequately focus on specific regions and review the possibilities of project development in the absence of or simultaneously with more systematic river basin development planning. We were assured by the Secretary of Irrigation of the Central Government that the priorities listed above had been agreed with the planning commission as well as the Ministry of Finance and Economic Affairs, and that of Agriculture.

6. Agreement on the sharing of the Godavari and Krishna waters amongst riparian states is expected shortly. River flows have been reviewed in the report of the Godavari-Krishna Commission and model studies have been carried out in the Purna Research Station. The allocation of Narmada waters amongst riparian interests is in a more preliminary stage. USAID is presently exploring the possibilities of providing technical assistance for a comprehensive groundwater study in the basin. The report and recommendations of a preliminary USAID mission are available to the Bank. Our suggestion of a comprehensive and integrated water resource development study embracing both surface and groundwater and covering the entire Narmada basin has found cautious support in the Ministry of Agriculture but continues to be reviewed with reservation by the Ministry of Irrigation. The forthcoming irrigation mission will need to reopen the discussion on this aspect. The USAID office in New Delhi has indicated that it would support any initiative on our part in this direction and it would be willing to dovetail its activities with those of a more comprehensive study.

7. Regarding the Cauvery Delta rehabilitation, I was informed by Mr. Matrani, Secretary of Irrigation, GOI, that a project report had recently been prepared and submitted by the State Government to the Ministry of Irrigation and was being reviewed. Mr. Matrani promised that this report would be made available prior to the arrival of the irrigation mission in India. The Cauvery Delta presently benefits from the execution



of a groundwater resource study financed by UNDP which is carried out by the UN as executing agency. The second phase of this study on which we have commented extensively and which was approved in June of this year, embraces some aspects of agricultural development but falls short of preparing a program for the rehabilitation and remodelling of the surface distribution system in the Cauvery Delta. Pending review of the State Government's report mentioned above, a further UNDP study may need to be initiated to cover these aspects. Discussions to this effect were held with UNDP in New York as well as with the New Delhi resident representative of the UNDP. The UNDP stands ready to despatch an expert to join the irrigation mission for the formulation of such a proposal should it be required in the light of the review of the recently submitted project report. To synchronize activities we should advise UNDP of the mission's field travel to initiate the joint formulation of a further UNDP request at the most opportune time.

#### Other Agricultural Development Possibilities

8. Grain Storage: Discussions were also held with the Secretary of Food, Mr. Dias, on the present planning for grain storage development. The Food Department is still thinking in terms of annual crash programs to cope with the increased grain production rather than in terms of providing over-year bulk storage for price manipulation and strategic reserves. The immediate priority is next year's program to provide an additional capacity of 750,000 tons of conventional storage. The establishment of bulk storage facilities for price stabilization is recognized by the Ministry of Agriculture as a precondition for the introduction of a more flexible and more market-oriented food management policy. The Secretary of Agriculture, Mr. Sivaraman, stated that he would like to see the Bank become interested in participating in grain storage development in India along lines similar to that it had pursued in East Pakistan. He indicated that he would review the storage priority with Mr. Dias and following that he might wish to reopen the discussion of storage with us.

9. Fisheries: The fisheries proposal was discussed with Mr. Sivaraman and the Joint Commissioner for Fisheries, Mr. Mitra. The GOI has meanwhile sanctioned development of three harbors, (Bombay, Madras and Tuticorin). It has received applications from private parties for the purchasing of 300 boats. A number of survey vessels as well as some 45 fishing boats have already been ordered. Since the GOI expects that the Bank would insist on international bidding for the procurement of boats, if it became involved in the financing of the fisheries project, it is presently considering support measures for Indian shipyards to make them more competitive. A project proposal for submission to the Bank is presently being prepared by Mr. Mitra. I was promised that it would reach us by February 1969. My offer to provide further project preparation assistance under the FAO/IBRD Cooperative Program was politely rejected as no longer necessary. It was agreed that Mr. Mitra and Mr. Picciotto, of the New Delhi Office, would remain in contact on the preparation and formulation of the proposal. I emphasized that unless we received the proposal in early 1969, we might not be in a position to give it immediate attention because of other commitments of our staff. In considering fisheries in

India particular attention will need to be given to aspects of training, including the possibilities of bilateral technical assistance.

10. Rice Drying and Marketing Requirements: The introduction of double cropping of rice causes an increasing proportion of this crop to be harvested during the monsoon period. To retain quality and avoid undue losses this requires the provision of drying facilities. The increasing volume of production already now overtakes existing marketing facilities. Our suggestion to develop a package program under which central drying equipment would be provided in conjunction with the improvement of marketing facilities and to the extent needed, farm-to-market roads, was well received by Mr. Sivaraman. He promised to review such possibilities and to keep us informed. Further careful project preparation is undoubtedly required in this area. However, such development would appear to have high priority.

cc: Messrs. Cargill/Votaw, Chadenet/Baum, Evans, Darnell, Goffin,  
Haynes, Hendry, Riley

WAWapenhans:at



PRIORITY PROJECTS PROPOSED BY GOI

A. Cauvery System

1. Cauvery Delta: Rehabilitation and remodelling of surface irrigation system covering nearly 2 million acres including land development, drainage and groundwater exploitation.

B. Godavari-Krishna System

2. Upper Krishna 1: First phase of irrigation development of about 600,000 acres with potential extension to 2 million acres including construction of two dams, distribution system and land development.
3. Krishna-Godavari Delta Complex: Provision of drainage facilities, substitution or rehabilitation of existing diversion works and integrated groundwater development.
4. Pochambad: Completion of irrigation facilities for about 570,000 acres to be irrigated with Godavari waters in the State of Andhra Pradesh. A dam is under construction and some works have started on the distribution system.
5. Jayakwadi: Completion of irrigation facilities for about 350,000 acres to be irrigated with Godavari waters in the State of Maharashtra. A dam is under construction and engineering design is said to have been completed for the distribution system.

C. Narmada System

6. Tawa: Completion of irrigation facilities for about 750,000 acres to be irrigated with waters from the Tawa river, a tributary of Narmada located in the State of Madhya Pradesh. A dam and distribution systems are under construction.

D. Mahi

7. Mahi-Kadana: Provision of irrigation facilities for 220,000 acres as well as provision of supplementary surface water supplies for 460,000 acres in the Kaira District in Gujarat.

INTERNATIONAL DEVELOPMENT  
ASSOCIATIONINTERNATIONAL BANK FOR  
RECONSTRUCTION AND DEVELOPMENTINTERNATIONAL FINANCE  
CORPORATION

## OUTGOING WIRE

TO: CRAWFORD  
24 BALMAIN CRESCENT  
ACTON A.C.T. 2601  
CANBERRA

DATE: DECEMBER 26, 1968

CLASS OF  
SERVICE: LT

COUNTRY: AUSTRALIA

TEXT:  
Cable No.: REURCAB DEC 17 ADVISE AS FOLLOWS COLON

ONE YOUR PARTICIPATION HIGHLEVEL DISCUSSIONS NEWDELHI FUTURE BANKGROUP  
FINANCING INDIA'S AGRICULTURAL DEVELOPMENT HIGHLY DESIRABLE STOP  
DISCUSSION TO FOLLOW REPORTS OF CREDIT REVIEW AND IRRIGATION  
RECONNAISSANCE MISSIONS AND NOT LIKELY BEFORE END MARCH ~~STOP~~

TWO BRIEF REVIEW INDIAN AGRICULTURAL SCENE ALSO DESIRABLE TO ADVISE  
GILMARTIN ON MATERIAL TO INCLUDE IN ECONOMIC REPORT DUE FOR APRIL  
DISTRIBUTION TO CONSORTIUM STOP TIMING YOUR CONVENIENCE AS INDICATED  
URCAB

THREE WOULD APPRECIATE YOUR AVAILABILITY BOTH ACTIVITIES BUT IF COMPETING  
COMMITMENTS REQUIRE CHOICE WOULD GIVE PRIORITY TO ONE STOP IF THIS  
NOT POSSIBLE WOULD LIKE YOU TO UNDERTAKE TWO STOP

PLEASE ADVISE ON TIMING AND ASSIGNMENTS YOU CAN UNDERTAKE STOP WAPENHANS  
WILL WRITE ON STATUS OUR ACTIVITIES RE AGRICULTURE INDIA

REGARDS

CHADENET

INTBAFRAD

NOT TO BE TRANSMITTED

## MESSAGE AUTHORIZED BY:

NAME B. Chadenet  
Deputy Director  
DEPT. ProjectsSIGNATURE *B. Chadenet*  
(SIGNATURE OF INDIVIDUAL AUTHORIZED TO APPROVE)  
WAWapenhans:lkt

## CLEARANCES AND COPY DISTRIBUTION:

Cleared with and cc: Messrs. Votaw,  
Gilmartin  
cc: Messrs. Aldewereld, Evans/Wapenhans,  
Cargill

For Use by Archives Division

ORIGINAL (File Copy)  
(IMPORTANT: See Secretaries Guide for preparing form)Checked for Dispatch: *lkt*



ORIGINAL (SIP 2054)

DISPATCHED

RECEIVED

(SIGNATURE OF PERSONAL AUTHORIZED TO RECEIVE)

Dec 26 5:15 PM 1968

GENERAL FILES  
COMMUNICATIONS

Dec 26 5:00 PM 1968

GENERAL FILES  
COMMUNICATIONS

NOT TO BE INVENTED

INTERVIEWED

CHANDLER

REVIEWED

MULTI WHILE ON STAFFS ONE VOLUNTARILY HE VOLUNTARILY INDIV  
 REVERSE VDAISE ON LIVING AND VASSIMENTS DON OWN UNDERLYKE GLOB MUMMINGS  
 NOT POSSIBLE MOUNT LIKE DON LO UNDERLYKE LMO GLOB  
 COMMITMENTS BECOMING CHOICE MOUNT GLOB ENJOYING LO ONE GLOB IF THIS  
 THREE MOUNT VASSIMENTS DON VASSIMENTS BOTH VOLUNTARILY HE IF COMPLETING  
 DECEASE  
 DESIGNATION LO COMMISSION GLOB LIVING DON COMPLETING VS INDICATED  
 CITIZENSHIP ON MOUNTAIN LO INCLUDE IN ECONOMIC BECOMING THE FOR VASSIT  
 LMO BUTEL BECOMING INDIV VOLUNTARILY SCENE VASSIT DESIGNATE LO VDAISE  
 RECOMMITMENTS MOUNTAINS AND NOT TICKETS BECOMING END MOUNT REVE  
 DISCUSSION LO BOTTOM BECOMING OF CREDIT BECOMING AND INVESTIGATION  
 LIVING INDIV VOLUNTARILY DECOMMITMENT MOUNTAIN DESIGNATE GLOB  
 ONE DON INVESTIGATION MOUNTAIN DISCUSSION MOUNTAIN BECOMING BECOMING

COPY NO. 1  
RECEIVED DEC 13 VDAISE VS BOTTOMS GLOB

COPY NO. 1  
VASSITTY

CITIZENSHIP  
 VOLUNTARILY VASSITTY  
 SP INVESTIGATION BECOMING  
 INVESTIGATION

RECEIVED  
 COPY NO.

DATE DECEMBER 26 1968

OUTGOING MILE

INVESTIGATION	RECONSTRUCTION AND DEVELOPMENT	COMMISSION
INVESTIGATION DECOMMITMENT	INVESTIGATION BANK FOR	INVESTIGATION SOURCE
(S-41)		



J. S. Agn.

December 27, 1968

Sir John Crawford  
24 Balmain Crescent  
ACTON, A.C.T. 2601  
Canberra, Australia

Dear Sir John,

You will by now have received Mr. Chadenet's cable of December 26, a copy of which I attach to this letter. We have given considerable thought to how to best use the very limited and valuable time you can make available to us for India. As you will gather from the cable our strong preference would be for you to participate in the high level discussions with the Indian authorities on the future orientation of our involvement in India's agricultural development. However, these discussions will have to be carefully prepared and can best take place on the basis of the reports which the Agricultural Credit Review Mission and the Irrigation Reconnaissance Mission are to prepare, following their visits to India. Such discussion will therefore not coincide with the dates of your availability given in your cable of December 17. We would nevertheless hope that it might be possible for you to spare us a week or so in March or April when we hope to be able to hold these discussions.

Meanwhile, we, and especially Mr. Gilmartin, are quite anxious to have your views on how revolutionary the "green revolution" in India really is. This should add balance and depth to the agricultural part of the forthcoming report to the consortium. As you know, Bob Picciotto is already working on the agricultural part of this report. We are also making available for the Fourth Plan Review Joe Edwards (formerly with the Milk Marketing Board in England), to look at prospects for dairy development. We are still looking for a jute production expert to review the possibilities of improving jute production in India. These two experts are to be in India by the end of January and should stay for about six weeks. They will work with Bob Picciotto, so that he can incorporate their findings, to the extent appropriate, in the consortium report.

I returned from India about a fortnight ago, and found the situation much improved in many, if not all, respects. You may have heard that Mr. Sivaraman is leaving his post as Secretary, Agriculture on January 1. His successor is Mr. Patel presently Secretary of Housing and at one time in his career Managing Director of Air India. I had occasion to meet him and was very favourably impressed.

Ack Jan 7



Sir John Crawford

- 2 -

December 27, 1968

*Dec 28*  
For your reference I attach a note to Files which summarizes the findings of my visit. The negotiations on the Terai Seeds and the Punjab Drainage projects have now been completed, and we hope to be able to bring these to the Board in February.

I consider the forthcoming Irrigation Reconnaissance Mission, which is mentioned on page 2 of the note to Files, as rather important. In a way this is going to be a test whether the Indian experts are now ready to make the overdue switch from an inherited approach, adequate at the time of its introduction, to new technologies in the field of irrigation, more closely attuned to the advances in agricultural science. For your reference, I also attach the terms of reference for the Irrigation Reconnaissance Mission.

Any comments or observations you may have on these papers would be highly welcome indeed.

Jim Evans is presently abroad on mission. I am sure he will write in due course on other aspects of our operations. We would very much appreciate if you could let us know at an early date whether we can count on a visit of yours to India, and if so, when?

With kind regards and my very best wishes for a happy New Year,

Yours sincerely,

*W. A.*  
W. A. Wapenhans  
Deputy Director  
Agriculture Projects Department

Encs:

cc: Messrs. Evans, Votaw, Gilmartin, Picciotto

WAWapenhans:lkt

Aug 68



96-11-17  
T. S. R. N.

# CROSS REFERENCE SHEET

COMMUNICATION: Letter #375

DATED: December 17, 1968

TO: Mr. Votaw

FROM: Mr. Gilmartin

FILED UNDER: INDIA - General Negotiations

SUMMARY: Letter with enclosure of a set of the minutes of the meetings which took place during Mr. McNamara's visit in November.

List of attached memoranda:-			to FILES - <u>Meetings with Mr. McNAMARA</u>
Nov. 25, 1968	- Mr. Kavalsky		Group of Industrialists at Reserve Bank Bombay - Nov. 23
Nov. 26,	" "		Group of Economists and Bankers at Reserve Bank, Bombay - Nov. 23
Nov. 27	" "		Representatives of ICICI & leading members of Bombay Industrial & Commercial Sector at Reserve Bank, Bombay - Nov. 23
Nov. 27	" "		Members of Government of Maharashtra & Bombay Municipal Corporation at Reserve Bank of Bombay - Nov. 23
Dec. 9	Mr. Gilmartin		State Government Officials, Madras Nov. 22
Dec. 9	" "		Private Business Group in Madras Nov. 22
Dec. 3	" "		Mtg. with Mr. Morarji DESAI, Deputy Prime Minister & Min. of Finance Nov. 17
Dec. 12	" "		Group of Industrialists, New Delhi Nov. 19
* Dec. 17	" Picciotto		Mr. B. Sivaraman, Sec. of Agriculture & others re agricultural research - Nov. 18
* Nov. 19	" Bohr		GOI including Nayak, Sivaraman, Patel & Iyer re FERTILIZER and OIL.
Nov. 21	" Kavalsky		GOI including Dr. T. Sen, Min. of Education

\* Memo attached to this xref.

### CROSS REFERENCE SHEET

Letter # 375 with attached Memoranda to Files with report of meetings  
held with Mr. McNAMARA continued

#### COMMUNICATION:

<b>DATED:</b>	Nov.25, 1968	- Mr. Baneth	GOI - Meeting at Planning Commission Nov.18
<b>TO:</b>	Nov.25	" "	GOI - Ministry of Health, Family Planning Nov.18
<b>FROM:</b>	Nov.25	" Bohr	GOI - Mr. Sivaraman, Govt. of Bihar Kosi Project, Purnea Bihar Nov.20
	Nov.26	" Bohr	GOI - Chief Secretary, West Bengal & others - Nov.21.
<b>FILED UNDER:</b>	Nov.27	" Bohr	Calcutta Met. Planning Organization & Dev. Commission West Bengal. Nov.20
<b>SUMMARY:</b>	Nov.27	" Bohr	Port Commissioner, Calcutta Nov.21
	Nov.29	" "	Selected Group of Business and Academic people - Nov.21
	Nov.28	" "	Indian Institute of Management -Nov.21
	Nov.28	" "	B.R.& K.D.GUPTA, Majumdar, & Narain re Agriculture, Irrigation & Food West Bengal Nov.21
	Nov.28	" "	Family Planning - West Bengal Nov.21



Files

December 17, 1968

R. Picciotto

Notes on a meeting about agricultural research convened on November 18, 1968 on the occasion of Mr. McNamara's visit to India.

1. The meeting was held in a conference room of Rashtrapati Bhawan in New Delhi. Present at the meeting were:

Mr. B. Sivaraman,	Secretary of Agriculture Government of India
Mr. B.P. Pal,	Director General, Indian Council of Agricultural Research
Dr. J.S. Kanwar,	Deputy Director General, Indian Council of Agricultural Research
Mr. K.P.A. Menon,	Secretary, Indian Council of Agricultural Research
Mr. M.S. Swaminathan,	Director, Indian Agricultural Research Institute

2. At Mr. McNamara's request, Mr. M.S. Swaminathan gave the background of the recent foodgrains research breakthrough. In the fifties, a large scale fertilizer trial program (20,000 observation plots) was undertaken. Indian soils were known to be deficient in N and  $P_2O_5$ . However, the trials revealed that fertilizer applications in excess of 20 lbs per acre were generally not profitable with the grain varieties traditionally available to Indian cultivators. For this reason, the research focus was shifted to the development of new fertilizer responsive cereal varieties. While the so-called "improved" varieties, largely based on local materials, proved only marginally superior to the traditional varieties, a genetic breakthrough occurred when nationwide breeding programs making use of foreign materials began to throw up new "high-yielding" varieties.

3. In the case of paddy, high yields and substantially increased capacity to absorb fertilizers proved possible when the morphology of the "Indica" paddy plant was modified through crossing with dwarf Taiwan material. There was not yet the combination of high fertilizer responsiveness with such rice grain qualities as low milling breakage, minimum grain "stickiness" and short duration growing periods. Progress was being made, however, towards the combination of these characteristics. A new breakthrough was imminent.

4. In the case of wheat, the breakthrough came in 1965 when Mexican dwarf material was introduced in India. It was subsequently crossed with Indian parent material to produce new varieties with the amber color and the unleavened bread-making characteristics preferred by Indian consumers. In the coarse grains field, African material was introduced under Rockefeller-sponsored sorghum and millet research programs. The resulting hybrid

varieties have proven more resistant to drought than traditional varieties.

5. Mr. Swaminathan stressed that major credit for success of these breeding programs went to international technical cooperation (through FAO, USDA, Rockefeller and Ford). He also stressed that the new varieties have thrown up many urgent research problems in various fields including water control, plant protection, cultural practices, mechanization, etc. Much remained to be done by IARI (for the most advanced aspects of agricultural research) as well as by State universities and research agencies (coordinated by ICAR) for better adaptation of new varieties and practices to local conditions.

6. After congratulating Mr. Swaminathan for his exposition, Mr. McNamara inquired into the costs of the research program. Mr. Swaminathan said that IARI's annual budget was about Rs.18 million and that it might be stepped up to Rs.28 million during the Fourth Plan. Mr. McNamara observed that the high priority of agricultural research was evident given high payoffs already flowing from past research investment.

7. Mr. J.S. Kanwar then proceeded to describe ICAR's research effort in such fields as water management, fodder resources, livestock breeding and farm mechanization. He lacked the lucidity and enthusiasm of the preceding speaker as there were few dramatic research results to report in these fields. When Mr. Votaw inquired about the status of research in commercial crops, Mr. Sivaraman said that these and other interesting questions would be discussed in the plane to Purnea. On this note of expectation, Mr. McNamara concluded the meeting by thanking the participants.



AGRICULTURE DIVISION  
Enclosed With Letter  
From L. Gubant 375-Indgung  
Date Dec. 17. 1968

Files

December 9, 1968

William M. Gilmartin

Meeting of Mr. McNamara with State Government Officials,  
Madras, November 22, 1968

Present were:

Government of India

Mr. I.G. Patel  
Mr. S. Jagannathan

Government of Madras State

Chief Secretary  
Planning Adviser  
Secretary of Education  
Secretary of Health and Family Planning  
Secretary of Industries, Labour and Housing  
Secretary of Finance  
Secretary of Agriculture  
Secretary of Food  
Additional Secretary, Industries, Labour and Housing  
Chief Education Adviser  
Director of Industries and Commerce  
Director of Agriculture  
Director of Health, & Family Planning

World Bank

Mr. Robert S. McNamara  
Mr. Gregory B. Votaw  
Mr. Rainer B. Steckhan  
Mr. William M. Gilmartin

Most of the meeting was devoted to an explanation of agricultural problems and objectives in Madras. It was explained that 40 percent of the income of the State is from agriculture, and that Madras is on the border line of self sufficiency in foodgrains with some surplus in good years and small deficits in poor years. It is, however, very deficient in proteins and other protective foods. Rice is by far the most important crop, with most of the commercial rice supplies coming from the Tanjore District.

Madras is still very much affected by the vagaries of weather. About 40 percent of the cultivated area is irrigated, but of this only about a third is fairly independent of monsoon variations.

Rapid progress is being made in agricultural technology and as a result cereal production has increased from about 5.5 million tons in 1965 to 6.3

million this year. A further increase to 8 million tons is expected by 1973. The main factors for improvement are new varieties, fertilizer and water control. The main new rice variety, ADT 27, gives not only higher yields but has a shorter growing season (130 days instead of the former 160 days) and this permits a large increase in double cropping. The more precise timing requirements for double cropping means, however, that the required farm inputs must be available on time and it also necessitates more irrigation and better water control.

Toward the latter objective there is a high priority emphasis on tubewells and other wells. There are already large groundwater resources in Madras although an immediate survey of the nature of these resources is needed. A State-UNDP survey is in progress but on a very limited and quite inadequate scale. The proposed targets for the Fourth Plan are an additional 70,000 open wells, 10,000 private tubewells, and another 10,000 "filter points" which are larger public tubewells.

An immediate problem of well construction is a shortage of power drilling rigs and other equipment. Rigs are required which can drill 100 feet per day and there are very few of these. The other and larger problem of well development is finance. It is hoped to expand considerably the resources for wells on the basis of sales of Land Development Corporation debentures to the Government (hope for Rs.17 crores of such sales during Fourth Plan) plus additional financial support through the Agricultural Refinance Corporation and private commercial banks. In reply to a question from Mr. McNamara, it was also noted that about 30 percent of the well financing can be expected from farmers themselves as a result of increased yields.

In addition to rice and other cereals, there was reported a very large potential in Madras for increased fruit and vegetable productions, partly for consumption within the urban centers of the State and partly for export to other States.

Mr. McNamara asked the employment effects of increased agricultural production, and the consensus was that the newer technology and higher yields were not likely to create substantial additional employment opportunities. There was no clear answer to what might be done about the large rise in the additions of redundant rural workers to the non-agricultural labour supply.

The priority of the Madras Government on family planning was also emphasized. It was noted that population growth per year was only 1.12 percent during 1951-1961 but that since then the death rate had dropped from 24 to 15 per thousand and the annual rate of population growth had gone up to 1.8 percent. While pushing a variety of family planning methods, the main emphasis in Madras has been on sterilization. Madras was one of the first to make substantial headway in this and now has had about 750,000 sterilizations out of a total of 5 million in India. They said the India figure of 5 million was about half the total for the world.



There was a brief discussion of the education program in which the main emphasis is on raising the 35 percent literacy rate to a higher level. One emphasis is on maintaining more regular and more extended school attendance, and school lunch programs, with assistance from CARE, have been particularly effective to this end. Functional literacy programs are also being started with the hope of considerable expansion among adults.

WMG:bw

Files

November 28, 1968

Kenneth A. Bohr

Meeting on Agriculture, Irrigation and Food, West Bengal

November 21st, 1968 11:00 a.m.

Present:

Agriculture

Mr. R. R. Gupta - Food Commissioner & Secretary,  
/Food and Supplies Department

Mr. S. D. Gupta - Economic and Statistical Adviser,  
/Food and Supplies Department

Mr. A. K. Majumdar - Secretary, Irrigation & Waterways Dept.  
/and also Secretary, Cooperation Dept.

Govt. of India

Mr. G. V. Narain - Secretary, Health, Family Planning and  
/Urban Development

World Bank

Messrs. McNamara, Votaw, Gilmartin, Clark, Steckhan  
and Bohr

1. Mr. McNamara asked when the State might be self sufficient in food. Mr. Gupta answered that it might be self-sufficient in cereals by 1970 or 1972 but it would continue to be deficient in proteins. Fish, meat and eggs used to be received from what is now East Pakistan and they continued to depend on other States for these as well as pulses.

2. Mr. McNamara asked what percentage of the rice sown was of a high yielding variety. He was told that 9% of total was the target for 1968-69. The main difficulty to more rapid expansion was the lack of water during the summer months. It had been estimated on the basis of a geological survey that it would be possible to put down 100,000 shallow tubewells. The State program for the Fourth Plan was 50,000 shallow tubewells and 1000 deep tubewells. The deep tubewells were in particular areas where shallow drilling would not be sufficient. By deep they meant 1000 ft. or more. The shallow tubewells would receive State loans through block development officers for 80% of their costs. The Coops were also now giving some credit for tubewells.

3. The discussion turned to the problems of irrigation and Mr. Majumdar said that of the 3 major irrigation projects in the State, two, Damodar and Mayurakshi had been completed but Kangsabati which had been under construction for 12 years was not complete and would not be completed within the Fourth Plan because of financial limitations. It now irrigated 125,000 acres; on completion it was expected to irrigate 950,000 acres. Of the 10 million acres of farm land in the State, 3.7 million



November 28, 1968

were irrigated, of which 1.6 million were irrigated by the government. The program of 50,000 tubewells for the Fourth Plan would make possible the irrigation of 250,000 additional acres. The acres per tubewell was low because the crop was paddy and required heavy watering.

4. Mr. Majumdar next referred to the reclamation of the Sunderban areas along the coast. There were 8000 sq. miles of this coastal area, 5000 had gone to Pakistan, 3000 remained in West Bengal. There were 2,200 miles of earthen embankment in West Bengal protecting the reclaimed part of this area from the sea. In 1959 a large reclamation project had been designed with the help of Dutch consultants. Its total cost would be Rs.200 crores. The first phase, costing 19 crores, would reclaim 125,000 acres. The report for this phase was now complete.

5. Not much had been done on the flood control in the State as a whole. The Damodar Valley development had controlled floods in that area but in North Bengal very little had been done. The recent devastating floods in that area were particularly bad because land slides in the mountains had dammed up the Testa river and these gave way suddenly. There had been 2700 deaths and it was estimated that 60,000 cattle were lost. There was a project for the Testa valley estimated to cost Rs.340 crores. The first phase, with a cost of 26 crores would take six years.

6. Mr. McNamara then asked what the most immediate problems in agriculture were. One answer was that credit was a major bottleneck. The Coops were unable to meet the needs of all farmers. However an opinion was also expressed that credit was only required for one crop of high yielding varieties. The returns were sufficient to obviate the need for further credit. The physical problem of lack of storage at farm level to prevent substantial loss due to pests and also at the trade level was also mentioned as an immediate problem.

7. Mr. McNamara then asked about manpower requirements in agriculture. He understood there was a surplus of manpower now. Would it increase or remain stable? It was pointed out the area of agricultural land per capita in West Bengal was about 1/3 acre, which did not allow for much absorption of labour. It was expected that the surplus would increase.

8. Mr. McNamara said it seemed to him that with the change in agricultural technology a sequence of events would take place. First would come the introduction of mechanisation which would lead to the forming of larger plots and lower requirements for manpower. At this point if the family planning program did not have some impact, there would be a substantial surplus rural population moving to the cities. He then asked whether there was any chance to tap the increase in rural income. The reply was that it could be done but that it was a political question. Mr. Votaw asked whether it would be possible for farmers to pay more for fertiliser and water and Dr. Patel suggested a higher rate of interest. It was pointed out that the last three ministries in West Bengal were unable to set a tubewell rate for water. It was finally done by the Governor under president's rule.

Files

November 26, 1968

Kenneth A. Bohr

Meeting with Chief Secretary, West Bengal and other  
State Officials  
November 21, 1968 10:45 a.m.

Present:

Govt: of West Bengal

Mr. M.M. Basu - Chief Secretary

Mr. S.B. Roy - Commissioner for Home Affairs and  
Secretary Home Department

Mr. B.C. Ganguli - Development & Planning Commissioner

Mr. H.C. Datta - Jt. Development & Planning Commissioner

Govt: of India

Mr. Govind Narain - Secretary, Health, Family Planning  
and Urban Development

World Bank

Messrs. McNamara, Votaw, Gilmartin, Clark, Steckhan  
and Bohr

1. The Chief Secretary, Mr. M.M. Basu spoke of the difficulties of finding resources for the State's five year investment program of Rs.584 crores. (The program did not include funds for Calcutta) Part of the funds were to come from the State and part from the Centre. The outlook for the State's contribution was not bright. Revenue was not sufficient to balance current (non-plan) expenditures and additional expenditures for dearness allowances for State employees and for maintenance which was badly needed, were expected to total Rs.29 crores over this period while on the basis of the recent report of the Finance Commission, the Centre would provide only Rs.12 crores.
2. The first problem was to balance current revenue and expenditure and the main question was how to raise the necessary additional revenue. He thought a sales tax was the most feasible possibility.
3. To increase their difficulties, the recent floods in North Bengal had not only stopped tax collections but had probably made it necessary to remit taxes already paid by those in the affected areas. Flood damage had been estimated at Rs.40 crores; their budget for flood relief was 3-4 crores.
4. Mr. McNamara asked whether the increased income in agriculture would give an increased tax yield. In the discussion that followed some expressed doubt as to whether there would be much increase in agricultural income because of rising costs. Others thought that if an increase did occur most of it would go into increased food consumption by small farmers and little would be "available", but it was finally conceded that there probably would be an increase in income that might be used outside the sector.



November 26, 1968

5. Mr. McNamara then asked how much of any increment would be captured given the existing tax structure. The answer was very little if any. The land tax was fixed and the tax on agricultural income was very nominal and difficult to collect and, as a matter of policy, there was no sales tax on rice or other food products. Most of the revenue from agriculture came from the tea estates.
6. Mr. McNamara said that it seemed to him that the situation was roughly as follows: agricultural income would rise, there were no real plans to tap this increment of income, and at the same time there were great needs for additional resources to finance the development plan. He asked whether other States were able to collect more of the increment of agricultural income than West Bengal. The opinion was expressed that all were in the same boat and no State did particularly well in this respect. It was also noted that the cost of tax collection from small farmers was extremely high.
7. The needs of Calcutta were not included in the plans for West Bengal. The government had decided to treat Calcutta separately in the hope that it could receive some priority in itself. As far as the State plan was concerned, Rs.434 crores was consistent with past expenditures during the Third Plan. Considering price rises since then, nothing less than 500 crores would represent much of an increase. The revenue budget, i.e. the non-plan expenditures, was 240 crores.
8. The discussion returned to the problem of raising revenue and it was pointed out that a possible source of additional revenue, a tax on paddy, had been excluded as a matter of State policy for many years. Mr. McNamara asked whether it would be possible to tax agricultural inputs - specifically why not tax fertiliser? the answer given was that it would be inconsistent to go from a situation where fertiliser was subsidised, as was the case until recently, to one where it was taxed - even when it was in short supply as he was told was the case at present!
9. Mr. McNamara said that it seemed to him that with new developments new problems arose. Agricultural income was rising. Traditionally it was not taxed but conditions had changed and a new look was needed. It seemed to him the State Government would have to find some way to tax the increased agricultural income.

KAB:yd

Files

November 25, 1968

Kenneth A. Bohr

Kosi Project, Purnea Bihar  
Meeting with Project Administration and other State Officials  
November 20th - 11:00 a.m.

Present:- Bihar Government - see attachment  
Central Government - Mr. Sivaraman, Secretary, Dept. of Agriculture  
World Bank - Messrs. McNamara, Votaw, Gilmartin,  
Clark, Steckhan and Bohr

1. Mr. McNamara asked how the extension work to assist the farmers to take advantage of the new crop varieties and practices was organized. Mr. Chakarvarty, the Kosi Area Development Commissioner, showed Mr. McNamara an organisation chart and said that each block consisted of about 60,000 acres and 10,000 farms. There were 24 village level workers per block and together they were able to assist about 2000 farmers in drawing up farm plans - about 100 per village level worker. The farmers who wanted this assistance were generally those with 5-10 acres. These were more progressive than either the very small farmers or the very large ones. The distribution of farms by size was roughly as follows:

25% of farms less than  $2\frac{1}{2}$  acres per farm  
20% between  $2\frac{1}{2}$  and 5 acres  
45% between 5 and 25 acres  
10% over 25 acres

2. Mr. McNamara then asked how credit was made available to farmers. He was told that cooperatives could loan a member up to Rs.2000 per crop. These were short term loans repayable at harvest. It was possible to borrow up to Rs.6000 a year with three crops but only Rs.2000 was supposed to be outstanding at any one time. There are about 20 cooperative societies in a block. They were operating in 80% of the villages and 62% of the farmers were members. Some short term credit was also available from the State Agriculture Department for farmers not members of cooperatives.

3. In addition to short term loans the Land Development Bank, recently set up in the State, provided 7 year loans. This bank obtained its funds from the Reserve Bank, the State and its own resources. Debentures issued to finance specified approved area programs were given special support; 90% were purchased by the Agricultural Refinance Corporation and 10% by the State. The operations of the bank were assisted by the great increase in land values that resulted from the installation of tubewells. In assessing the value of land to be used with the pumpset as security for a tubewell loan the estimated value after the installation of the well was used. The Bank would lend for 80% of the cost of the well. The total cost for an average well was about Rs.9000.



November 25, 1968

In addition the farmer had to advance Rs.2000 for the necessary power connection.

4. The State Bank was also starting to lend to farmers in the area. A scheme had only just started in two districts to lend to farmers with 25 acres or more. One office had been set up and 300 applications had been received. Mr. McNamara asked how many farmers in Bihar had over 25 acres. The answer was that of the 4 million, 10% or 400,000 had farms of 25 acres or more. The State Bank scheme aimed to reach 1000 farmers. The Bank was aiming at the market outside the cooperatives; the approach was experimental.

5. Mr. McNamara asked what help was available for the small farmer. He was told there was a scheme for the joint purchase of a tubewell by several farmers. It was considered that a tubewell required 15 acres to be a profitable investment, although there were exceptions. To date, the joint purchase scheme had not had much success.

6. Mr. McNamara asked about the future plans for development of the area. He was told that financial requirements for the next five years amounted to Rs.125 crores. This figure included Rs.50 crores to finance fertiliser purchases and other short term items as well as finance for new investment in the area. There were 800,000 farmers in the project area.

7. Mr. McNamara asked for some indices of change to show what had happened in this area since the project. In addition to the figures on production in the printed material provided by the Ministry of Agriculture, it was mentioned that 4 years ago land cost Rs.200 per acre. This same land today with irrigation was valued at Rs.4000 an acre and they expected the value would increase to about Rs.8000 per acre. Very little land was changing hands. It was also stated, in response to a question, that the small farmers, those with less than 2½ acres, had not participated in the general growth of output and improvement of yields.

8. Mr. McNamara asked what happened to the increment of income indicated by these changes. (He had been told earlier at one of the farms visited that income per acre had increased 10 times since before irrigation 5 years ago). He was told that none went into taxes since land revenue was fixed at Rs.6 per acre. Also that there had been a sharp increase in the purchase of life insurance and in small savings. There was a proposal of the State Bank to set up one man branches to collect savings. The Bank did not have any experience in this sort of operation and did not seem clear on how to go about it or whether it was worthwhile.

9. Considering the change that was taking place with the introduction of mechanisation Mr. McNamara asked how these changes would effect labour requirements in 10 years time. Mr. Sivaraman answered that some studies they had made indicated labour demand would be increased by the type of mechanisation contemplated. This was because mechanisation made three crops

November 25, 1968

possible and there was much that could not be mechanized and this increased the requirements for labour on the whole.

Attachment:

KAB:yd

Document #15  
entitled - Rose Area  
Development  
his (Ford, Ag)  
(could be 67-68)  
filed under  
IND - Aqu Reg. 9  
#15



Bihar Government

Mr. S.A.F. Abbas - Chief Administrator, River Valley Projects

Mr. S.K. Chakarvarty - Development Commissioner, Kosi Area

Mr. R. Datta - Chief Engineer, Kosi Project

Mr. B.N. Ojha - Engineer Member and Chief Engineer, Bihar State  
/Electricity Board

Mr. R.D. Pande - Secretary, Department of Cooperation and Sugarcane

Mr. H.S. Rao - Adviser to the Governor

Mr. S.P. Srivastava - Managing Director, Bihar State Cooperative  
/Land Mortgage Bank

Mr. R.K. Srivastava - Managing Director, Bihar State Co-operative Bank

Mr. H.N. Thakur - Agricultural Production Commissioner

ARCHIVES DIVISION

Enclosed with Letter 375

From h. G. G. G.

Date Dec 17, 1966

fur

6d

\* Agn

Files

November 19, 1968

Kenneth A. Bohr

Meeting on Fertiliser and Oil  
November 18, 1968 12:00 noon

Those present were:

Indian Government

Mr. P.R. Nayak, Secretary, Petroleum & Chemicals  
Mr. V.N. Kasturirangan, Chief Project Officer,  
/Ministry of Petroleum & Chemicals  
Mr. B. Sivaraman, Secretary of Agriculture  
Mr. K.B. Rao, Adviser (Industry & Mining) Planning  
/Commission  
Dr. I.G. Patel, Special Secretary, Ministry of Finance  
Mr. R.R. Iyer, Economic Affairs, Ministry of Finance

World Bank

Messrs. McNamara, Cargill, Votaw, Gilmartin and Bohr

Program of Investment and Production

1. Mr. Nayak described how the government expected the Indian requirements of fertiliser to be met over the next five years. Nitrogen requirements, he said, were expected to grow from 1,700,000 tons of nitrogen in 1969-70 to 3,750,000 tons in 1973-74. Through 1971-72 imports of 800,000 to 1 million tons per year would be needed but they should start to decline in 1972-73 and by 1973-74 he expected that all the nitrogen required would be produced in India. The basis of this expectation was as follows:

(i) Present capacity is about 900,000 tons of nitrogen in 10 major plants and several small ones. 9 projects are now under construction, including 3 expansions, with a total capacity of 1,270,000 tons. These projects will be coming into production over the next two years giving a total capacity of 2,200,000 tons in 16 major plants and several small ones by 1970-71.

(ii) In addition to projects under way there are a number of projects in various stages of preparation. One group of 9 projects, including two expansions, consists of those already approved by the government. The total capacity involved is 1,500,000 tons. 7 of these are in the private sector. The government realizes that all of these may not materialise. As has been the case several times in the recent past the entrepreneurs, both foreign and Indian may decide not to undertake what they have proposed.



November 19, 1968

- (iii) The second category includes 8 projects under consideration but not yet approved. The total capacity is 1,700,000 tons 60% of which is expected to be in the public sector.
- (iv) From the total of these two groups of projects, 15 new plants and 2 expansions, it is expected that sufficient new capacity will be constructed to enable production to reach 3,700,000 tons by 1973-74. At that time the total number of major plants in operation will be 29 or 30.

#### Finance

2. Dr. Patel pointed out that financing the fertiliser program was a major problem. A large amount of foreign exchange was required; \$250 million was needed for the Fourth Plan program. The terms on which they had been able to obtain it thus far had been difficult with the exception of the finance provided by U.S. AID for the Trombay plant. Much had been financed on a deferred payment basis. Financing for the cooperative plant at Kandla was to be from the Bank of America under the U.S. guarantee program. The interest was expected to be 7%, and amortization over 15 years. In addition to finding the foreign exchange the government under its policy also had to find rupee finance even in the case of private sector plants. The fact that a project was in the private sector did not necessarily mean that much private finance was provided. The Kotah project of Delhi Cloth Mills was cited as the exception which needed no assistance from public financial institutions.

#### Management

3. Mr. McNamara asked how they expected to deal with the problem of management in this large program. It seemed to him that the burden on technical expertise would be tremendous.

4. In reply, Mr. Nayak said they were approaching the management problem in several ways:

- (i) They were retaining experts who had helped build a plant to assist for a time in its operation. The example was the Gorakhpur plant recently completed by the Fertiliser Corporation of India. The equipment and technical collaboration had been Japanese. A number of the collaborator's staff would remain for some time at the plant.
- (ii) They had increased the tempo of training which included sending more senior staff abroad.

November 19, 1968

(iii) They had entered into a management agreement with Fertiliser Cooperative International in the case of the cooperative plant to be built at Kandla. There was a similar arrangement in the case of the Madras plant in the public sector. In this case the foreign collaborators were managing the project.

(iv) Finally, Mr. Nayak pointed out that in the case of the projects with foreign collaboration management assistance from the foreign parties was expected.

5. Dr. Patel argued that foreign management was not necessarily an answer. It was expensive and not always effective. He also said that Japanese technical assistance had the best record in the fertiliser field in India but they were limited in the use of Japanese equipment and technical help by the amount of Japanese credits or international credits available. He suggested that the Bank itself should hire a corps of 100 fertiliser experts to assist in programs such as India was undertaking.

6. Mr. McNamara said he might give such a proposal consideration if he thought it might help. He wanted to make clear that by management he meant the total problem involved in getting plants to operate at capacity. This included both administrative and technical aspects. Furthermore this was not an ideological matter at all. He was concerned with the efficiency of the operation and not the source of finance. If the Bank were to help finance this program it would have to be assured of efficient management. Considering the difficulties now experienced in operating 12 plants he saw little chance that India would be able to operate 29 plants at 75% capacity by 1973.

#### Petroleum

7. Mr. Nayak reviewed the overall situation. Petroleum consumption is now about 15 million tons of crude of which 9 million tons is imported. In addition about  $\frac{1}{2}$  million tons of refined products is imported. The development of domestic oil resources has been recent. Up to about 5 years ago production had not exceeded  $\frac{1}{2}$  million tons. Present production was about 6 million tons and the expansion of fields now under development is expected to bring production up to 10 million tons. In addition 2-3 million tons is expected to result from new explorations. However, at the same time because requirements will be increasing to 20-21 million tons in the next few years and to 30 million tons by 1975 imports will increase.

8. The situation would be substantially altered if a large discovery of oil were made in the promising area offshore in the Gulf of Cambay. At the present time a number of offers for assistance in exploring this area are being considered. These include collaboration from U.S. and German firms, contract drilling from a U.S. firm and the sale of equipment with assistance in operation from a Japanese firm. Some of these offers



November 19, 1968

have been made very recently and Mr. Nayak mentioned in particular that the Japanese type of offer in which India operated the equipment with foreign assistance had not been fully analysed. A choice was expected to be made among the alternatives within the next few weeks he said.

KAB:yd

~~October 8, 1970~~



May  
June 13, 1968

*Idagi*

INCOMING CABLE

DATE AND TIME  
OF CABLE:

DECEMBER 17, 1968

1815

LOG NO.:

RC 9 / 18

TO:

ALDEWERELD INTBAFRAD

FROM:

CANBERRA

TEXT:

*Mr Wapenaar  
Please prepare answer  
in my signature  
Dec 24*

ROUTING

ACTION COPY:

MR. ALDEWERELD

INFORMATION  
COPY:

DECODED BY:

UNDERSTOOD END SEPTEMBER QUESTION MY VISIT TO INDIA WAS  
REOPENED. INITIATIVE WAS NOT MINE BUT WOULD APPRECIATE  
ADVICE. IF NEEDED FOR INDIA WOULD HAVE TO BE WITHIN PERIOD  
APPROXIMATELY 20TH JANUARY TO 10TH FEBRUARY. ENTIRELY HAPPY  
DECISION EITHER WAY REGARDS

CRAWFORD

*Mr. Chadenet  
Please handle by  
cable & reply  
12/20/68*

*IR  
Dec 26 cable  
Ack Dec 27  
WHS*



TYPED

Dec 18 8 31 AM 1968  
GENERAL FILES  
COMMUNICATIONS

RECEIVED

COMMUNICATIONS SECTION

RECEIVED

RECEIVED

RECEIVED

RECEIVED

RECEIVED

RECEIVED

RECEIVED

RECEIVED

RECEIVED

RECEIVED

RECEIVED

RECEIVED

RECEIVED

RECEIVED

RECEIVED

Dev. of Rural Commun.  
Agri.

November 26, 1968

Mr. John W. Mellor  
Department of Agricultural Economics  
New York State College of Agriculture  
Cornell University  
Ithaca, New York 14850

Dear Mr. Mellor:

In Greg Votaw's absence I am writing to acknowledge and thank you for your letters to him of November 22. I shall arrange for these to be made available to Greg on his return to the office on Monday, December 2.

Sincerely yours,

A. F. Kirk  
South Asia Department

*bf*  
/bj



CROSS REFERENCE SHEET

COMMUNICATION: Letter

DATED: November 18, 1968

TO: Mr. McNamara

FROM: Mr. H.G. Mudgal  
The Nest  
Bombay  
INDIA

FILED UNDER: INDIA - Inquiries

SUMMARY: Request for assistance with his Farm Prosperity Project.  
Ack. by Mr. Votaw - letter dated Jan. 3, 1969

Agm 92

INCOMING CABLE

DATE AND TIME  
OF CABLE:

NOVEMBER 15, 1968

1440

LOG NO.:

RC 10/18

TO:

INTBAFRAD

FROM:

NEW DELHI

ROUTING

ACTION COPY:

MR. GOODMAN

INFORMATION  
COPY:

PROJECTS-AGRICULTURE  
PROJECTS-342

DECODED BY:

TEXT:

1 FOR GOODMAN

ARRIVED DELHI

FOR WAPENHANS

ALPHA RENDEZVOUS BOMBAY NOVEMBER 25 CONFIRMED AND PICCIOTTO WILL  
RETURN DELHI WITH YOU

BETA LIVESTOCK AND CASH CROP SPECIALISTS NEEDED AS EARLY IN JANUARY  
AS YOU CAN ARRANGE

GAMMA PLEASE BRING THREE TINS ENFAMIL POWDER FORMULA FOR PICCIOTTO BABY  
REGARDS

VOTAW

MR. WAPENHANS TELEPHONED DURING WEEKEND

FAMILY NOTIFICATION HAS BEEN MADE

COMMUNICATIONS  
GENERAL  
NOV 15 9 51 AM 1968

MT



Nov 18 8 27 AM 1968  
GENERAL FILES  
COMMUNICATIONS



OUTGOING WIRE

TO: INTBAFRAD  
NEW DELHI

DATE: NOVEMBER 14, 1968

CLASS OF  
SERVICE: LT

COUNTRY: (INDIA)

TEXT: ✓  
Cable No.: 181 FOR GILMARTIN

incoming Nov 11 + 154

Rea

PART I INFORMED VIEW OF BANK SPECIALISTS IS THAT PHILIPPINES HAS ACHIEVED  
A RICE BREAKTHROUGH STOP NO ONE PREPARED TO SAY HOW WIDESPREAD BUT PRESUMPTION  
IS THAT ADOPTERS ARE MAINLY LANDLORDS WHO MAKE DECISIONS FOR THEIR TENANTS AND  
LARGER CULTIVATOR OWNERS STOP AGRICULTURAL INSTITUTIONS LEAVE VERY MUCH TO BE  
DESIRED BUT STRONG COORDINATION EFFORT IN REGARD TO SUPPLY AND DISTRIBUTION OF  
FERTILIZER AND CREDIT IN PRESIDENTIAL OFFICE DURING PAST COUPLE OF YEARS HAS  
MITIGATED COMMA AT LEAST FOR THE TIME BEING COMMA THEIR NORMALLY POOR  
PERFORMANCE STOP COORDINATION STANDS FOR GROUPING INTO COMPACT REGIONAL  
COUNCILS OF NORMALLY NUMEROUS AUTONOMOUS INSTITUTIONAL AGENCIES WHICH WERE  
HARDLY OPERATIVE BEFORE STOP BREAKTHROUGH IS IN AREAS OF CONTROLLED AND  
WELL FUNCTIONING WATER FACILITIES COMMA AVAILABILITY OF FERTILIZER COMMA  
CREDIT COMMA ON GOING RESEARCH AND SEED MULTIPLICATION IN PRIVATE HANDS STOP  
THEREIN PROBABLY LIE SOME LESSONS FOR INDIA STOP

PART II HOW WELL THE RICE REVOLUTION CAUGHT ON TO SUSTAIN IT IN THE FUTURE  
IS FAR FROM CLEAR STOP AVAILABLE IF SCANTY INFORMATION POINTS TO A NUMBER  
OF PROBLEMS WHICH MAY IMPEDE THE BREAKTHROUGH IF THEY ARE NOT SOLVED STOP

NOT TO BE TRANSMITTED

(SEE PAGE 2)

MESSAGE AUTHORIZED BY:

CLEARANCES AND COPY DISTRIBUTION:

NAME

DEPT.

SIGNATURE

(SIGNATURE OF INDIVIDUAL AUTHORIZED TO APPROVE)

For Use By General Files and Communications Section

ORIGINAL (File Copy)

(IMPORTANT: See Secretaries Guide for preparing form)

Checked for Dispatch:



ORIGINAL (P. 1)

RECEIVED

DATE

TIME

RECEIVED (P. 2)

RECEIVED (P. 3)

(SEE PAGE 5)

NOT TO BE EXAMINED

OF SUBJECTS WHICH MAY INTERFERE THE INVESTIGATION IS THAT THE POLICE SHOULD

IS THE MAIN OBJECT OF THE INVESTIGATION IS TO OBTAIN INFORMATION FROM A NUMBER

PAGE II THE MAIN OBJECT OF THE INVESTIGATION IS TO OBTAIN INFORMATION FROM A NUMBER

THE MAIN OBJECT OF THE INVESTIGATION IS TO OBTAIN INFORMATION FROM A NUMBER

THE MAIN OBJECT OF THE INVESTIGATION IS TO OBTAIN INFORMATION FROM A NUMBER

THE MAIN OBJECT OF THE INVESTIGATION IS TO OBTAIN INFORMATION FROM A NUMBER

THE MAIN OBJECT OF THE INVESTIGATION IS TO OBTAIN INFORMATION FROM A NUMBER

THE MAIN OBJECT OF THE INVESTIGATION IS TO OBTAIN INFORMATION FROM A NUMBER

THE MAIN OBJECT OF THE INVESTIGATION IS TO OBTAIN INFORMATION FROM A NUMBER

THE MAIN OBJECT OF THE INVESTIGATION IS TO OBTAIN INFORMATION FROM A NUMBER

THE MAIN OBJECT OF THE INVESTIGATION IS TO OBTAIN INFORMATION FROM A NUMBER

THE MAIN OBJECT OF THE INVESTIGATION IS TO OBTAIN INFORMATION FROM A NUMBER

THE MAIN OBJECT OF THE INVESTIGATION IS TO OBTAIN INFORMATION FROM A NUMBER

THE MAIN OBJECT OF THE INVESTIGATION IS TO OBTAIN INFORMATION FROM A NUMBER

THE MAIN OBJECT OF THE INVESTIGATION IS TO OBTAIN INFORMATION FROM A NUMBER

THE MAIN OBJECT OF THE INVESTIGATION IS TO OBTAIN INFORMATION FROM A NUMBER

DATE

TIME

RECEIVED (P. 4)

RECEIVED (P. 5)

DATE

RECEIVED (P. 6)

DATE

RECEIVED (P. 7)

ORIGINAL (P. 8)

RECEIVED (P. 9)

RECEIVED (P. 10)

RECEIVED (P. 11)

RECEIVED (P. 12)

RECEIVED (P. 13)

RECEIVED (P. 14)



INTERNATIONAL DEVELOPMENT  
ASSOCIATION

INTERNATIONAL BANK FOR  
RECONSTRUCTION AND DEVELOPMENT

INTERNATIONAL FINANCE  
CORPORATION

## OUTGOING WIRE

TO: NO. 181 FOR GILMARTIN

PAGE 2

DATE: NOVEMBER 14, 1968

CLASS OF  
SERVICE:

COUNTRY:

TEXT:

Cable No.:

FARMERS CONSIDER OFFICIAL RICE FLOOR PRICES INADEQUATE STOP FURTHERMORE  
COMMA GOVERNMENT NOT ALWAYS IN POSITION TO MAINTAIN SUPPORT PRICES COMMA  
ASIDE FROM THE FACT THAT FLOOR PRICE APPLIES ONLY TO A LIMITED VOLUME OF  
FARMERS PRODUCE STOP CONSUMER PREFERENCE IS FOR TRADITIONAL VARIETIES AND  
MIRACLE RICE SELLS AT A DISCOUNT STOP APPARENTLY MILLERS ARE DISCOUNTING  
PRICE OF IR8 DUE TO REPORTED LOW MILLING AND INFERIOR EATING QUALITY STOP  
HIGH YIELDING QUALITY OF IR8 IS ADMITTED BY ALL FARMER PARTICIPANTS BUT SAME  
SURVEY OF AN ADMITTEDLY SMALL SAMPLE IN ONE OF THE BEST RICE AREAS SHOWS THAT  
44 PERCENT OF THE FARMERS WOULD NOT PLANT IR8 AGAIN AND 16 PERCENT WOULD REDUCE  
PLANTING OF IR8 STOP THE REST USE TRADITIONAL VARIETIES DESPITE HIGH YIELDS  
AND LITTLE LODGING OF THE NEW VARIETIES STOP ACCORDING TO SAME SAMPLE THE  
CAUSES ARE LOW PRICE COMMA HIGH COST COMMA INFERIOR TASTE COMMA POOR DISEASE  
RESISTANCE AND SHARP LABOR INCREASE IN WEEDING STOP MANY OF THE INTERVIEWED  
DO NOT WISH TO RETURN TO TRADITIONAL VARIETIES BUT DESIRE ANOTHER TYPE OF  
IMPROVED VARIETY AND BETTER PRICES STOP NOT IN POSITION TO JUDGE HOW  
REPRESENTATIVE THE SAMPLE IS AND NOR IS IT POSSIBLE TO RENDER FINAL VERDICT  
ON A DEVELOPMENT ONLY TWO YEARS OLD BUT IT CAN BE STATED THAT THE HIGH YIELDING

~~NOT TO BE TRANSMITTED~~

(SEE PAGE 3)

MESSAGE AUTHORIZED BY:

CLEARANCES AND COPY DISTRIBUTION:

NAME

DEPT.

SIGNATURE

(SIGNATURE OF INDIVIDUAL AUTHORIZED TO APPROVE)

For Use By General Files and Communications Section

**ORIGINAL (File Copy)**

(IMPORTANT: See Secretaries Guide for preparing form)

Checked for Dispatch: \_\_\_\_\_







OUTGOING WIRE

TO: NO. 181 FOR GILMARTIN

PAGE 3

DATE: NOVEMBER 14, 1968

CLASS OF  
SERVICE:

COUNTRY:

TEXT:

Cable No.:

CAPACITY OF IR8 IS UNQUESTIONED AND THAT THE SAME PHENOMENON HAS BROUGHT  
IN ITS WAKE A HOST OF PROBLEMS WHICH RESEARCH AND AGRICULTURAL POLICY MUST  
DEAL WITH IF THE RICE REVOLUTION IS TO HAVE SMOOTH SAILING STOP  
PART III SURPRISED BY YOUR REFERENCE TO RICE PRODUCTION UPSURGE IN WEST  
PAKISTAN STOP THIS OBSERVERS VISIT INDICATED NO MORE RELATIVE PROGRESS THAN  
IN INDIA WHICH IS VERY LITTLE STOP MY STRONG IMPRESSION IS THAT PUBLIC  
RELATIONS IN WEST PAKISTAN REGARDING ECONOMIC DEVELOPMENT INCLUDING  
AGRICULTURE MORE SOPHISTICATED THAN IN INDIA AND EXPLAINING THE UNEXPLAINABLE  
MADE MUCH EASIER STOP IT IS THE VIEW OF A BANK EXPERT THAT WEST PAKISTANS  
IRRIGATION FACILITIES DO NOT AUGUR WELL FOR A RAPID AND SUCCESSFUL UTILIZATION  
OF MIRACLE RICE STOP IN ANY EVENT WEST PAKISTAN IS AROUND THE CORNER AND  
TRUTH OR FALSITY OF CLAIM CAN BE CHECKED ON THE SPOT STOP REGARDS

LADEJINSKY

NOT TO BE TRANSMITTED

MESSAGE AUTHORIZED BY:

NAME Wolf Ladejinsky

DEPT. South Asia

SIGNATURE *Wolf Ladejinsky*  
(SIGNATURE OF INDIVIDUAL AUTHORIZED TO APPROVE)

WLadejinsky/pop

ORIGINAL (File Copy)

(IMPORTANT: See Secretaries Guide for preparing form)

CLEARANCES AND COPY DISTRIBUTION:

cc: Mr. A. F. Kirk  
Mr. D. A. Dunn

For Use By General Files and Communications Section

Checked for Dispatch: *ha*





*Ld Agn*

Messrs. W.A. Wapenhans, Stanley Please,  
Robert Picciotto, Wolf Ladejinsky,  
Earnest Stern (Pearson Commission)  
Gregory B. Votaw

November 12, 1968

INDIA: Agricultural Development

Attached please find a mimeographed version of the concluding chapter and the table of contents of John Mellor's new book "Developing Rural India". I have ordered a few copies of the book since the printed version will obviously be much more readable than mimeographing done in India; however, the Cornell University Press does not expect to have books available to fill these orders until after the end of November.

I am sure that Prof. Mellor (and the India Division) will be most interested in your comments.

Attach.

GBVotaw/vr

cc: Mr. David Dunn  
Mr. E. Bevan Waide (on return)

*GW*



✓  
Letter No. 389

cc Madras & C  
Agri g  
November 12, 1968

Mr. Robert Picciotto  
International Bank for Reconstruction  
and Development  
P. O. Box 416  
New Delhi, India

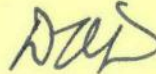
Dear Bob:

1. I am afraid that we have been rather negligent about responding to your many letters and memos recently, for which my apologies. In fact you may not even receive this response before I myself get to New Delhi!
2. Whatever our delays, however, your letter 276 of September 3, 1968, seems to have been held up somewhere else - perhaps in the mail strike - for our copy arrived only on November 6. I would suggest that de Alba and Sicely should be given a copy when they arrive.
3. I will try to pass briefly over other matters; I hope we can have some long sessions while I am in India, with Wapenhans and others.
4. The reaction here has been very favorable to your memorandum about the relationship between weather and foodgrains production. I believe Hendry sent you some comments from various people in Agriculture Projects Department. Everyone seems to think it would be worthwhile to take a closer look. Bill Wapenhans plans to discuss it with you in Delhi. Both he and Ben King agree that Oury's participation in any future work might be useful.
5. On the question of Cauvery, we have had some "non-collegial" discussions amongst the various interested parties in the Bank. As a result, Riley is arranging for a UNDP man to visit Washington in November. The Agriculture Projects Department feels, and I agree, that the Bank should try to arrange as large a role as possible for itself in any future work in the Delta. If there is to be a third stage UNDP project, we would like for GOI to ask us to be Executing Agency. Another possibility, of course, is that we could ourselves do an engineering loan or credit. For preliminary work and project preparation, we would like to be directly involved. George hopes that the irrigation mission will be able to take a good look at the area and decide what to do next. It is generally felt that the USBR team will have its hands full in Punjab/Haryana, and in any case, March now seems a likely earliest date for arrival of their team.

6. There was a meeting last week with Dr. K. L. Rao attended by Knox, Wapenhans, Votaw, Kirk and myself. Rao created a little excitement by mentioning Narmada and Cauvery as areas ripe for integrated basin development.

I look forward to seeing you soon.

Yours sincerely,

A handwritten signature in dark ink, appearing to read 'DAD' or 'Dunn', written in a cursive style.

David A. Dunn



*Op Files*  
*Id Agn*

INCOMING CABLE

DATE AND TIME  
OF CABLE:

NOVEMBER 11, 1968

1440

LOG NO.:

WU 4/12

TO:

INTBAFRAD

FROM:

NEW DELHI

ROUTING

ACTION COPY: MR. LADEJINSKY

INFORMATION  
COPY: MR. CARGILL

DECODED BY:

*935 - Saulby -*

TEXT:

✓  
154 FOR LADEJINSKY

WE HEAR SPREAD OF MIRACLE RICE AND NOUVELLE VAGUE GREAT SUCCESS IN  
PHILIPPINES. COULD YOU BEFORE DEPARTURE

FIRSTLY VERIFY THIS

SECONDLY IF VERIFIED EXPLAIN SUCCESS DESPITE LOUSY AGRICULTURAL INSTITUTIONS

THIRDLY CONSIDER WHETHER ANY PHILIPPINE LESSONS FOR INDIA.

WEST PAKISTAN STORIES SOUND SIMILAR ALTHOUGH PERHAPS MORE FAVOURABLE

INSTITUTIONAL CONTEXT HURRY HOME

GILMARTIN

NA

TYPED

Nov 12 10 59 AM 1968  
GENERAL FILES  
COMMUNICATIONS

CHITWORTH

INVESTIGATION CONDUCTED BY THE FBI

THE FOLLOWING INFORMATION WAS OBTAINED FROM THE FILES OF THE FBI

RECORDS CONCERNING THE ACTS OF VIOLENCE COMMITTED BY THE

INDIVIDUALS IN THE AREA OF THE CITY OF NEW YORK DURING THE PERIOD

FROM JANUARY 1967 TO JANUARY 1968

THE RESULTS OF THE INVESTIGATION ARE AS FOLLOWS

IT WAS DETERMINED THAT THE INDIVIDUALS WHOSE NAMES ARE LISTED

BELOW WERE THE ONLY INDIVIDUALS

WHO WERE

IDENTIFIED

AS BEING

INVOLVED IN THE ACTS OF VIOLENCE

THE NAMES OF THE

INDIVIDUALS WHOSE

NAMES ARE LISTED

WERE OBTAINED

FROM THE FILES OF THE

FEDERAL BUREAU OF



✓  
Letter No. 388

Agw  
November 8, 1968

Mr. R. Picciotto  
P.O.Box 416  
New Delhi  
India

Dear Bob,

I am sorry not to have replied earlier to your letter 327 of October 18, which I found as always to be full of interest.

About the dairy possibilities, I think I will keep your papers for discussion with McMeekan who will be arriving in a few weeks time after a mission in Spain. He knows something of the problem at first hand, and on one occasion told Mr. Nehru in no uncertain terms what he thought about the "culling tabu", to which you refer.

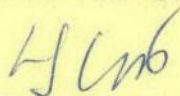
Thank you in advance for your cooperation with the agricultural credit mission. It has a difficult job to do because of the size and geographical distribution of the problem and your assistance will be important.

You suggested we consider Mr. Ellis Hatt for the irrigation mission which is scheduled to be in India early next year. We won't lose sight of this suggestion, though we had already made plans for staffing the mission on the irrigation side and I think it will be a strong mission.

I didn't know the answer to the question you asked about the Tarai project, so I asked for an answer from the appraisal mission, and this is appended. It was cleared with Mr. Dunn.

Kindest regards,

Yours sincerely,

  
L.J.C. Evans  
Director

Agriculture Projects Department

Enc:

L.J.C. Evans:lkt

Mr. Wolf Ladejinsky

November 8, 1968

Gregory B. Votaw

Terms of Reference - Assignment to Office of Bank's Resident Representative  
in India

1. Your assignment as an Agricultural Economist in the New Delhi Office is expected to be for a period of about two years beginning October 1, 1968. You will exercise your responsibilities as outlined in paragraphs 3 and 4 below, under the general supervision of Mr. W. Gilmartin, the Bank's Resident Representative.
2. En route to New Delhi, you should make stopovers as necessary, particularly in London and Rome (FAO/IBRD Cooperative Program), for discussions with other agricultural experts relating to studies of Indian agriculture. You should also plan to stop in Teheran to familiarize yourself with recent agricultural developments in Iran.
3. In India you should observe and report on aspects of Indian agricultural production and especially on conditions in agrarian areas. You should submit periodic reports and observations on over-all agricultural developments of both a policy and non-policy nature.
4. You should also concentrate on a longer range study of, and reporting on, the socio-economic structure of Indian agriculture, particularly at the village level (extension, cooperative credit, agrarian reform, panchayats, rural administration, etc.), with emphasis on the relationship of this structure to developments in the "new agricultural technology".
5. While your primary area of responsibility is India you should, to the extent feasible in your and Mr. Gilmartin's judgment, advise on the same general topics with respect to Nepal.

AFKirk/DaDunn/WLadejinsky/pop

cc: Messrs. Reamy, Hauenstein  
Miss Murphy  
NDO/Gilmartin



INTERNATIONAL DEVELOPMENT  
ASSOCIATION

INTERNATIONAL BANK FOR  
RECONSTRUCTION AND DEVELOPMENT

INTERNATIONAL FINANCE  
CORPORATION

*Op FILES*  
*Aggr*  
*335? What does*

INCOMING CABLE

DATE AND TIME OF CABLE: NOVEMBER 7, 1968 1535

LOG NO.: WU 2/8  
TO: INTBAFRAD  
FROM: NEW DELHI

ROUTING 7 1400 <i>until getting answers.</i>	
ACTION COPY:	MR. VOTAW
INFORMATION COPY:	MR. CARGILL
DECODED BY:	

TEXT:

✓  
153 FOR VOTAW

REFERENCE LAST PARAGRAPH PICCIOTTO LETTER 335 CHANGE RELIABLY EXPECTED  
WITH REPORTED REPLACEMENT PATEL WORKS HOUSING

GILMARTIN

FCA





## OUTGOING WIRE

TO: INTBAFRAD  
NEW DELHI

DATE: NOVEMBER 1, 1968

CLASS OF  
SERVICE: LT

COUNTRY: (INDIA)

TEXT:  
Cable No.: 167

REURCAB 1146 DITTO REMARKS MY 1140 ALPHA STOP HOWEVER THREE COPIES AIRMAILED  
TODAY STOP PLEASE EDIT AS PER MY 157 GAMMA BEFORE RELEASE TO GOI PARA  
REURCAB 138 AGREE PICCIOTTO VISIT LATE JANUARY CONNECTION CREDIT REPORT  
UNDESIRABLE IN REGARD HIGHER PRIORITY CONSORTIUM REPORT AND LIAISON WITH  
IRRIGATION MISSION HOWEVER SUGGEST VISIT WASHINGTON AFTER RETURN IRRIGATION  
MISSION HIGHLY DESIRABLE IF POSSIBLE STOP WILL RESPOND TO DAIRY AND CASH  
CROPS QUESTIONS NEXT WEEK PARA REURCAB 1145 PRIMO CREDIT MISSION ALPHA  
MOGG NOW UNAVAILABLE GOFFIN ARRANGING SUBSTITUTE JUNGMAH COMMA MOGG  
COLLEAGUE BETA ITINERARY UNDERSTAND FAVORABLE ASPECTS UP BUT IN LIGHT  
PAST EXPERIENCE AND NECESSITY TO RESTRICT FIELD INVESTIGATIONS TO SMALL  
NUMBER SUGGEST UP BE DISCOURAGED STOP OTHER SUGGESTIONS REASONABLE BUT  
WHY NOT BIHAR OR ONE OTHER SOUTHERN STATE MYSORE KERALA OR MADRAS STOP  
ALSO HAD EXPECTED PROPOSED STUDY TEAM WITH USBR LIKELY TO DEVELOP CREDIT  
PROJECT IN PUNJAB AND HARYANA AND WE/GUARD AGAINST POSSIBLE DUPLICATION OF  
EFFORT STOP SUGGEST THREE OR FOUR FIELD INVESTIGATIONS AS MAXIMUM STOP

NOT TO BE TRANSMITTED (see page 2)

## MESSAGE AUTHORIZED BY:

NAME Gregory B. Votaw

DEPT. Asia

SIGNATURE *Gregory B. Votaw*  
(SIGNATURE OF INDIVIDUAL AUTHORIZED TO APPROVE)

## CLEARANCES AND COPY DISTRIBUTION:

cc (with inc. 1145): Messrs. Wapenhans,  
Goffin, Please  
cc: (with inc. 138): Messrs. Wapenhans,  
Stoops, Goffin  
cc: Messrs. de Alba, Sicely

For Use By General Files and Communications Section

Checked for Dispatch:

ORIGINAL (File Copy)

(IMPORTANT: See Secretaries Guide for preparing form)



## OUTGOING WIRE

TO:

DATE:

CLASS OF  
SERVICE:

COUNTRY:

TEXT:

Cable No.:

(Page 2 of Cable No. 167 to INTBAFRAD - New Delhi.)

GAMMA PLEASE INDICATE SOONEST TENTATIVE DATES FOR FIELD INVESTIGATIONS  
AS WAPENHANS NOW PLANS ARRIVE DELHI NOVEMBER 25 FOR TWO WEEKS AND EYE  
WILL BE FREE AND IN BOMBAY AFTER MCNAMARA DEPARTURE NOVEMBER 24  
SECUNDO REFERENCE DEALBA SICELY MISSION REPORTING DISCUSSIONS NOT REPEAT  
NOT IMPLIED IN TERMS OF REFERENCE SINCE EVANS LETTER AUGUST 19 SUGGESTED  
MISSION DISCUSSION AFTER RECEIPT FIRST REPORTS UNDER SUGGESTED NEW SYSTEM  
COMMA HOWEVER INFORMAL DISCUSSION ABOUT POSSIBLE MEANS OF REPORT  
COMPILATION NOT DISCOURAGED REGARDS

VOTAW

## NOT TO BE TRANSMITTED

MESSAGE AUTHORIZED BY:

NAME

DEPT.

SIGNATURE

(SIGNATURE OF INDIVIDUAL AUTHORIZED TO APPROVE)

CLEARANCES AND COPY DISTRIBUTION:

For Use By General Files and Communications Section

ORIGINAL (File Copy)

(IMPORTANT: See Secretaries Guide for preparing form)

Checked for Dispatch:



ORIGINAL FILE (44)

DISPATCHED

Nov 1 6 17 PM 1968

GENERAL FILES  
COMMUNICATIONS

RECEIVED AND COM. DISTRIBUTION

NOT TO BE REINVESTED

ADJVM

COMMITMENT NOT DISCOVERED BECAUSE

COMM. HONORABLE DISCUSSION ABOUT POSSIBLE MEANS OF REFORM

MISSION DISCUSSION VALUES RESPECTS ALIAS BEFORES LINDEN PROCEEDED NEW SYSTEM

NOT DEFIED IN LEADS OF REFERENCE SINCE HAVING TELLER VOUCHER TO SUGGESTED

SECOND REFERENCE DEUTERUS EIGHTH MISSION REFERRING DISCUSSIONS NOT BELEVA

MITT BE REBE AND IN BOMEVA VALLEY MONUMENTS DELIVABLE MOANERS ST

VS ADVERTING MOM LIVING VERTAB DEINT MOANERS ST FOR TWO MEETS AND ELE

COMM. BUREAU INDICATE SOONEST DELIVABLE VALUES FOR FIELD INVESTIGATIONS

STRENGTH

TEXT

COMMUNAL

(Page 5 of 5) (Page 10 of 10) (Page 10 of 10) - New Delhi

RECEIVED

CLASS OF

DATE

ORIGINAL FILE

RECEIVED

RECEIVED

RECEIVED

RECEIVED

RECEIVED

RECEIVED



CROSS REFERENCE SHEET

COMMUNICATION: Letter

DATED: October 31, 1968

TO: Mr. McNamara

Ack by Mr. Kirk - letter Nov. 19, 1968

FROM: Mr. U. Shanker Rao  
Poona  
India

FILED UNDER: INDIA - General Negotiations  
c.c. India - Fisheries Project

SUMMARY: New Concepts for Aid to India

EXCERPTS

New Concepts for Aid to India

May I presume to draw a trifle on your valuable time and attention? I have the honour to present my compliments and wish to submit a few proposals on the effective use of World Bank aid to India in future.

In trying to do so, I feel encouraged by the tenor and avowed objectives of your first address, on September 30th 1968, to the Governors of the World Bank, as reported by the Press in India.

2. Let me say at once that to my ordinary mind that speech by you struck as being both highly incisive and imaginative and, in its aims, truly constructive. Your proposals both to double the quantum of lending by the World Bank and to channel it all into genuinely productive enterprises for the uplift of poor countries touch a grateful, responsive chord in millions of hearts in those countries. New hope and determination have been generated by the goals you have set for the World Bank.

3. In the lending countries, among whom the U S A has played, and will we all hope continue to play, the dominant and the most helpful part, the prevailing sense of 'disenchantment' ..... fed by the poor performance of the poor countries and their blatant mismanagement of the economies 'is natural. But it can perhaps be said in extenuation that both in purpose and execution, there had not been in the past the same discernment, reach and energy, as you now urge bringing to bear on aid operations, apart from relaxing a few limitations formerly imposed by the Bank and felt to be irksome by borrower countries.

Indeed, Sir, this is one of the most encouraging and inspiring features in your recent speech.

4. Stress on Agricultural Expansion

In the new programme, you have envisaged, 'stress is rightly laid on steady, permanent expansion in agricultural output and on practical, productive education. For underfed nations such as India agriculture is of course of the foremost importance for bare survival, and for its promotion progressive technical education too is an indispensable factor.

The term "agriculture" in this concept perhaps includes the fruits of cultivating both land and water resources, and it is the latter (farming the oceans) which, I think offers equally tremendous scope for expansion in India, given the right direction, tools and knowledge, if only because that valuable source of human nourishment has so far received but perfunctory attention in India.

5. What I have in mind is that a substantial part of future lending by the World Bank to India could be earmarked to develop, exclusively, the vast, untapped food and industrial resources of the seas and inland waters accessible to the country.

To work towards that fruitful objective, the following are one or two simple, specific suggestions, that the World Bank, no



Reddy / Forman Union

INTERNATIONAL DEVELOPMENT  
ASSOCIATION

INTERNATIONAL BANK FOR  
RECONSTRUCTION AND DEVELOPMENT

INTERNATIONAL FINANCE  
CORPORATION

UP?  
Aguirre  
Group

INCOMING CABLE

DATE AND TIME  
OF CABLE:

OCTOBER 30, 1968

1055

LOG NO.:

WU 7/30

TO:

INTBAFRAD

FROM:

NEW DELHI

ROUTING

ACTION COPY:

MR. VOTAW

INFORMATION  
COPY:

MR. CARGILL

DECODED BY:

TEXT:

✓  
144 FOR VOTAW

REFERENCE LOK SABHA QUESTION ABOUT ALLEGED FAO RECOMMENDATION TO IBRD

FOR MASSIVE WELL DIGGING AID TO INDIA WE PROPOSE TO INFORM GOI THAT NO

SUCH RECOMMENDATION MADE. PLEASE CONFIRM REGARDS ✓

PICCIOTTO

1-X1  
fig.

AB

GOVERNMENT OF INDIA  
MINISTRY OF FINANCE  
OCT 30 1968

TYPED

OCT 30 10 47 AM 1968

GENERAL FILES  
COMMUNICATIONS

WB

BICCIOLLO

ROCK RECOMMEND LION WIDE. LITTON GEMMA. KATY FOR  
HOW MESSIAH MEET. DURING VID TO INDIA. HE RECOVER TO LITTON GOT LINE NO  
RECOMMEND FOR LITTON. RECOMMEND VIDEO. RECOMMEND VIDEO. RECOMMEND VIDEO. RECOMMEND VIDEO  
THEY ARE AGONY

NEW DENT

ILLUSTRATED

IN LXXX

OCTOBER 30, 1968

FOR

RECOMMEND

RECOMMEND

RECOMMEND

RECOMMEND

RECOMMEND

RECOMMEND  
RECOMMEND



Letter No. 376

October 30, 1968

Mr. William M. Gilmartin  
Resident Representative  
International Bank for Reconstruction  
and Development  
P. O. Box 416  
New Delhi, India

Dear Gil:

Thank you for your letter and, mea culpa, you are not a bad correspondent. The more so at this point when you are probably working yourself to death, making arrangements for the big "do". Here are my best wishes for the success of the enterprise!

You are probably tired of my medical bulletins, but here is one more. I am doing well and by mid-November my troublesome left eye should be in good shape. To be sure, a cataract is in the offing (left eye) but I shall not have to attend to it before a year or so. Moreover, it is relatively simple, and there is always my good right reading eye. So, if nothing untoward should happen between now and mid-November, I shall be on my way shortly thereafter.

As I told Bob yesterday, I am eager to part company with my doctors, eager to change climates and eager to keep myself busy. I am too disconcerted with my present existence to wish to prolong it an extra day. In short, any delay cannot be attributed to my doings which lie outside health problems.

Thank you for arranging the delivery of the coat.

My usual sentiments to you, Marcia and Steve. By the way, I dined with the Nassitters last night and they do seem to miss the Gilmartins very much.

As ever,

Wolf Ladejinsky

WL/bj

Ed Agui

✓  
Letter No. 371

October 29, 1968

Mr. Robert Picciotto  
Office of the Resident Representative  
International Bank for Reconstruction  
and Development  
P. O. Box 416  
New Delhi, India

Dear Bob:

Thank you very much for your note of October 24th, and Cummings' memorandum. Skeptical though I may be about the proposed magnum opus, if he has the people to do the job - as I assume he has - it is all to the good. If I had any influence on the character of parts of the study to come, "good for me", and I am prepared to continue to be subversive.

You ask me "when?" It cannot be too soon for me, believe me; but I am still in the hands of an assorted group of repair men. All I can give you is a guess. I should be done with my eye doctor by the 15th of November, assuming no hitch between now and then. If on top of that the heart continues to behave, then I should be on my way by the end of the third week of November. I should be greatly disappointed if this rough schedule misfires. The fact is that I am eager to latch on to a piece of work and, hopefully, travel a bit.

I want to call your attention to "The Crisis of Indian Planning" by Paul Streeten and Michael Lipton, Oxford University Press, 1968. More specifically, see Lipton's chapter - "Agriculture: Urban Bias and Rural Planning." It is a very critical analysis, tightly argued throughout, and you will find it interesting whether in agreement or disagreement.

Kindest greetings,

Wolf Ladejinsky

WL/bj



*agm*

*① Sum* *② DR Files*

INCOMING CABLE

DATE AND TIME  
OF CABLE:

OCTOBER 28, 1968 1205

LOG NO.:

WU 6/29

TO:

INTBAFRAD

FROM:

NEW DELHI

TEXT:

✓  
139 FOR VOTAW WAPENHANS

BASIS YOUR 161 DECIDED FURTHER ACTION NOT INDICATED

GILMARTIN PICCIOTTO

ROUTING

ACTION COPY:	MR. VOTAW
	PROJECTS-AGRICULTURE
INFORMATION COPY:	MR. CARGILL
DECODED BY:	PROJECTS-342

*6 of 25*

MT





<b>ROUTING SLIP</b>		<b>Date</b>
<b>NAME</b>		<b>ROOM NO.</b>
Mr. Wapentanus		
To Handle	Note and File	
Appropriate Disposition	Note and Return	
Approval	Prepare Reply	
Comment	Per Our Conversation	
Full Report	Recommendation	
Information	Signature	
Initial	Send On	
<b>REMARKS</b>		
<p>You will note that Grey would like to meet. Could I suggest Monday, and also that Grimm might attend? And Darnell?</p>		
<b>From</b>		
DAD		



7 Sardar Patel Marg · New Delhi

Letter No.335

October 25, 1968

1818 H St., N.W.  
Washington D.C.

In the field of irrigation, Sivaraman mentioned the Narmada river, for which pre-investment surveys are required on a basin-wide basis. Such studies should aim at integrating groundwater with surface water utilization and Sivaraman felt that a "Tarbela approach" with Bank Group financing of dam construction (at the same time as studies) was worth considering. He also mentioned the Krishna Godavari delta which calls for replacement of an old dam as well as for extensive drainage works and tubewell development in four districts. He noted, with a wry smile, that none of these areas raised international water problems. Finally he referred to the Cauvery delta. When we mentioned the short project list which has emerged from our preliminary "scouting" (my No.288 dated September 10, 1968) Sivaraman admitted that little work had been done on the agricultural side of these projects. However, he suggested that once the high priority of these schemes had been established (even on a tentative basis) by the Ministries of Finance and Irrigation, he would be prepared to have his people work on their agricultural facets.



RECEIVED  
CENTRAL FILES  
COMMUNICATIONS

people work on their agricultural projects.  
Ministers of Finance and Agriculture, he noted, he believed to make the  
these schemes had been established (even on a tentative basis) by the  
of these projects. However, he suggested that once the main body of  
Glasgow admitted that little work had been done on the agricultural side  
from the beginning, "accounting" (in 1958 dated September 10, 1958)  
Glasgow said. When he mentioned the agricultural project that much was emerged  
stress raised international water projects. Finally he referred to the  
went in some projects. He noted, with a smile, that none of these  
of an old saw as well as for extensive drainage works and firework develop-  
He also mentioned the Krishna Godavari project which calls for replacement  
of dam construction (at the same time as projects) was more considering.  
from and Glasgow said that a "discreet" approach with Bank Group financing  
projects should aim at integrating floodwaters with surface water infrastruc-  
ture which pre-investment studies are required on a regular basis. Such  
in the field of irrigation, Glasgow mentioned the Yamuna river,

to help us work out the necessary steps.  
of water, now and may the money must be finally used, Mr. Glasgow believed  
the Bank Group must not be likely to finance ABC without a concrete picture  
of existing rates without governmental approval. When he pointed out that  
furthermore, he noted that ABC must not be able to let the Bank Group  
address, however, that most of the financing was required for local currency.  
enough to finally Bank (as distinct from IDA) assistance. He did  
first credit for water irrigation investment must be left to the  
of Bank Group support of such projects with I.C. Patel. He considered  
a satisfactory financial end and suggested that we discuss the desirable  
sources of finance. However, Glasgow thought that there might remain  
many objections. In both fields, he also said that have been suggested as  
by the of the Agricultural Finance Corporation. He also referred to  
on agricultural credit, Glasgow referred to the rural project

of our exchange (to be resumed on Monday) are outlined below.  
to locate new investment opportunities in agriculture. The highlights  
Glasgow I met with Glasgow yesterday. He welcomed our efforts

Dear Greg,

Washington D.C.  
1958 H 24. N.M.

and Development  
International Bank for Reconstruction  
and Development  
Mr. Gregory B. Adams

Letter No. 332

October 22, 1958

Telephone 30125, 30123. Cable Address - INTBAEVAD NEW DELHI. Postal Address - P.O. Box 410  
3 Ganga Patel Marg. New Delhi

RESIDENT REPRESENTATIVE IN INDIA

INTERNATIONAL BANK FOR RECONSTRUCTION AND DEVELOPMENT



Fertilizer finance by the Bank Group was again raised (and predictably) by Sivaraman who despite the temporary glut, feared a shortage during the Fourth Plan.

On fisheries, Sivaraman confirmed that a formal loan request for Bombay, Madras and Tuticorin was under active preparation.

We referred to the supervision mission and to Mr. Evans' August 19 letter, but unfortunately, as we started to talk about this, Mr. Sivaraman had to leave. We will take this and other mission matters up with him again on Monday.

Little of what Sivaraman said is, of course, new and the gist of what he told us was apparently outlined to Ergas, Courbois and Campbell in Rome. As far as ARC is concerned, I already have some interesting data which shows the striking increase of projects sanctioned and under consideration, particularly for minor irrigation investment. Rural electrification and the Narmada business have been kicked around AID for a long time. You will recall that I "identified" Krishna Godavari before coming to Washington in April. Finally, many of us have long lived with the Cauvery delta story. Yet, it was nice to hear all this again from the horse's mouth. And it looks as though we can at last recommence some agricultural project gestation with Sivaraman's cooperation.

How long he will remain in his post is, of course, an open question. The Press recently echoed agricultural circle rumours<sup>§</sup> that Sivaraman would be promoted to Cabinet Secretary on January 1st. However, there has been no official confirmation of this - nor any reliable indications about the likely succession.

Best regards, (and congratulations !!!)

Sincerely yours

Robert Picciotto

Messrs:  
cc: Gilmartin  
Evans/Wapenhans

RP/mm.

§ (of which I.G. Patel denies any knowledge)

*Vote  
inform  
Ergas  
Rafon  
basis  
did not  
not  
changes  
completed.  
He objected  
but acquiesced*



OUTGOING WIRE

TO: INTBAFRAD  
NEW DELHI

DATE: OCTOBER 25, 1968

CLASS OF  
SERVICE: LT

COUNTRY: (INDIA) ✓

Rca

TEXT:

Cable No.: 161 FOR GILMARTIN PICCIOTTO

✓  
REURCAB 134 WE AGREE LOCKWOOD TRAVEL WITH SUPERVISION MISSION IF ON A NO  
COST TO IDA BASIS STOP IN CIRCUMSTANCES SUGGEST YOU CONTACT CRAWFORD  
DIRECTLY RE LOCKWOOD AVAILABILITY AND ARRANGE PARTICIPATION STOP PLEASE  
ADVISE US SOONEST YOUR ACTIONS STOP DEALBA SICELY TOFR ENROUTE REGARDS

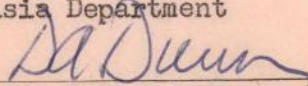
WAPENHANS VOTAW

NOT TO BE TRANSMITTED

MESSAGE AUTHORIZED BY:

NAME David A. Dunn

DEPT. Asia Department


SIGNATURE   
(SIGNATURE OF INDIVIDUAL AUTHORIZED TO APPROVE)  
GDarnell/GVotaw/DDunn:pop

CLEARANCES AND COPY DISTRIBUTION:

Cleares with and cc: Mr. Darnell  
cc: Mr. de Alba  
Mr. Sicely

For Use By General Files and Communications Section

ORIGINAL (File Copy)  
(IMPORTANT: See Secretaries Guide for preparing form)

Checked for Dispatch: 

(first page of report to be submitted)

ORIGINAL (1st copy)

Check for delivery

SECRETARY GENERAL

(SIGNATURE OF INDIVIDUAL AUTHORIZED TO SIGN)

STANDARD

DATE

DATE RECEIVED

NAME

OCT 25 5 25 PM 1968

MESSAGE AUTHORIZED BY

DISPATCHED

OCT 25 5 25 PM 1968

GENERAL FILES COMMUNICATIONS

STREET  
DE VIRE  
MILITARY

STANDARD AND COPY DISSEMINATION

NOT TO BE REPRODUCED

RECEIVED

VALISE DE JOUEUSE DE CARTE  
D'UNSEINER LE JOUEUR D'UNSEINER  
COSE DE JOUEUR D'UNSEINER  
RECEVEUR DE LE JOUEUR D'UNSEINER

COMP. NO. 101 FOR DISSEMINATION

COPIES (100)

101  
DISSEMINATION

STANDARD  
STANDARD

DATE: OCTOBER 25, 1968

OUTGOING MESSAGE

ASSOCIATION  
INTERNATIONAL DELEGATION  
(100)

RECONSTRUCTION AND DEVELOPMENT  
INTERNATIONAL BANK FOR

CONSTRUCTION  
INTERNATIONAL SERVICE

Form 100-11



INTERNATIONAL DEVELOPMENT  
ASSOCIATION

INTERNATIONAL BANK FOR  
RECONSTRUCTION AND DEVELOPMENT

INTERNATIONAL FINANCE  
CORPORATION

INCOMING CABLE

DATE AND TIME  
OF CABLE:

OCTOBER 23, 1968

1120

LOG NO.:

WU 1/23

TO:

INTBAFRAD

FROM:

NEW DELHI

ROUTING

ACTION COPY: MR. VOTAW -  
PROJECTS - AGRICULTURE  
INFORMATION MR. CARGILL  
COPY: PROJECTS - 342  
DECODED BY:

TEXT:

✓  
134 FOR VOTAW AND EVANS

FULL TIME AGRICULTURAL ECONOMIST PARTICIPATION TO SUPERVISION MISSION  
SEEMS DESIRABLE. BEST ALTERNATIVE WOULD BE EXPERIENCED MAN FROM HEAD-  
QUARTERS HOWEVER IN VIEW STAFF BOTTLENECK HEADQUARTERS AND HERE MIGHT  
WANT TO CONSIDER ATTACHING BRIAN LOCKWOOD FROM AUSTRALIAN NATIONAL  
UNIVERSITY TO SICELY DE ALBA MISSION. SIR JOHN HAD PREVIOUSLY RAISED  
POSSIBILITY LOCKWOODS PARTICIPATION BANK MISSION. SUPERVISION MISSION  
SEEMS BEST SUITED LOCKWOODS QUALIFICATIONS. LOCKWOOD RECENTLY COMPLETED  
PHD AGRICULTURAL ECONOMICS INCLUDING ONE YEAR FARM SURVEY WORK IN SAMOA.  
HOPPER THESIS EXAMINER HAS HIGH REGARD LOCKWOODS POTENTIAL. THIS ONLY  
TENTATIVE FEELER AS LOCKWOODS AVAILABILITY UNCERTAIN AND SUBJECT  
SIR JOHN'S APPROVAL REGARDS

GILMARTIN PICCIOTTO

MPB

FOR INFORMATION REGARDING CABLES, PLEASE CALL THE COMMUNICATIONS UNIT EXT. 2021

ORIGINAL





## CROSS REFERENCE SHEET

## COMMUNICATION:

Memorandum

## DATED:

October 21, 1968

## TO:

Mr. Chadenet

## FROM:

Mr. de Alba

## FILED UNDER:

INDIA - Resident Representative Projects - Mr. De Alba

## SUMMARY:

INDIA - PAKISTAN - Report of Activities (August 1964 to August 1968)  
EXCERPTC. Operating Stage (Agricultural Projects)

All projects for which an operational program have been worked out should be followed up at least during the first few years of operation. That is even more important in the case of agricultural projects.

The agricultural irrigation projects already completed in India and Pakistan (as well as those in Italy, as I recall), are going through a slow period of water usage and improvement of agricultural inputs and outputs. To improve this situation project supervision at the operating stage should, in the future, involve the implementation of the agricultural program and checking that the physical facilities of the project (dams, canals, pumping stations, etc.) are properly operated and maintained. In most cases, the data needed to follow-up properly the operation of a project is not available.

a) Irrigation Ditches

Usage of water in the command area is severely limited in some projects because land fragmentation creates a serious difficulty in building and operating the irrigation ditches which will bring water to small farms away from secondary canals.

b) Water Usage

Even if the ditches to bring water to the ultimate user have been dug, this does not mean the farmer is going to use it properly, or use it at all. The water may never reach his plot because of lack of proper water management.

c) Agricultural Inputs

The farmer who can irrigate his plot will not get the full benefits, which are expected from the irrigation project, until he learns how to use and is provided with adequate supplies of fertilizers, improved seeds, insecticides, storage facilities, etc.

Ag-9-

October 21, 1968

Dr. Edward Mason  
Harvard University  
210 Littaner Center  
Cambridge, Massachusetts 02138

Dear Ed,

During my recent tour of India I found myself at odds with the widely prevailing proposition that the new technology is single-handedly solving the country's food problems. I couldn't buy the euphoria while the institutional arrangements have remained totally unchanged. This explains a couple of chapters of the attached piece in which I am trying to relate the new technology of the other agricultural aspects. What I have done so far - even this is to be revised - is only a beginning of what I intend to do if and when I return to India.

If you are at all interested in the matter, be good enough to look at the introduction and conclusion. The latter was written with an eye on the chapters to come, but the two parts pretty well state what I have in mind. I would appreciate any comment you might care to offer and perhaps your next visit to the Bank might serve as an appropriate occasion.

Forgive me for imposing upon you.

Sincerely,

*WL*  
Wolf Ladejinsky

WL/bj



INTERNATIONAL DEVELOPMENT  
ASSOCIATION

INTERNATIONAL BANK FOR  
RECONSTRUCTION AND DEVELOPMENT

INTERNATIONAL FINANCE  
CORPORATION

OUTGOING WIRE

TO: INTBAFRAD  
NEW DELHI

DATE: OCTOBER 16, 1968

CLASS OF  
SERVICE: LT

COUNTRY: INDIA

TEXT: 149 FOR PICCIOTTO  
Cable No.:

RE AGRICULTURE MISSIONS

ALPHA DUE TO STAFFING BOTTLENECK IRRIGATION RECONNAISSANCE

MISSION POSTPONED UNTIL JANUARY

BETA CREDIT RECONNAISSANCE MISSION NOW SCHEDULED NOVEMBER 18  
TO DECEMBER 20 STOP PROPOSED STAFFING COURBOIS (CHIEF)  
MOGG (CONSULTANT ENGINEER) POTHECARG (CONSULTANT) PLEASE  
AND SCHEBICK (YP)

GAMMA WAPENHAUS PLANS VISIT INDIA BEGINNING DECEMBER 10

DELTA IRRIGATION SUPERVISION MISSION DE SEBA CICELY SCHEDULED  
ARRIVE DELHI NOVEMBER 18 WILL PROCEED TO SONE PURVA SALANDI STOP  
PLEASE FOLLOWUP WITH MINFOODAGRI RESPONSE TO EVANS LETTER  
AUGUST 19

EPSILON DUNN PLANS VISIT INDIA NOVEMBER 18 TO DECEMBER 20 AND  
WILL SPEND MOST TIME WITH CREDIT AND ENDUSE MISSIONS  
LETTER FOLLOWS REGARDS

VOTAW

NOT TO BE TRANSMITTED

MESSAGE AUTHORIZED BY:

NAME Gregory B. Votaw

DEPT. Asia

SIGNATURE *Gregory B. Votaw*  
(SIGNATURE OF INDIVIDUAL AUTHORIZED TO APPROVE)

CLEARANCES AND COPY DISTRIBUTION:  
cc: Messrs. Wapenhaus  
Gofin  
DeAlba/Cicely  
DDunn

GBVotaw/rwm

For Use By General Files and Communications Section

ORIGINAL (File Copy)

(IMPORTANT: See Secretaries Guide for preparing form)

Checked for Dispatch: *1*



0541 4218

NAME: GLENN B. AOSM

OCT 16 2 44 PM 1968

CO: Nevada: Moberg  
STEVENS AND CO. DISTRIBUTION

AOLYM

FELDER BOTTOMS RECORDS

ЕБЗІТОМ

STEVIE BOTTOMS WITH WINDSORIAN BEZONCE JO FAVIS TELLEN

DEFL

INNOVATION SUBMISSION MISSION DE 2004 CIGETI SCHEDULED

GVWV

BF3.V

УДК 62-50

DAE LO ZEVAKING VOLLEGENECK IENIGVATION NEEOMVATZGANGS

RE VOUCHERFLAKE MISSIONS

THE BOB BICCIOLLO

INDIV

WARM DRY

ИЗДАТЕЛЬСТВО

DUPLICATE OCTOBER 19, 1909



*Agri-ge*  
*& Agri Refinance Corp.*

October 11, 1968

Dear Mr. Dabholkar:

Mr. McNamara has asked me to thank you for your letter of October 4, as well as for the enclosures.

As requested, we are placing you on our free mailing list.

Sincerely,

David C. Fulton  
Chief, Public Affairs

Mr. V. S. Dabholkar  
Deputy Secretary  
Agricultural Refinance Corporation  
Sidhwar Building  
Victoria Bunder Road  
Near Fire Station  
Colaba, Bombay-5  
India

*Det*

CROSS REFERENCE SHEET

COMMUNICATION: Letter #314

DATED: October 7, 1968

TO: Mr. Votaw

FROM: Mr. Kavalsky

FILED UNDER: INDIA - General Negotiations

SUMMARY: During a visit to Mysore State to review State Government finances Mr. Kavalsky found the subject of Bank project lending frequently brought up - two topics of his conversations were :-

2. Upper Krishna. The Upper Krishna irrigation project is far and away the most important item in Mysore's future development. It is an extremely large project which because of its size is likely to be phased out over an unconscionably long period, unless a large dollop of funds can be obtained from some external source. I think that this would be a case where Bank lending would provide a net addition to investment and would do a great deal of good in ensuring that the mistakes which the Government made over Tungabhadra do not recur with Upper Krishna. The project itself looks extremely good from the point of view of agricultural development and I think it could well go on any short list which we have of future

lending for irrigation in India. I understand that the Mysore Government is discussing with the GOI about the possibility of approaching the Bank but I think direct enquiries on our part for information, would help to expedite matters. In this case enquiries could be addressed to the Finance Secretary, Mr Veeraraja Urs, and the Development Commissioner, Mr G.V.K. Rao.



*Agui*

✓  
Letter No. 353

October 7, 1968

Mr. R. Picciotto  
World Bank  
P.O. Box 416  
New Delhi  
INDIA

*Indonesia Res Rep*

Dear Bob:

Your letter No. 301 arrived after Tom Greyke had already departed for his new assignment in Indonesia. We are forwarding your communication to his new address. A copy of our letter to him is attached.

We are now getting closer to the field activities in India we discussed when you were here, and I hope to be able to visit Delhi, perhaps in the middle of December, to prepare together with you for the irrigation mission to be fielded in January.

With best wishes,

Sincerely yours,

*W. A. Wapenhans*

W. A. Wapenhans  
Deputy to the Asst. Director - Projects Dept.  
In Charge of Agriculture

Attachment

WAWapenhans:at  
IBRD

Aguirre

October 7, 1968

Mr. W. R. Rangeley  
Sir Alexander Gibb & Partners  
11 Tothill Street  
Westminster  
London, S.W.1 England

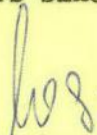
Dear Bob:

Your letter of October 2 addressed to Tom Creyke arrived here after he had already departed for his new assignment in Indonesia. We are forwarding your letter to his new address, and attach a copy of the letter for your reference.

As of today our planning with regard to the India irrigation mission has not changed. I hope to be in India myself some time in December, and might have an opportunity to stop in London on my way back, to discuss further details of the mission arrangements with you.

Please give my best regards to Tom Reeve.

Yours sincerely,



W. A. Wapenhans  
Deputy to the Asst. Director - Projects Dept.  
In Charge of Agriculture

Attachment

WAWapenhans:at  
IBRD



# AGRICULTURAL REFINANCE CORPORATION

TELEGRAMS :  
"AGREFINANS"  
BOMBAY.

Sidhwa Building, II Floor,  
Victoria Bunder Road,  
Near Fire Station,  
Colaba, BOMBAY-5.

Tel. No. { 214485  
214486

POST BOX NO. 6111

Ref. No. SEC 3371 / B.6 (5) - 68/9

4 October 1968  
12 Asvina 1890 (Saka)

By Air Mail

Mr. Robert S. McNamara  
President  
International Bank for  
Reconstruction & Development  
Washington D.C.  
U.S.A.

Dear Sir

I forward herewith a copy of the Annual Report of the Agricultural Refinance Corporation for the year 1967-68 and a copy of the Chairman's speech at the Annual General Meeting of the Corporation, held on September 27, 1968 for your information.

I shall be grateful if this institution is placed on the free mailing list for publications of the International Bank for Reconstruction & Development.

Yours faithfully

*Dabholkar*  
(V. S. Dabholkar)  
Deputy Secretary

12880C1-2 UN 8:10

COMMUNICATIONS  
URGENT LINES  
RECEIVED

*Atk Oct 11*

A

for reconstruction & development.  
for participation of the international bank  
system is based on the free market  
I shall be pleased to take part

September 24, 1988 for local information.  
General meeting of the Corporation, held on  
of the Chairman, a speech by the Chairman  
Corporation for the year 1987-88 and a copy  
annual report of the Administrator. Reference  
I forward herewith a copy of the

WASHINGTON D.C.

RECONSTRUCTION & DEVELOPMENT  
INFORMATION BANK FOR  
PLANNING  
NL: NOBELS 2: MISCELLANEOUS

BA VTL NGIT

№ 10. ВЕС \В.е (2)-28\а

JS VAIJUS 1830 (2PKS)  
4 OCTOBER 1898

Tel. No. { 314488  
 314482  
 BOMBAY  
 ..VCSBETIAMS..  
 TELECOMS:

COLEMAN BOWMAN-2  
MAY 1952  
ALCOHOL BOTTLES 1000  
SILVER BOTTLES 11 1/2

POST-BOX NO. 9111

УСВЕЩЕННИКОВ КЕИИУИСЕ СОВЬОВАТИОН





THE MADISON  
WASHINGTON 6, D. C.

Room 411

2nd October 1968

F. K. F. Nariman  
Deputy Chairman  
Indian Bank Association  
Bombay, India

Mr. Robert S. McNamara  
President, World Bank Group  
Washington, D. C.

Dear Mr. McNamara,

I am enclosing herewith a note on "Financing the Agriculture Sector in India. I have tried to indicate in this note the manner in which the World Bank, the American Banks and the American Bankers' Association (Agricultural Committee) can be of assistance to us in the Corporation.

The experience of last two years has given hopeful signs that Agriculture in India is on the verge of technological revolution and what is urgently needed at this critical moment is adequate finance, guidance and encouragement. Under the scheme of social control recently introduced in our country commercial banks both in the public and private sector have been directed to give top priority to financing of agriculture.

The Agricultural Finance Corporation has been formed with a view to stimulate the interest of commercial banks in private sector in agricultural financing. It symbolizes the determined efforts of Commercial Banks to participate more effectively and extensively in the development of agriculture.

ang AgA.  
cc AgA.  
Nariman  
F.K.F.  
1st Oct.  
OCT 3 RECD  
① Durr (Comments?)  
later, Show to Credit Mission  
② Return to Votau

Arch by h Vdas  
h.w. 12 (Agri Credit)





THE MADISON  
WASHINGTON 6, D. C.

-2-

I am addressing this letter to you in my capacity as Deputy Chairman of Indian Banks Association. Your speech last Monday as President of World Bank has been a tonic to many of us from the under-developed countries and has emboldened me to address this letter to you. I am leaving for New York on Saturday, the 5th, and will be there up to Monday, 14 October. My New York address will be the St. Regis, 5th Avenue and 55th Street.

Yours faithfully,

*J. M. Thompson*



## FINANCING THE AGRICULTURAL SECTOR IN INDIA

Problems and Issues involved.  
Role of Agricultural Finance Corporation.  
Need for rational criteria and approaches.

### Problems and Issues involved:

Agriculture in India provides the livelihood for 75% of the population and contributes about 45% to the National income. Besides, nearly 50% of the industrial raw material is supplied by agriculture and about 50% of our earnings in foreign exchange come from the agricultural sector. Sixtyone million farm units are engaged in agricultural production. Agriculture is thus the largest industry in India.

Indian agriculture is caught in a vicious circle of low yields, meagre income, high expenditure, poverty and debts and more debts. The Reserve Bank of India study in 1962 revealed that the cash loans outstanding with the cultivators was Rs.2371.94 crores. Nearly 35% of this was for capital and current expenditure on farm business. This is for the traditional methods of agriculture. With all the scientific improvements in agriculture now made available to farmers, it is estimated that the requirements of credit during the Fourth Plan is of the order of Rs.1200 to Rs.1400 crores, excluding the funds to be ploughed back to agricultural development by farmers. Even this sum seems to be a very conservative estimate, if we take into consideration the vast potentialities now opened out, thanks to the recent developments in science and technology relating to agriculture. If we take into consideration the infra-structure required for rapid agricultural development, the figure pertaining to the requirement of agricultural finance will undoubtedly be a stupendous one. While the demands on finance for transforming traditional agriculture into scientific farming are of a very high magnitude, our resources to meet these demands are limited. The urgent task, therefore, is one of concentrating on areas and projects which have a high potential for maximising the production and optimising the net return for investment.

Rural credit, particularly agricultural credit, was so far the prerogative of the co-operatives. A definite co-operative policy was evolved during the last 15 years for this purpose. This was for the main reason that agriculture



till a few years ago was mainly a way of living and supporting it would be a social venture more than an economic proposition. This is one of the reasons why agricultural sector could not attract investors from outside viz: industrialists and bankers. The traditional agriculture had not opened out any profitable outlets for attracting the flow of capital from other sectors.

Recent developments in science and technology have revealed that agriculture can also be a business, a profitable one at that. Experiences with the cultivation of high yielding varieties of crops, grape cultivation, intensive agriculture under the irrigation projects, have revealed that the entrepreneurs can expect equal returns in agricultural enterprises, if not more, compared to investments in industrial business. To this must be added the other benefits in agricultural investments. Government has also been relaxing its policy with a view to attract commercial banks to finance agricultural enterprises. The commercial banks have started coming in.

While there is, on one hand, wide spread interest for investing in agricultural enterprises, on the other hand a number of bottlenecks and handicaps are coming to light and these are in the way of rapid expansion of agricultural credit. In spite of the State support, the Co-operatives have not been able to meet even a small portion of the agricultural credit during the last 40 years or more to its working. Experience with the Agricultural Refinance Corporation during the last five or six years has shown that although loans to the extent of Rs.120 crores have been sanctioned, the withdrawals from the Agricultural Refinance Corporation have been to the tune of only Rs.13 to 14 crores. The experience in other States reveal:-

- (1) Agriculture is not yet organised to absorb the increased rate of credit;
- (2) The infra-structure for agricultural development is not yet developed to enable the farmers to utilise the credit;
- (3) Highly profitable inputs were not available to the farmers for investments in profitable agriculture;
- (4) Procedures and practices involved in institutional agricultural credit are not yet attractive to the bulk of farmers to make use of the same for investments in agricultural development.

#### Role of Agricultural Finance Corporation

Agricultural Finance Corporation has been promoted by the Indian Banks' Association with a view to stimulate



to the agricultural sector. The Company has been formed with an authorised capital of Rs.100,00,00,000/-. Presently, Rs.10,00,00,000/- is the capital issued. Thirtythree scheduled commercial banks have contributed to the share capital of the Corporation. Of these banks, Bank of America is the only American bank which has subscribed to 60 shares. The First National City Bank has not yet taken up any shares in the Corporation.

The Agricultural Finance Corporation has two major roles to play viz: (1) financing agricultural projects and (2) promoting increased flow of advances to agricultural enterprises. It is envisaged that the Agricultural Finance Corporation should have, on its staff, top experts in the various specialised agricultural fields, so that worthwhile agricultural projects can be formulated and suggested to the banks. Agricultural Finance Corporation can finance these projects directly or invite the banks to form a consortium together with the Agricultural Finance Corporation for financing some of these projects.

The urgent need for modernising Indian agriculture today is to make available increased capital resources to this sector. One of the primary requisites for this is to increase the credit absorbing capacity of Indian agriculture. To achieve this, the following steps are necessary:-

- (1) Commercialising and industrialising agriculture;
- (2) Infusion into the agricultural sector the cost consciousness and the management principles which are already fairly well-developed and established in the industrial sector;
- (3) Developing the infra-structure in agricultural field to enable farmers to make use of the scientific agricultural methods to increase production.
- (4) To locate and formulate high potential projects in which commercial banks would be interested.
- (5) Removing various difficulties and handicaps presently experienced both by the commercial banks and farmers in issuing and obtaining agricultural credit:
  - (a) Rationalising the land laws and rules;
  - (b) Simplifying and streamlining the procedures involved in issuing and obtaining credit - for example:



- (i) Introduction of the credit card system;
  - (ii) exemption from the stamp duty on mortgages to be entered into by the loanee.
- 
- (6) Developing coordination between commercial and co-operative banking sectors in regard to agricultural financing;
  - (7) Involving the agricultural Universities and the Management Institutes in conducting studies, pilot projects etc. relating to the requirement of agricultural finance for the infra-structure, mutual role to be played by the commercial and co-operative banks in agricultural finance etc. and in organising special courses for the bank personnel engaged in agricultural financing with special orientation to the problems and procedures.
  - (8) Helping the development of expertise in commercial banks to deal with the expanded volume of agricultural credit.
  - (9) Reducing the risks involved in financing agricultural enterprises by promoting crop insurance (matter to be taken up by the Government of India), by sharing the risks involved between the various organisations such as Service Units etc. and by promoting vertical integration of agriculture and channeling of credit through the agro and agro-processing industries.
  - (10) Coordination of agricultural finance handled by both the organised and unorganised sectors, with a view to gradually institutionalise the entire agricultural credit.

Agricultural Finance Corporation has set before itself a stupendous task in promoting the activities mentioned above. To undertake this task, it is planned to recruit top experts, who will be able to tackle these problems in collaboration with the Universities and other Management Institutes as also with the Government of India and State Governments. It is in this task that the experiences already built up by certain foreign banks like the Bank of America, the First National City Bank, Bank of Australia and New Zealand will be very valuable. The Agricultural Finance Corporation would, therefore, be interested in developing close relationship with



these banks with a view to profit from their experiences.

Another matter in which the Agricultural Finance Corporation may perhaps seek the assistance of the American Banks is in regard to obtaining additional financial resources urgently required for financing some top priority projects in the country. Within four months of its existence, the Agricultural Finance Corporation has been able to formulate projects to the tune of nearly Rs.50 crores. With the work already initiated by the Corporation, it is expected that a large number of projects will be received very soon. The present resources of the Corporation are too meagre to meet the requirements of these projects, not to speak of the additional projects to be received here afterwards. The resources of the commercial banks are also limited in the sense that much of these resources are already committed to industry, export promotion programmes and hence are not available for diversion to agriculture. Only a certain percentage of the additional resources accrued in the commercial banking sector could be made available to the Corporation by its members. This may not amount to more than Rs.20 crores per year on the basis that the commercial banks may be willing to make available 10% of their additional deposits after allowing for statutory obligations. It would be indeed a sad affair if the Agricultural Finance Corporation which has been formed mainly to promote the flow of increased financial resources to the agricultural sector were to be starved of funds. One way of obtaining the necessary resources is through the American Banks, who can contribute to the issued capital of the Agricultural Finance Corporation to the extent of 20% in which case the Agricultural Finance Corporation will be eligible for the 'Cooley' funds. Of the two American banks only Bank of America has subscribed to 60 shares of the value of Rs.6 lakhs. If the First National City Bank also were to subscribe to the share capital of the Agricultural Finance Corporation and both these banks were to contribute 20% of the capital it would be possible for the Agricultural Finance Corporation to obtain 'Cooley' funds for financing some of the top priority projects in the country.

77. The World Banks can assist the Agricultural Finance Corporation in obtaining the finances required and also in tackling the problems listed above and also in undertaking the studies contemplated. Afterthought

The Agricultural Finance Corporation would, therefore, be able to achieve its objects quickly if the World Bank, Bank of America, First National City Bank and the Bank of Australia and



New Zealand also get interested. More specifically the following would be the nature of collaboration and assistance desired:-

World Bank:

- (a) Getting its members interested in investing in agricultural enterprises in the country and channeling the funds through the Agricultural Finance Corporation.
- (b) Making available to the Agricultural Finance Corporation the expertise built up by the World Bank in high potential projects and also in formulating such projects.
- (c) Making available to the Agricultural Finance Corporation its experience regarding appraisal of the various agricultural projects.
- (d) Making available to the Agricultural Finance Corporation its literature relating to the financing of the agricultural projects.

Bank of America:

- (a) Increasing the number of shares taken by the Bank in the Agricultural Finance Corporation to atleast 10% of the capital issue.
- (b) Making available to the Agricultural Finance Corporation its experience relating to financing agricultural projects.
- (c) Making available to the Agricultural Finance Corporation the literature pertaining to financing agricultural projects.
- (d) Affording training facilities for the personnel in the commercial banks engaged in agricultural financing for obtaining first hand experience in the wrking of similar projects by the Bank of America through its branches in the United States.

First National City Bank of New York:

- (a) Subscribing to the Share capital of the Agricultural Finance Corporation to an extent of atleast 10% of the capital issue.
- (b) Making available to the Agricultural Finance Corporation its experiences relating to financing the agricultural projects and any literature issued in this regard.
- (c) Getting the investors in the United States interested in financing worthwhile agricultural projects and



channeling the finances through the Agricultural Finance Corporation.

Bank of Australia and New Zealand:

- (a) Making available to the Agricultural Finance Corporation its experiences relating to financing agricultural projects and its literature pertaining to this.
- (b) Providing training facilities to the Agricultural Finance Corporation and the bank personnel engaged in agricultural financing.

American Banks' Association (Agricultural Committee):

- (a) Making available to the Agricultural Finance Corporation its experiences and literature relating to agricultural finance.
- (b) Establishing liaison between the Agricultural Finance Corporation and the American Banks' Association (Agricultural Committee).
- (c) Collaboration with the Agricultural Finance Corporation in studies to be conducted relating to agricultural finance.

*"Promoting J+ Ventures"  
conspicuously absent!*



OP. Files  
Agri

## INCOMING CABLE

DATE AND TIME  
OF CABLE:

SEPTEMBER 27, 1968

2020

LOG NO.:

WU 14/28

TO:

INTBAFRAD

FROM:

NEW DELHI

## ROUTING

ACTION COPY:	MR. VOTAW
INFORMATION COPY:	MR. CARGILL
DECODED BY:	

TEXT:

120 FOR VOTAW

SOUTHWEST MONSOON THIS YEAR DISTINCTLY BELOW AVERAGE EVEN THOUGH LATE SEPTEMBER RAINS HAVE IMPROVED PROSPECTS. CHANCES TO EXCEED 1967/68 OFFICIAL KHARIF OUTPUT SLIM. COARSE GRAINS OUTPUT LIKELY TO DROP TWO MILLION TONS AT LEAST BELOW 1967/68. BENGAL BIHAR ORISSA RICE STILL DEPENDENT ON OCTOBER RAINS WHILE MADRAS RICE HINGES ON NORTHEAST MONSOON BEGINNING OCTOBER. WITH SATISFACTORY WEATHER RICE OUTPUT COULD REACH LAST YEARS OFFICIAL 38 MILLION TONS OR EVEN HIT 39 MILLION TONS. FOR ALL KHARIF FOODGRAINS WE GUESS THAT POOR WEATHER MAY FINALLY ACCOUNT FOR THREE TO FOUR MILLION TON DROP FROM 1967/68 OFFICIAL LEVEL WITH NEW TECHNOLOGY OFFSETTING DROP BY ABOUT TWO MILLION TONS THEREFORE NET RESULT DECLINE <sup>Kh</sup> ARIF FOODGRAINS BY ABOUT ONE OR TWO MILLION TONS COMPARED KHARIF 1967/68. ANY KHARIF LOSS MIGHT OF COURSE BE OFFSET DURING RABI. GOVERNMENT FOODGRAINS STOCK END OCTOBER LIKELY ONE MILLION TON BELOW 4 MILLION TON TARGET. IMPORTS LIKELY ONE AND A HALF TO TWO AND A HALF MILLION TONS BELOW 7.5 MILLION TON TARGET FOR CALENDAR 1968 DEPENDING ON PL480 ACTION. AS A RESULT PUBLIC DISTRIBUTION LIKELY TO BE CUT ONE MILLION TONS BELOW TEN AND HALF MILLION TONS TARGET. IN CIRCUMSTANCES SOME FURTHER UPWARD FOOD PRICE PRESSURES LIKELY NEXT FEW MONTHS DESPITE RELATIVELY HIGH PRIVATE STOCKS.

REGARDS

PICCIOTTO

MR. VOTAW TELEPHONED DURING WEEKEND.

FOR INFORMATION REGARDING CABLES, PLEASE CALL THE COMMUNICATIONS UNIT EXT. 2021

AB

AS RECEIVED.

ORIGINAL



TYPED

SEP 20 7 00 PM 1968

GENERAL FILES  
COMMUNICATIONS

MEMORANDUM

DATE

TO : DIRECTOR, FBI  
FROM : SAC, NEW YORK  
SUBJECT: [Illegible]

[The following text is extremely faint and largely illegible. It appears to be a memorandum body containing several paragraphs of text.]

NEW YORK

DATE

BY

RECEIVED

FILE

ADMINISTRATIVE

INVESTIGATION

CRIMINAL

MR. [Illegible]

MR. [Illegible]

MR. [Illegible]

OUTGOING WIRE

TO: REEVE  
GIBBSORUM  
LONDON  
COUNTRY: ENGLAND  
TEXT:  
Cable No.:

DATE: SEPTEMBER 16, 1968

CLASS OF SERVICE: LT

*COPY*  
*1R Pg*  
FURTHER MY CABLE OF SEPTEMBER 12

EXCERPT

SECUNDO TIMING INDIA MISSION STILL UNCERTAIN STOP APPRECIATE AVAILABILITY  
RANGELEY AND WILL CONTACT YOU AS SOON AS TIMING FINALIZED

REGARDS

*P*  
EVANS  
*Y*

NOT TO BE TRANSMITTED

MESSAGE AUTHORIZED BY:

NAME L.J.C. Evans  
DEPT. Projects - Agriculture

SIGNATURE \_\_\_\_\_  
(SIGNATURE OF INDIVIDUAL AUTHORIZED TO APPROVE)

CLEARANCES AND COPY DISTRIBUTION:

Cleared with and c.c. Mr. Wapenhans  
" Hendry  
c.c. " Geli

For Use by Archives Division

ORIGINAL (File Copy)

(IMPORTANT: See guide for preparing form)

Checked for Dispatch: \_\_\_\_\_



*J. d. Agn*

INCOMING CABLE

DATE AND TIME  
OF CABLE: SEPTEMBER 12, 1968

LOG NO.: ITT TELEX/12

TO: INTBAFRAD  
FROM: LONDON

ROUTING

ACTION COPY: PROJECTS - AGRICULTURE  
INFORMATION  
COPY:  
DECODED BY:

TEXT: FOR EVANS PROJECTS DEPARTMENT NUMBER 5169

FURTHER TO MY TELEX TO TOM CREYKE SEPTEMBER 9, HAVE DISCUSSED YOUR MISSION  
STAFFING PROBLEMS IN DETAIL WITH WAPENHANS AND POSSIBILITIES EXIST FOR US  
TO ASSIST IN THE FOLLOWING MANNER:

EXCERPT

SECOND INDIA - ASSUMING TIMING OF MISSION CAN BE POSTPONED TO NEW YEAR  
RANGELEY COULD BE MADE AVAILABLE JANUARY THROUGH FEBRUARY. HIS RETURN TO  
LONDON [REDACTED] REQUIRED BY END FEBRUARY.  
I UNDERSTAND THIS REQUIREMENT WOULD BE FOUR TO 6 WEEKS IN FIELD FOLLOWED BY  
2 WEEKS IN WASHINGTON ON BRIEFING SESSIONS. ON ASSUMPTION ABOVE PROPOSALS  
ACCEPTABLE HAVE ALERTED SAMUELS, BUT WILL AWAIT CONFIRMATION FROM YOU

REEVE GIBBSORUM LONDON



*orig. Ind Agri  
re "Ind  
re Nepal  
x Korea*

INCOMING CABLE

DATE AND TIME  
OF CABLE:

SEPTEMBER 12, 1968

520PM

LOG NO.:

ITT TELEK/12

TO:

INTBAFRAD

FROM:

ROME

ROUTING

ACTION COPY: PROJECTS - AGRICULTURE

INFORMATION COPY: PROJECTS - 342

DECODED BY:

TEXT:

PRO EVANS

RE WAPENHAN'S LETTER 6/9 AGREE TEMPLEMAKLUTT'S VISIT SOUTHWEST  
KOREA. RE INDIA IRRIGATION IN VIEW CLOSE HYDROLOGIC AND ECONOMIC  
ASSOCIATIONS BETWEEN INDIAN NORTHERN PLAINS AREA AND NEPALESE  
TERAI BELIEVE COORDINATION BETWEEN INDIAN AND NEPALESE MISSIONS  
PARTICULARLY DESIRABLE FROM REGIONAL VIEWPOINT. PROPOSE RESCHEDULE  
LATTER MISSION TO PERMIT CAMPBELL BE AVAILABLE PARTICIPATE INDIA  
MISSION AS IRRIGATION WATER DEVELOPMENT SPECIALIST ON TEAM OR TO  
WORK WITH CONSULTANT PROVIDING IN HOUSE CONTINUITY FOR HOPED FOR  
PROJECT FOLLOWUP ACTIVITY.

ENGAS FOODAGRI ROME

COMMUNICATIONS  
GENERAL FILES

SEP 15 1 24 PM 1968

MPB





*J. d. Agn*  
*cc PAK*

INCOMING CABLE

DATE AND TIME

OF CABLE: SEPTEMBER 9, 1968

519PM

LOG NO.: ITT TELEX/9

TO: INTBAFRAD

FROM: LONDON

ROUTING

ACTION COPY: PROJECTS - AGRICULTURE

INFORMATION  
COPY: PROJECTS - 342

DECODED BY:

TEXT:

FOR GREYKE PROJECTS DEPARTMENT NUMBER 5167

HAVE GIVEN VERY CAREFUL CONSIDERATION TO YOUR REQUEST FOR ASSISTANCE ON  
MISSIONS STARTING IN OCTOBER AND MUCH REGRET THAT WE HAVE NO SUITABLE STAFF  
AVAILABLE TO OFFER YOUR. REGARDS

REEVE

GIBBOSORUM

*Mr. Evans*  
*Mr. Russell has been advised*  
*AB*

AB

COMMUNICATIONS  
GENERAL LINES  
264 3 15 50 PM 1968



TYPED

SEP 9 12 28 PM 1968  
GENERAL FILES  
COMMUNICATIONS

RECEIVED

1968

RECEIVED TO BUREAU ROOMS

RECEIVED TO BUREAU ROOMS

RECEIVED TO BUREAU ROOMS

RECEIVED TO BUREAU ROOMS

RECEIVED

RECEIVED

RECEIVED

RECEIVED

RECEIVED

RECEIVED

RECEIVED

RECEIVED

RECEIVED

RECEIVED

RECEIVED

RECEIVED

RECEIVED

RECEIVED

RECEIVED

RECEIVED

RECEIVED

INTERNATIONAL DEVELOPMENT  
ASSOCIATION

INTERNATIONAL BANK FOR  
RECONSTRUCTION AND DEVELOPMENT

*medas*  
*refugee*  
INTERNATIONAL FINANCE  
CORPORATION

OUTGOING WIRE

TO: PICCIOTTO

DATE: SEPTEMBER <sup>4</sup> 1968

INTBAFRAD

CLASS OF  
SERVICE: LT

NEW DELHI

COUNTRY: (INDIA)

TEXT:

Cable No.: 126

*Aug 30*  
*RCA*  
✓  
✓  
REYOUR 106 AND KIRK'S 124 TO YOU KIRPICH MAY DISCUSS CAUVERY WITH UNDP  
DELHI PROVIDED THERE ARE STRONG INDICATIONS OF SERIOUS INTEREST FURTHER  
EXTENSION OF STUDY STOP KIRPICH SHOULD NOT DELAY RETURN TO HEADQUARTERS  
STOP PLEASE INFORM KIRPICH THAT USBR AND VOHRA HAVE BEEN INFORMED OF  
DATES OF MEETINGS RE PUNJAB STOP REGARDS

WAPENHANS

NOT TO BE TRANSMITTED

MESSAGE AUTHORIZED BY:

NAME W. A. WAPENHANS

DEPT. PROJECTS - AGRICULTURE

SIGNATURE *W. A. Wapenhans*  
(SIGNATURE OF INDIVIDUAL AUTHORIZED TO APPROVE)

CLEARANCES AND COPY DISTRIBUTION:

Cleared with & cc: Mr. Kirk  
cc: Mr. Darnell

WAWapenhans:at

ORIGINAL (File Copy)

(IMPORTANT: See Secretaries Guide for preparing form)

For Use by Archives Division

Checked for Dispatch: *[Signature]*





INCOMING CABLE

DATE AND TIME  
OF CABLE:

SEPTEMBER 9, 1968

519PM

LOG NO.: ITT TELEX/9

TO: INTBAFRAD

FROM: LONDON

ROUTING

ACTION COPY: PROJECTS - AGRICULTURE  
INFORMATION COPY: PROJECTS - 342  
DECODED BY:

TEXT:

FOR CREYKE PROJECTS DEPARTMENT NUMBER 5167

HAVE GIVEN VERY CAREFUL CONSIDERATION TO YOUR REQUEST FOR ASSISTANCE ON  
MISSIONS STARTING IN OCTOBER AND MUCH REGRET THAT WE HAVE NO SUITABLE STAFF  
AVAILABLE TO OFFER YOU. REGARDS

REEVE

GIBBOSORUM

AB

COMMUNICATIONS  
GENERAL FILES  
SEP 9 15 58 PM 1968



TYPED

SEP 9 12 28 PM 1968

GENERAL FILES  
COMMUNICATIONS

2d Agri  
cc Feb - 9

Mr. W.A. Wapenhans

September 6, 1968

T.C. Greyke

Consulting Assistance

Referring to our recent conversations regarding consulting assistance in staffing the India and West Pakistan missions. I was able to talk with Tom Reeve this morning and asked him whether - in keeping with his recent letter - he would be able to make the services of either Messrs. Rangely, White or Delaney available for one of these missions during the period commencing second half of October for about six weeks.

2. Mr. Reeve was not very happy about No. 1 or No. 2 as he stated they were both working on Bank projects (I think Botswana) but he did say he would consider the matter very carefully and discuss it with his other partners and cable back not later than Monday next. I suggested to him that if none of the named people were available we would appreciate any other suggestion he had to make, supported by details of experience, personal qualities and, more important, their own frank assessment of suitability and appropriate spheres of responsibility.

3. I also mentioned that you would be passing through London in connection with your visit to Reading next week and that you would be getting in touch with him; a prospect which he fully appreciated.

4. Whilst on this subject of consultant assistance, I am attaching hereto some of the correspondence and memoranda which still requires attention. So far as I am able, I am attaching my own chronological copies. I think the balance must be in Mr. Evans box. My main concern, as indicated, is to make a satisfactory reply to Hunting Technical Services in response to their letter of July 23, 1968.

Attachments

TCCreyke:cm

CC: Mr. Darnell



Op. Files Agri-  
1968  
3.2

Files

September 4, 1968

R. Picciotto

INDIA - Agricultural Finance Corporation

1. A recent entry into the field of agricultural lending is the Agricultural Finance Corporation (AFC). It was incorporated on April 10, 1968 as a limited company with an authorized capital of Rs.1,000 million. However, only Rs.100 million of the capital has been issued so far and about Rs.50 million paid up. At the present time, AFC's shares are held by thirty three private commercial banks, including some foreign banks (National Grindlays, Bank of America).
2. AFC's operational scope is broad. One of its objectives is promotional - to help private commercial banks expand their agricultural lending, by formulating projects on their behalf, conducting surveys, recruiting and training staff, suggesting lending procedures, organizing seminars etc. In addition, AFC would provide direct financing to farmers "mainly with a view to gain experience in financing new projects and to pass on the experience to the commercial banks". It would also finance machinery and well-drilling contractors, food processing and storage units, pest control operations, seed production and marketing etc. Generally, it would seek to associate private commercial banks to the financing of its projects.
3. The Corporation is getting started. The Board of Directors for the Corporation has been appointed. The Chairman is N.M. Chokshi, the Bank of Baroda Chairman. A Managing Director (R. Rudramoorthy) has also been designated and offices have been rented. I visited AFC's Bombay headquarters in late August. The Managing Director was out of town - recruiting staff. (The initial establishment would include ten professional project officers). While I talked to the Secretary, a score of carpenters and sundry helpers were busy sawing, hammering and otherwise banging on the walls in the adjoining room. The Secretary (Mr. V.K. Sheth) stated that AFC's only operations so far had been to invest in the rural electrification programs of a couple of State Electricity Boards. Legally, AFC would lend to the beneficiaries of the electrification (farmers) but the Boards would in fact use the funds and take on the repayment obligations to AFC. The loans were guaranteed by the States concerned and AFC had therefore not deemed it necessary to appraise the loans. Presumably, this unorthodox start would help AFC cover its initial expenses and provide it with some breathing space to set up an organization.
4. Another project which AFC is looking into is in aerial spraying. A new firm (AVINDIA) started by a former employee of Kambatta has approached AFC for assistance in purchasing planes.
5. For the time being, it seems obvious that AFC will only have limited

1968 SEP 11 AM 8:53

COMMUNICATIONS  
RECEIVED  
SEP 11 1968

see tab on '67  
Agri gen file



success in the promotional role which it has assumed: it lacks the staff, the lending volume and the experience which such a role presumes. Whether it will be able to expand its direct financing role will ultimately depend on how close it is able to work with (and through) its shareholders which have the branches, the contacts and which ultimately control AFC's funds. AFC has much to gain from close association with the Syndicate Bank, the Central Bank of India, the Punjab National Bank and some other commercial banks which have begun to make a contribution to rural investment.

6. AFC was created by the private banking sector following last year's threats of nationalization. Whether AFC will be a substitute for action or a spur for additional action by the banks in agriculture remains to be seen. But we should obviously keep AFC in mind if and when we locate an agricultural project with which commercial banks can be associated, say for the development or rehabilitation of plantations.

cc: Mr. Gilmartin.

RP/mm.



~~① L. J. J. J.~~

~~⑤ J. J. J.~~

→ ③ OP Files

(India - Agriculture -  
Lending Prospects)

August 29, 1968

Mr. Votaw  
op J. J. J.  
Agu

Sir John G. Crawford  
Vice-Chancellor  
The Australian National University  
Box 4 P.O.  
Canberra, A.C.T.

copy attached  
✓

Dear John,

I am grateful indeed for your letter of August 12 with your observations on the Picciotto material and also for the news that at some point you will be able to pay India a visit.

We were very glad to hear of your agreement on the importance of finding some early actual financing possibilities in agriculture here. Picciotto is looking hard for something that looks promising, especially in irrigation and credit. He is encouraged about prospects for a Bank or IDA operation in agricultural credit through the medium of the Agricultural Refinance Corporation. Irrigation looks ever more important; yet a most difficult area in which to spot projects that might be Bank starters. As you well know, one of the problems is the Irrigation Ministry approach - essentially engineering - and the lack of coordination with agricultural programs. Another is the regional diffusion of both Center and State irrigation efforts which in these hard financial times means snail-like progress on all fronts. In my limited knowledge of such things, I feel very unclear about practicable ways to improve the prospects for finding irrigation projects which might qualify for Bank/IDA financing. The traditional reliance on expatriate consultants for preparing such projects is unlikely to be acceptable to the Irrigation Ministry. As a result the gap between a well conceived project in Bank terms and the project conception of the Irrigation Ministry may be wide indeed and conducive to the sequence of exploratory, feasibility, follow-up and appraisal missions which as you say has proved so frustrating in the past. Yet, considering the crucial place of irrigation in further agricultural development, it is difficult to accept the possibility that this is a field in which we are unable to find an active financing program. With your knowledge of what is practicable here, it would be most helpful if you could give some thought to practicable ways to bridge this project conception gap.

About timing of a visit which you might make to India, I doubt that positions of all concerned will be clear enough in November/December to be worth your time at that point. January/February should be much better since, by then, issues should be better defined than they are now after the Bank missions have been here and had time to digest their views and after priorities, policies and financing capabilities become, hopefully, a little

SEP 25 1968  
COMMUNICATIONS  
GENERAL LINES  
RECEIVED

1968 SEP -4 AM 9:07

ATTN: re write to bel indts & atatt.  
 from on the hystorfo mterest and also for the news that at some boing lon  
 I am gratefely inqeed for some letter of vnderst IS at fr some orgelab-  
 best form

but not the

(~~Southampton~~ - ~~London~~)

~~\_\_\_\_\_~~

ob 4 road  
~~W. 1000~~



Sir John Crawford

- 2 -

August 29, 1968

more clear at this end. One would hope also that the Bank and India will by that time have reached some agreement on the matter of procurement on which positions are now far apart (India insisting on domestic procurement wherever physically possible and the Bank standing on its international competition policy although with preference for Indian suppliers). This is now gumming up the possibilities for new Bank/IDA operations here.

We will certainly give Dr. Lockwood all the help we can while he is here. I can't say anything at this end about fitting him into a mission but I imagine you will be talking about this in Washington. Anyway keep us posted on his plans and we will look out for him.

I will be sending you next week some papers which Ken Bohr and Bob Picciotto have been preparing on the fertilizer situation and on the current food, crop, price and weather situation. Briefly, the monsoon has been only so-so, being good in the Gangetic region but seriously deficient so far in certain regions of the Center and South, especially Andhra, and also in parts of Rajasthan and Gujerat. Last year's grain crop is now officially put at 95.6 million tons (still preliminary) with rice 1 million tons below 1964/65 levels, which is difficult to believe despite the snags of TN1 and other exotic varieties. Some think that this year further gains in technology and less favourable weather may about cancel each other and the crops may be in the same order as last year.

With Bernie nearby and with the kind of problems he must face, I appreciate that India may have to share the scarce time you can spare from the University. But don't forget us.

Again with many thanks and warmest wishes,

Sincerely yours,

William M. Gilmartin

c.c. Mr. Evans  
Mr. Votaw ✓

WMG:bw



24 Balmain Crescent,  
ACTON, A.C.T. 2601

12th August, 1968

Dear Gil,

This is a very hurried reply to your letter of 30th July conveying the really splendid material "mostly prepared by Bob Picciotto". I want to make a comment or two, but first to your question about myself.

I am finding it extremely difficult to do any work at all for the Bank; being a Vice-Chancellor of a university is more than a full-time job these days! Nevertheless, it has been my hope that I could occasionally return to India. Indeed, I had had late January/early February in mind (not more than two, perhaps three weeks in all). May would be a possibility but only just, and certainly only for ten days. Much depends on the Bank's priorities for the use of my time. I would definitely be prepared to see India rated highly; but Bernie may be looking for help in Indonesia, too. In any case, I doubt if I could make two visits - that is, both in February and May. If you feel you really need my help, I suggest you say so; I will be in Washington about 25th September, when the nature of any future help by me will, no doubt, be discussed.

To indicate my continued interest in India, may I again mention Dr. B. Lockwood, a Research Fellow who will serve as my "eyes and ears" in the course of a few trips to India over the next two years. He will be coming to India in mid-September. Would you be willing to give him guidance and introduce him on my behalf to Ministry and other people like Swaminathan at Pusa? I will have written to Sivaraman, too. He has chosen as his own research interest (not initiated by me!) the seed industry. He will need careful guidance on that subject. The University is meeting his costs, but if he fitted easily into any Bank mission as junior observer, it would be a great help. However, I will write again when I have his proposals for the first trip.

Now for the Picciotto material. My comment is marginal only but not insignificant in emphasis. I agree most strongly with the evidence on an actual lending programme. It is for this reason I distrust further missions, necessary as they are, unless they are linked with a prospective loan programme. Thus, the credit mission ought not to go unless it has a definite objective of a credit support programme. Talk of too many "follow up" missions could lead to great scepticism on this point. Again, in irrigation matters, I have some sympathy with Sivaraman's frustration. The irrigation mission (Creyke's) must look for projects (and there should be plenty associated with paras. 14, 15 and 22(c)), not simply talk of exploratory, follow up and eventual appraisal missions. I know there are faults on the G.O.I. side, many of them; but a great role for a "neutral" now would be for G.O.I. and Bank to discuss the best procedures likely to lead to identification of projects and rapid consummation in loans. I would love the task - and perhaps in a quick visit in late January or early February. (I have to be back in Australia mid-February) this could be

*I think Picciotto is strongly of his view, which Wopenhaus also shares.*



a role I might attempt. [It has just occurred to me: I may be returning from Germany in late November/early December. Would a visit then for three or four days be any use?]

I am aware that Picciotto's object is a lending programme; but I do suggest the link between the two missions and actual lending be more strongly put when the Bank approaches the G.O.I. If missions are merely to up-date knowledge, I think they are better mounted under your direct control as a continuous (and necessary) exercise; if they have lending in mind, then emphasise this more and the up-dating of information less.

Let me know if I can do anything in Washington for you. Meanwhile, please do send me the latest view on what the crop was in 1967-68 and how the monsoon is shaping up.

Warm regards to you all,

Yours sincerely,

(J.G. Crawford)

P.S.

- (i) I had not heard the news about Wolf. Sorry to hear it. Perhaps I will see him in Washington.
- (ii) I would particularly like the most recent data you have on the fertiliser production programme if available in ready form. If not, I'll ask Lockwood to get some data together for me when he comes.

Mr. William M. Gilmartin,  
International Bank for Reconstruction  
and Development,  
7 Sardar Patel Marg,  
NEW DELHI, INDIA.

Headquarters:  
Washington, D.C., U.S.A.



INTERNATIONAL BANK FOR RECONSTRUCTION AND DEVELOPMENT

RESIDENT REPRESENTATIVE IN INDIA

7 Sardar Patel Marg · New Delhi

Telephone 30152, 30153 · Cable Address - INTBAFRAD NEW DELHI · Postal Address - P.O. Box 416

RC 3147

India - Agn  
gr

✓  
Letter no. 263

~~Mr. King~~  
~~Mr. Cargill~~ 9/1  
August 23, 1968  
↑

Mr. R.J. Goodman  
Deputy Director - Asia Department  
International Bank for Reconstruction  
and Development  
1818 H Street, N.W.  
Washington D.C. 20433

Dear Ray,

Since Wolf probably did not show you the attached  
bouquets from John Crawford about his paper I thought you and  
Peter would be interested in seeing them.

With very best wishes,

Sincerely yours,

William M. Gilmartin

Encl:

c.c. Mr. Votaw - with enclosure

1200 HNE 58 MW 8:12

COMMUNICATIONS  
RECEIVED



RECEIVED  
GENERAL INVESTIGATIONS  
COMMUNICATIONS

1968 AUG 28 AM 9:19

C.C. Mr. Lofam - with enclosure

ENCJ:

MILLIAM M. GILBERT

Sincerely yours,

With very best wishes,

Letter would be interested in seeing them.

ponders from John Crawford about his paper I thought you and

since would properly did not show you the attached

Dear Sir,

Washington D.C. 20533

1818 H Street, N.W.

and development

International Bank for Reconstruction

Debtly Director - your department

Mr. E.J. Goodman

Letter no. 252

August 23, 1968

Telephone 30125, 30123. Cable Address - INTBAEKAD NEW DELHI. Postal Address - P.O. Box 416  
7 Saket Patel Marg. New Delhi

RESIDENT REPRESENTATIVE IN INDIA

INTERNATIONAL BANK FOR RECONSTRUCTION AND DEVELOPMENT



Washington, D.C. U.S.A.  
Headquarters:

3147

2000-0000



27th June, 1968

Mr. W. Ladejinsky,  
Resident Representative in India,  
I.B.R.D.,  
7 Sardar Patel Marg,  
New Delhi,  
INDIA.

Dear Wolf,

I have only just managed to read your piece sent with your rather defensive letter of 17th May. My comment is brief and adequate: "this is Wolf Ladejinsky at his best".

Wolf, the writing as always is excellent and the argument convincing. I have read it as pointing to the social tensions likely to accompany any dramatic agricultural progress which, however, is likely to be, in the first stages, to the benefit of all too few. I did not read it as an attack on the new technology but rather as a warning that it is producing, and will produce more, tensions unless conscious efforts are made to spread its benefits.

You will be interested to know that when Mrs. Gandhi was here she mentioned to me the social problems. I replied along good Ladejinsky lines (without benefit, alas, of this your latest paper). I told her that while of no great moment for two or three years the real needs for the seventies are: (a) strengthening the extension services; (b) enabling the small cultivator (owner or tenant) to have access to inputs and credit for the new technology; (c) concentrating effort into making small tenant more secure and enabling "subsistence" farmer to gain a marketable surplus; (d) devising refinements of the new technology likely to do well in average monsoons. Your paper simply strengthens the sense in these policy objectives.

On only one point do I feel that my emphasis would be a little different from yours. I agree with your stress on jealousy and discontent. However, I believe these natural phenomena, the availability of new technology and the growing political importance of the farmer will produce change. If it doesn't come by evolution (and I give India a chance) then it will come through degrees of violent unrest and disturbance.

I wish I could see you to discuss the paper paragraph by paragraph but alas I can't. I still hope to be in India next January but am not certain. Bernie Bell called here last week and, of course, Indonesia loomed large in our talks. I expect to be in Washington late September; will you?

You are free to show this letter to Gil.; I do hope the Bank will lend its help on the "sociology" as a longer-term investment now that the "input" approach is well recognized.

Warm regards.

P.S. I have a young Research Fellow, Mr. Lockwood, who will be coming to India soon. He will make himself known to you.

Yours sincerely,

(J.G. Crawford)  
Vice-Chancellor



CROSS REFERENCE SHEET

COMMUNICATION:

Letter

DATED:

August 29, 1968

(Incoming Aug. 21, 1968)

TO:

Mr. Karasz

FROM:

Mr. Michael Hoffman

FILED UNDER:

LIASON - O.E.C.D.

SUMMARY:

Re visit by Dr. C. Beringer to India for the study of fertilizers  
and Agriculture. (Previous visits to Pakistan &  
Ceylon)

See also Memorandum dated August 28, 1968 from Mr. Goodman to  
Mr. Hoffman

MISSIONS - Fall '68



Mr. R. Goodman

Ind Ag  
cc Pch.  
up Gough  
Kagut  
Sarkis  
August 20, 1968

L.J.C. Evans

Missions to India and Pakistan

1. The following are tentative suggestions which I would like to discuss with you for staffing missions to India and Pakistan this fall. We will do our best to set up these missions as effectively as possible but are having considerable difficulties in finding the appropriate personnel, partly because of our work-load in all areas, and partly because of staff transfers e.g. Mr. Greyke's transfer to Indonesia.

India - Irrigation Reconnaissance Mission

2. We would propose that this mission, with objectives as outlined in Mr. Wapenhans' memo to me of June 28, should be staffed as follows:

Mr. Darnell	-	mission leader (first three weeks only).
Mr. Vergin	-	economist with experience in water resources development and planning.
Consultant	-	irrigation planning engineer (either Pranisch from Bangkok or someone from Sir Alexander Gibb and Partners).
Agriculturist	-	from FAO.

The timing of this mission would be October 6 to November 10 (later than we had originally intended). Mr. Darnell would go to India about ten days before the rest of the mission to prepare a work program in consultation with the New Delhi office and appropriate Indian authorities. Mr. Picciotto would work closely with the mission throughout its stay in India, and he would have to direct work of the mission and effectively be mission leader in the field after Mr. Darnell's departure.

India - Agricultural Credit Reconnaissance Mission - November 24 - December 20

3. This mission, with objectives as outlined in Mr. Wapenhans' memo to me of June 28, would be staffed as follows:

Mr. Stoneham	-	mission leader.
Economist	-	with some agricultural credit experience - Mr. Christoffersen if we can get him.

Engineer - with agricultural mechanization experience  
(probably Mr. Neal from FAO).

Consultant Engineer - with tubewell experience (possibly Mr. Mogg).

We would hope that Mr. Picciotto could work closely with Mr. Stoneham in the identification of suitable credit channels and selection of States for the development of a first stage credit program and in identifying policy issues.

Pakistan - Indus-Tarbela Supervision

4. We undertook to review this fall the progress being made in West Pakistan on agricultural water and power development in relation to the Tarbela agreements; and I understand we may have to provide a report to the consortium on the progress being made. I propose the following staffing:

Mr. Hendry - mission leader.

Mr. Price - agricultural economist.

Mr. Manning - agriculturist.

Consultant - irrigation engineer, (probably Mr. Bennel).

Power Economist - from Public Utilities Division (possibly Mr. Willoughby?).

The timing of the mission would be to start in the field on October 20 and spend about three weeks in West Pakistan.

Pakistan - Review of the Market for Fertilizer in West Pakistan

5. This is related to the Indus-Tarbela supervision mission and we propose that Mr. Price should undertake the fertilizer review as well as participate in the supervision mission. He might need an extra week or two in West Pakistan, and I am not sure whether this should be before or after the supervision mission. I had already suggested to Mr. Kaupisch that the fertilizer review should be October 7 to 26. Arrangements and dates for the fertilizer review may be affected by proposals of Asia Department and IFC which we will be discussing tomorrow morning.

cc: Messrs. Takahashi, Hendry, Price  
Kirk ) Area  
Kaupisch )  
Knox

LJCEvans:lkt  
IBRD



Op. File.  
g...  
re Aquino

INCOMING CABLE

DATE AND TIME  
OF CABLE:

JULY 25, 1968 1115

LOG NO.:

WU 15/26

TO:

INTBAFRAD

FROM:

NEW DELHI

ROUTING

ACTION COPY:

MR. KIRK

INFORMATION  
COPY:

MR. CARGILL

DECODED BY:

TEXT:

✓  
97 FOR KIRK

PLEASE CABLE STATUS IRRIGATION AND CREDIT MISSIONS AND DRAFT LETTER  
TO IG ABOUT PROJECT SUPERVISION. WOULD APPRECIATE YELLOW COVER DRAFTS  
PUNJAB TERAI MANY THANKS REGARDS

PICCIOPTO

AB

TYPED

JUL 26 9 45 AM 1968  
GENERAL FILES  
COMMUNICATIONS

DISPATCH

URGENT 1000Z JUL 26 1968

TO DIRECTOR, FBI, WASHINGTON, D.C. FROM SAC, NEW YORK (100-100000) (P)  
RE NEW YORK TELETYPE TO BUREAU, JULY TWENTY FIVE LAST.  
SUBJECT: [REDACTED]

FROM: NEW YORK

TO: BUREAU

INFO: NEW YORK

100-100000-1000

SEARCHED	INDEXED
SERIALIZED	FILED
JUL 26 1968	
FBI - NEW YORK	



Headquarters:  
Washington, D.C., U.S.A.



INTERNATIONAL BANK FOR RECONSTRUCTION AND DEVELOPMENT  
RESIDENT REPRESENTATIVE IN INDIA

7 Sardar Patel Marg · New Delhi

Telephone 30152, 30153 · Cable Address - INTBAFRAD NEW DELHI · Postal Address - P.O. Box 416

*Ag...*  
*Op. F. L...*  
*W. F. L...*  
*X. F. L...*  
*X. Ag...*

Letter no. 225

July 29, 1968

Mr. A.F. Kirk  
Asia Department  
International Bank for Reconstruction  
and Development  
1818 H Street, N.W.  
Washington D.C. 20433

*T-426*

Dear Alex,

I enclose a memorandum prepared by Bob Picciotto setting out our views on agricultural problems and on a work program for the Bank which hopefully will be helpful in identifying projects and in evaluating the Fourth Plan for agriculture. As you will see we have coordinated this program with the proposed Creyke and Stoneham missions and have indicated further personnel requirements which we think will be required as a minimum to do the job. As indicated in Bob's query in paragraph 7 it would certainly be helpful if Sir John with Wapenhans and/or Takahashi could come out next Spring for a kind of wrap up of all our efforts.

Could you have these proposals discussed in the Bank and give us your reactions both to the subject approach and to the assessment of personnel requirements. If the personnel assessment seems reasonable we would hope that efforts can be started to arrange for the particular individuals required. In this connection and as Bob has indicated, the sooner the Government here is informed of the Creyke and Stoneham missions the easier it will be to go ahead with the necessary preparation. As for the personnel suggested for livestock and fisheries, Bob has indicated that some further examination is needed here before deciding just what kind of expertise is needed. We will get on to this job as soon as we can.

As you will see Bob has not gone into the institutional side of agriculture except on credit, since this is mainly Wolf's province. As you know Wolf has already done a substantial assessment of extension and cooperation activities and it is his intention to pursue these evaluations further in these and other aspects of agricultural institutions. All this will of course be grist for the evaluation of the agriculture, Fourth Plan. However, in Wolf's absence we have not formulated any further specific work program or made an assessment of additional personnel requirements, if any. Since Wolf is in Washington, perhaps you could have a talk with him on these matters. Personally I doubt that we need any additional hands in these fields but I wish you would confirm this with Wolf.

I am sure you must be swamped these days with the absence of Greg

July 29, 1968

and the others in the India Division but I would be grateful nevertheless for the reactions of yourself and others to Bob's memorandum.

With very best wishes,

Sincerely yours,



William M. Gilmartin

Encl:

c.c. Messrs. Votaw/Kirk  
Chadenet  
Evans/Wapenhans  
Takahashi/Hendry  
Waide/Dunn  
Ladejinsky  
Sir John Crawford



Mr. William M. Gilmartin

July 26, 1968

R. Picciotto

Fourth Plan Review - Agriculture

1. The scope of the agricultural review is, as you well know, severely restricted by our staff resources. Whereas a sector study for a country so large, diverse and decentralized as India might well require something like 6-7 man-years to meet average standards of the Agricultural Division,<sup>1/</sup> I have had to proceed on the assumption that we will dispose of less than one third of this manpower. Considering the stringent staff situation at headquarters, even this modest assumption may turn out to be optimistic.

2. Agriculture mirrors most of the fundamental issues which Indian policy-makers must face over the next few years, e.g:

(a) Is the size of the public effort planned commensurate with the financial and administrative resources likely to be available? Is this effort adequately distributed by crops and regions given various physical constraints, demand limitations and the evolving state of the technology?

(b) Are expected output levels consistent with Government policies and programs in agriculture and with targets set in other sectors of the economy?

(c) Is an adequate balance being struck between imports substitution (foodgrains) and export growth (tea, jute, oilseeds) objectives?

(d) Is the mix between programs for capacity expansion and programs aiming at better capacity utilization adequate (particularly in the irrigation field)?

(e) Are the compromises reached between social and growth maximization objectives reasonable (particularly with respect to rural taxation, employment, food procurement, irrigation investment and input distribution)?

3. These and other broad policy questions have been studied in some depth by the two Bell missions. For the current Fourth Plan review exercise,

---

<sup>1/</sup> There are more cultivators in each State of the Indian Union than in an average member country of the Bank Group. An average agricultural sector study takes 6 man-months. Sectoral studies "in depth" usually take more time.



I would suggest that only an updating and some readjustment of the broad conclusions reached by previous missions is required. This would involve, of course, reaching a fresh judgement about the targets set for major inputs (water, fertilizers, pesticides, machinery etc.) tying in with the work proposed for the industrial sector. In addition, we will have to assess the adequacy of the institutional support provided to the Plan in such fields as research, extension, cooperation, education (Wolf's domain). At the same time, subjects which, for a variety of reasons, received relatively light treatment in the past, should receive more detailed attention. Some of these are in areas where the Bank Group may become operationally active. The main items falling into this category (listed in rough order of reporting priority) are: (a) irrigation; (b) credit; (c) foodgrains marketing and storage; (d) commercial crops; (e) livestock and (f) fisheries.

4. The irrigation review should cover the "water cell" operations of the Ministry of Food and Agriculture as well as those of the Ministry of Irrigation and Power. This review happily coincides with much of the work of the proposed Greyke mission. Similarly, our Fourth Plan credit review will benefit from the findings of the proposed Stoneham mission. However, for both missions, considerable supporting work will be required from this office to relate these operational exercises to broad sectoral priorities. Turning to food storage and marketing (a particularly tricky subject), I would be reluctant to request headquarters support at this stage even though this is a crucial and delicate policy area. Instead, I would appreciate being helped by a research assistant with a penchant for arithmetics to help unravel the labyrinth of available food statistics, analyze price trends, conduct interviews in mandis, etc. The main issues we should deal with here relate to price incentives, inter-state trade policies and storage investment priorities. Among the commercial crops, jute, tea, cotton, oilseeds and tobacco are the most important. We already have good marketing studies for two of these commodities (tea and jute). For a more detailed look at the supply problems and prospects of these commodities, we would need (for a start) something like 4 man-months, preferably in the shape of a well-rounded tropical crop consultant. It might be worthwhile to support him with a commodity man such as Elz who would work on oilseeds, cotton and tobacco - items which have yet to be covered by field-based reports from the Economics Department. The consultant would, of course, have access to Jean Baneth's extensive documentation on (and knowledge of) the export sector. The last two items of the list (livestock and fisheries) could easily absorb a score of man-months. However, I am only suggesting a limited investigation (4 man-months for each) specifically focussed on problem areas of the sub-sectors, with perhaps an operational bias towards the dairy and deep-sea fishing industries.

5. It is still a bit early to map a travel plan in support of the above program. During August, I plan to visit Gujarat (to look into possible end-use reporting systems for Shetrunji). I will also go to Bombay (in preparation of the credit mission). I will take advantage of these visits to cast my net wide on sectoral matters. In September-October, I will join the Greyke tour and



this may bring me to UP, AP, Mysore and perhaps Gujarat. In November, extensive field trips with the credit mission are also likely. They may well involve Punjab. In all areas, I will try to see the forest (i.e. the sector) as well as ~~for~~ the trees (i.e. the projects).

6. Hopefully, the Government will soon hear from Washington about the Greyke and Stoneham missions. The sooner it does, the better the groundwork which we can lay here. Similarly, it would be nice to know relatively soon if we can count on headquarters support for the commercial crops, livestock and fisheries subsectors of our review and what the timing of this support is likely to be. These exercises are likely to involve considerable field work, including trips to Assam, Madras, Kerala and West Bengal for the commercial crops. Within the next few weeks, I should have a better idea of the specific problems we should try to tackle in these fields. But in any case, missions in these fields will undoubtedly call for some logistic support at our end. In view of our busy fall schedule, I would suggest that field work on these subjects be scheduled for not earlier than January-March 1969.

7. By the end of the first quarter next year, our various agricultural investigations will undoubtedly have raised a number of important policy issues and opened up new vistas for detailed project work. This would be an appropriate time for top-level discussions on agricultural policies and operations. Could Sir John Crawford and Bill Wapenhans (or Shig Takahashi) be convinced to come to Delhi in the spring?

8. The above program was sketched on the assumption that our efforts will meet with a positive response on the Indian side. Since I have come back, I have found little enthusiasm in Krishi Bhavan for what we are trying to do. But I am not giving up since we have yet to apply pressure via Finance. The crux of the matter is whether we are willing to match India's subtle use of the Five Year Plan as a strategic device in the aid game with a bit of advance budgeting of our own.

cc: Messrs. Votaw/Kirk ✓  
Chadenet  
Evans/Wapenhans  
Takahashi/Hendry  
Waide/Dunn  
Sir John Crawford

*Ladajinsky*

RP/nm.



Mrs. Shirley Boskey

July 16, 1968

Gregory B. Votaw

INDIA - DAC Report on "Aid to Agriculture"

1. This report, DAC (68)32, dated July 4, 1968, was reviewed hastily by two persons in the Agriculture Division and also two members of the India Division. In general we agree with its conclusions. In fact it seems to be a remarkable achievement, as desk studies go, especially when you consider that the authors do not seem to have visited India-- at least not for the purpose of preparing the report. Most of the comments which follow represent questions of emphasis rather than serious disagreement.
2. On a point of procedure I should point out that a number of footnotes (see especially pages 47, 48, 51, 58 and 72) make reference to volumes of the Bank's 1965 economic report. You will recall that this report was prepared on a highly confidential basis for use by the President of the World Bank; Mr. Woods had agreed with India that copies would be released only where the confidential nature of the report would be fully protected and mainly in very limited numbers to contributing members of the India consortium. I suppose our concern for confidentiality weakens with time; it is also true that the particular volumes cited concern technical appendices prepared by Sir John Crawford's group, which were not particularly sensitive. Nevertheless, it would have been better had OECD avoided specific reference to these volumes, which were made available to them on the specific understanding they they would not be cited in reports such as DAC(68)32.
3. On page 9 the reference to population growth might well be expanded to analyze the implications for agriculture (and more generally) of a 2.7 percent per annum ( and increasing) rate of growth. Also, the forthcoming mission is being organized by the Population Division of the United Nations and not by the UNDP (although the financing may in the end come from UNDP).
4. On page 34 the discussion of intensive irrigation fails to bring out the important role of underground water resources which, if properly developed, would make it possible to intensify production from irrigation systems originally designed to provide drought insurance. In general reference ~~is~~ to tubewell potential and groundwater development programs seem~~s~~ weak.
5. The discussion of fertilizers, beginning on page 35, gives inadequate attention to the potential role of the private sector not only in providing investment capital and management expertise for the production of fertilizers but also in sponsoring promotional activity and credit facilities at the farm level.



6. On pages 43-46 there is a good discussion of the dangers and uncertainties faced by the high-yielding varieties of seed. Contrary to the statement in the next to last sentence of the second paragraph on page 69, these difficulties have been recognized in Bank reports and are receiving continuous attention.

7. The discussion of livestock, beginning on page 47, gives inadequate attention to the fact that draught power is a main reason for having cattle in India.

8. There is an endorsement of the Japanese single-axle cultivator on page 50 which appears to be more sweeping than present facts warrant, especially since such equipment now appears to be losing ground (if you will forgive the metaphor) even in Japan.

9. The discussion of storage, beginning on page 51, could be improved by emphasizing the need to link storage development plans with production programs and a firm policy decision to remove zonal regulations on the movement of food-grains.

10. The record of cooperatives in India is most unsatisfactory. The contrary statement in the final paragraph on page 60 is seriously misleading and in sharp contrast to the universal opinion of well-informed observers both inside and outside official circles. This is perhaps the most serious error we have found in a quick reading of the report.

11. The final paragraph on page 100 <sup>states</sup> ~~refers to~~ "a certain amount of informal coordination already exists in India among the . . . UNDP, FAO, IBRD . . . It would require further on-the-spot discussions . . . to determine to what extent these informal coordination arrangements are, in fact, effective and how they may be further improved and extended." I leave it to you to decide whether this reflects accurately the arrangements among UNDP, FAO, IBRD et al.

12. One general point in conclusion is that the report frequently refers to the Fourth Plan Outline, published in 1966; the Outline was not taken seriously by anyone in the Government of India at that time and is totally without official status today.

cc: Messrs. S. Takehashi/L. Sonley  
B. Waide/D. Dunn  
New Delhi office

GVotaw:sao  
IBRD/IDA

(RC 3147) *Indra Agri. Indus*  
**UNITED STATES DEPARTMENT OF AGRICULTURE**  
**INTERNATIONAL AGRICULTURAL DEVELOPMENT SERVICE**  
**WASHINGTON, D.C. 20250**  
*Mr. T. Takahashi*  
*Mr. Wappenham*

July 12, 1968

*Have you seen?*  
*Just with*  
Dear Sir:

Olen Salisbury, one of our men recently returned from India, has prepared one of the most perceptive analyses of India's grain marketing problems I have seen for India or, for that matter, for any other developing country. The report, focusing on the need for improved and expanded grain handling, storage and transport facilities in India, has implications for other less developed countries as well. As we achieve success in our production programs, the inadequacies of existing marketing systems are coming into focus. You may find the attached copy of Salisbury's report of interest.

Sincerely yours,

*Lester R. Brown*

Lester R. Brown  
Administrator

Attachment



April 1968

TERMINAL REPORT

NAME OF EXPERT: Salisbury, Olen W. NAME OF COUNTERPART: None designated

TITLE OF ASSIGNMENT: Price Support Officer WHEN APPOINTED: May 6, 1966

DATE OF ASSIGNMENT COMMENCED: May 6, 1966

DATE DUE TO TERMINATE: May 5, 1968

OBJECTIVES IN BRIEF: Provide U.S. expertise to the Food Corporation of India in Price Support Programs especially transport and warehousing

COMMENTS

Because of the nature of this assignment and the fact that no counterpart was named it is difficult to follow the established format for end of tour reports. The Food Corporation of India as well as the Ministry of Food, Agriculture, Community Development and Cooperation has been wholly preoccupied during this two year period with the problems of scarcity and filling supply commitments to deficit states and little attention has been paid to price support programs beyond recognition that they will perhaps some day be needed.

In lieu of a recounting of actions taken which would be difficult in the absence of any action program there is attached a paper dealing with the needed modernization of India's marketing complex to cope adequately with the promised surge in food production of which this year is hoped to be a forerunner.

It is the reporters opinion that no effective price support operation can be conducted for a crop of 120 million tons without a moderanization of the marketing structure.

## MARKETING PROBLEMS FOR INDIAN FOODGRAIN PRODUCTION

This year points up vividly the results of the concentrated efforts that have been applied to agricultural production in India over the past few years. With the advantage of good monsoons followed by generally adequate winter rains foodgrain production will probably exceed 100 million metric tons. This bountiful harvest while extremely welcome does however focus attention upon an aspect of agricultural production which at present is or should be cause for alarm in the near future. This alarming aspect is the inability of the existing market complex to cope with the anticipated volume in the areas of sales, transport and storage.

Using a projection of 120 million metric tons of foodgrains production by 1973 and this is not an unreasonable estimate in the light of this year's experience, the continued emphasis on food production, the experience with high yielding varieties and the expected expansion in chemical fertilizers, there will be a minimum quantity of 36 million tons to be purchased, stored transported and sold by the 1973 crop year. This estimate is predicated on the assumption that by 1973 rural consumption will be 70% with 30% moving to the urban centers throughout the nation. There is a possibility that continued modernization of India's agriculture and increased industrialization could effect a shift to more than 30% of food consumption in the urban areas but for the purpose of this discussion 30% is reasonable and any higher ratio would merely aggravate the basic problems to be faced.

To provide perspective consider the question; what is 36 million tons of foodgrains? In terms of gunnies it is 360,000,000 which if laid end to end would girdle the earth eight times at the equator. In terms of railway wagons it is 1,500,000 wagon loads. In terms of lorries it is 6,000,000 lorry loads. In terms of farmer sales transactions at the present average of 4 quintals per sale it is 90,000,000 individual sales transactions. In terms of storage space it is more than 2,000,000,000 cubic feet.

It is true that production is widely dispersed throughout the nation. It is also true that production is spread over two crop seasons and in some cases over three. But even so, the magnitude of the marketing operation is tremendous and unless the marketing apparatus is modernized, it will not be possible to move this bulk without shocking losses which would be tragic for India.

In what respects would the present distribution complex prove inadequate for this projected burden? It is anticipated that the principal problem areas would be:



- A. Farm Sales
- B. Rural Storage
- C. Grain Conditioning
- D. Transport
- E. Terminal Storage

These need consideration in detail because each of these categories is very broad in scope.

A. Farm sales entail; (1) The need or desire to sell, (2) Knowledge of market conditions to permit intelligent decisions, (3) A determination of quality and quantity, (4) Agreement between buyer and seller on price, and (5) Delivery. In one sense element (1) above is largely dependent upon element (2) and at some future date the order may be reversed, but at present, where producers have limited or no information about market conditions except in their own mandis, the need or desire to sell some or all of their produce must be generated by purely personal or family economic pressures that have little or no relation to logical business decisions based upon knowledge of market supply and demand or price levels. Element (3) presently is a system of individual weighing of small lots with a look, feel, smell and tell method of quality agreement between the producer and the local merchant.

Element (4) is largely a bartering, haggling process. These contribute to a slow, laborious, and uneconomical merchandising system at the country level. Element 5 presently is a logical result of the primitive status of elements (1) through (4) and delivery is made by abandonment to the buyer at the place of sale.

B. Rural storage is highly individualistic, unorganized and primitive. It is practical only for a virtual farm-to-pot level of production and offers no scope for latitude of selling decisions when the level of productivity has increased to a surplus position requiring maintenance of stocks for several months as an alternative to disaster priced sales.

C. Grain conditioning is a necessary corollary to storage and is in a complementary position to present rural storage. It consists primarily of spreading in the sun on beaten earth or the adjacent highways. This is not only an unsatisfactory method but it cannot possibly expand to accommodate the projected increase in volume.

D. Transport data available is as of March 31, 1966 which indicated 228,179 licensed lorries and 163,207 covered railway wagons. If six ton is an effective average load estimate for a lorry then each lorry would be required to make 24 trips or each railway wagon would be utilized 10 times for the movement of 36 million tons of foodgrains. During the ten year period 1955-56 to 1965-66 the rail tonnage of foodgrains increased from 3.2 million to 6.8 million tons or slightly more than 100%. This volume taxed facilities and it must be remembered



that a substantial part was represented by imports received in large volume at major ports where equipment is more readily available than it is in the hinterland. Even if this rate of increase continued by 1970-71 the rails presumably could handle 10.2 million tons or less than 1/3 of the projected 36 million tons leaving 25.8 million tons for movement by highway.

It appears to be a reasonable conclusion that there is little possibility of existing transport facilities handling this volume expeditiously, and if it is not done expeditiously, a high rate of loss is inevitable. It is also almost inevitable that government procurement programs designed to stabilize markets will be tailored to the transport availability as it is not politically possible for government agencies to invest public funds in commodities which will spoil for lack of transport and storage.

E. Terminal storage is slightly more sophisticated than rural storage but is far from adequate for the demands that will accompany the anticipated marketable quantity of 36 million tons of foodgrains. In a large measure the recent additions of godown space has been influenced by the need to accommodate large import volume and locations have not been logically selected with a view to serving India's own foodgrain production. In addition, with only minor exceptions, the storage space constructed has been designed for bagged grain handling and not to encourage a shift to bulk grain handling and storage methods.

During the past two years little or nothing has been done in the marketing area to meet these challenges of the future and it would serve no useful purpose here to explore the reasons, real or fancied, for this lethargy. The hard fact remains, however, that these problems are not of a nature that can be dissipated by ignoring them. If the gains made and, hopefully, still to be made, in agricultural production are to be fully exploited for maximum benefits to the nation, it is essential that action programs be formulated and actively pursued in the following areas:

#### A. Sales

1. A Market News Service, national in scope, to provide timely and reliable information on holdings and prices in all major market centers. The news to be disseminated by radio, press and government bulletins.
2. Establishment of simple, enforceable official grade standards to permit description sales supplemented by a system of licensed official weighers for quantity determinations.
3. Provide a mechanism for settlement of contract disputes between buyers and sellers that will avoid the delays and expenses inherent in actions at law and before the courts. This administrative machinery



could be any of many forms. Perhaps the simplest would be a national organization of all licensed traders with the publication of trading rules and an arbitration board which would include on a regional basis representation nominated by producers. Appeals from the decisions of this body to be to a board of review established by the Ministry of Food, Agriculture, Community Development and Cooperation with final recourse, when necessary, to the courts.

#### B. Rural Storage

1. Determine from a survey of all major producing areas the amount of storage required to hold the optimum quantity in producing regions after it has been determined whether 30, 60 or 90 days supplies are to be stored in the urban consuming centers.

2. Begin, as soon as the survey results have been analysed, a program of construction to provide modern bulk storage for the foodgrains produced. Efforts should be made to persuade producers to store all surplus even if they make partial withdrawals from time to time for home consumption. The preservation of the food from insect and rodent depredations would offset the cost. Attached as Exhibit A is a brief description of a proto type structure that would probably minimize construction costs.

#### C. Grain Conditioning

1. Each storage installation should provide means for aerating, mechanical drying and fumigation. Drying capacities will vary by areas and the degree of moisture present at time of harvest. In the major wheat areas for example drying capacity would perhaps be small and principally intended for emergency cases whereas in some of the paddy regions all production would need mechanical drying.

2. The importance of grain conditioning cannot be over-emphasized and scalper cleaners should be seriously considered when normal arrivals are heavy in trash content as this encourages insect infestation. Good care of stored grains pays dividends.

#### D. Transport

1. Highways and highway transport equipment must be upgraded materially before lorry transport potential, required to supplement rail facilities, can be realized. Village access roads need to be improved and made all-weather in order that lorries can move at greater average speed and thus achieve maximum tonnage from available equipment. Trunk highways, for the same reasons, need to be widened and improved especially as to all weather bridges that will not flood during monsoon seasons.

2. Equipment needs to be designed for bulk grain handling but of a nature that will be of multi-purpose use for economy. The importance of highway supplement to the railways cannot be emphasized too much.



3. Railway wagons suitable for bulk grain handling will be required in ever increasing numbers when the storage construction program is begun and the size of these wagons should not be less than 40 tons. Removable tops, with loading hatches, for present open top wagons offers an attractive possibility for quick availability of bulk grain carriers at a minimum investment. With this type of convertability coal and ore wagons may be pressed into use during harvest seasons.

#### E. Terminal Storage

1. As in the case of rural storage any action should be preceded by a survey of urban areas to establish patterns of consumption and extend them on a growth projection. With this data in hand and decisions made on the question of desirable reserve levels plans for construction need to be made and implemented.

2. The same arguments, for a change to bulk handling, exist here as they do in the rural areas. No other system will be adequate for the anticipated volume. Some time back a paper on bulk grain handling was released (See Exhibit B). This paper purported to show that developing agricultural countries had to be moved, by labor costs, from package to bulk handling of grains. It was thought that such a controversial position would start a dialogue that would lead to a realization of the fact that circumstances did, sometimes require the bridging of labor cost gaps. Unfortunately this reaction did not materialize. However, but under any rationalization of India's future marketing problems, the necessity for this bridging must be recognized.

3. In the development of terminal storage capacity full consideration should be given to the importance of coordinating storage with the modern mills, those that are now in existence as well as those planned for the future. It would be wasteful to duplicate storage or arrange it so short haul transport was required from storage to keep mills running.

In summary if the gains, made and anticipated, in India's food productions are to be exploited fully for the benefit of the people, it is essential that modernized production be served by modernized marketing methods and techniques. One without the other will inevitably fail to produce maximum results. It is also inevitably true that the price support operation required to stabilize this increased production cannot be performed without modern marketing facilities.



BULK GRAIN FLAT STORAGE

The term "Flat" is employed to differentiate storage structure that extend horizontally from those that rise vertically. Flat structures are more economical to build and maintain, generally unless space availability or land cost strictures are controlling, they are preferred. In the U.S.A. construction cost of flat structures is about one third of comparable volume vertical space.

There are two problem areas arising in India in connection with foodgrain handling. The first and most generally recognized is in connection with the modern rice mills where it is admitted the full utilization of milling capacities requires the assistance of bulk transport but the extremely high cost of the vertical storage for the first three mills has led to a tentative decision to build no more. The second is in the wheat producing regions where the rush of harvest is expected to overburden local storage and the transport system. To both of these problems flat storage and handling in bulk appears to offer the most economical solution.

The exact size and configuration of any storage and handling facility is fixed by the nature and size of the need it is to serve. It is not, therefore, possible to describe such a facility in specifics failing the postulation of a specific need. In order to provide a general picture of a flat storage structure let us assume that 1,000 metric tons will meet the need for which the structure is to be provided.

A conventional Indian masonry godown of 104 feet inside length, 44 feet inside width and a wall height of 16 feet at the eaves, divided longitudinally into ten compartments each of 20 feet width, 20 feet depth and five on each side of a center aisle for a belt conveyor will provide space for approximately 1,000 tons of paddy or 1,200 tons of wheat.

Each such building should be equipped with; a weather protected dump pit, an elevator to lift to 18 or 20 feet, a belt conveyor overhead with diversion apparatus at each bin, a bottom load out from each bin and a belt conveyor back to the elevator for load out or delivery to the sacking bin, sewing machine for gunny closing and an automatic scale. The latter equipment would in the case of a rice mill be in the mill not the storage facility and a sacking bin would not be required.

In planning flat storage there are five major options to be considered from a cost view. In each case something would be sacrificed if the low cost option were elected. These options are:

1. Open top bins or closed.
2. Gravity feed out of bins or conveyors.
3. Floors level or pitched.
4. Aeration equipment.
5. Dust accumulators.

For option 1 the persuasive argument for covering is to permit effective fumigation and the cover need be only strong enough to bear a man's weight.

Option 2 in a low labor cost country would probably dispense with individual bin conveyors and let gravity flow suffice with manual labor near the end of bin load.

Option 3 again would be a question of weighing labor against construction cost.

Option 4 merits considerable thought the ability to cool grains as necessary without moving it should not be lightly sacrificed.

Option 5 is probably not essential for paddy but is an important safety factor in handling bulk wheat.

For expansion, over the 1,000 ton model discussed here, it could be greater length or breadth or both. If the total were to be doubled or tripled it would probably be desirable to consider a multiple building complex served by a common elevator. Conversely on the smaller scale the limiting factor would be the amortization ratio based upon the smaller volume to be handled.



BULK GRAIN HANDLING

At the moment virtually all developing countries are preoccupied with the problem of increasing agricultural production and building reserve stocks of foodgrains as a means of stabilizing the price levels and avoiding periods of critical shortages of foodstuffs. Almost all are also preoccupied with a change to bulk grain storage as a means of conserving the grains produced and making limited supplies serve the maximum number of people. Unfortunately there are many indications that the system of handling and storing grains in bulk in the more advanced economies of the world and the techniques involved in this operation are imperfectly understood in relation to the place this technique occupies in the general economic scheme of those countries and why and how this system came into being.

To evaluate the system properly it is necessary to place it in proper perspective within the total economic picture, understand the economic factors which combined to produce the system and above all comprehend the nature of and need for other conditions which must exist in support of bulk grain handling and storage. Only when this has been done is it possible to consider in a rational manner the point in local economic time at which bulk handling and storage can or should be introduced. Toward that end it is the purpose of this discussion to review the development of bulk grain handling, define its nature, list its restrictive counteractions and identify the environment that must exist in support of this system.

It is essential in this discussion to first resolve the ambiguities that can arise from the degree of socialism that has been or is likely to be introduced into a particular nation's basic food economy and marketing structure. To that end it is assumed that cost without regard to whether it is a factor in a private enterprise venture for profit or a budgetary factor in a nationalized operation where it is possible to hide some or all of the cost. On the basis of this assumption that no matter where or how the cost factor appears and whether or not it is directly attached to the price of food in the market, it is in fact a cost that must be borne by the total economy therefore no effort will be made to differentiate between individual enterprise and public operation.

Handling and storing grains in bulk is the end result of a evolutionary process not an independent determination that this system had inherent advantages that made it desirable to impose it upon the previously existing structure. With a few exceptions mechanization in the agricultural sector reflected the pressures of labor cost and labor availability rather than a deliberate change for the sake of machinery use in lieu of hand labor. Thus within the cycle; the



Cradle replaced the Sickle, the Thresher replaced the Flail, the Binder replaced the Cradle and ultimately the Combine replaced both the Binder and the Thresher.

With each modification of the harvesting process the pressure of volume flow from the fields on available labor supply and cost created the demand for a change in the system of handling the produce. The obvious area where time and cost economies could be effected was the elimination of containers and the substitution of vehicles and structures which while in basic nature were larger scale temporary containers provided means of reducing manhours and were by greater durability capable of reuse many more times than small containers. In addition the vehicles and to some extent the storage structures served multiple purposes.

A corollary of increased mechanization was the need to harvest all fields in the same general time period so that the selective process possible with hand labor of allowing each individual field to ripen before harvest was no longer possible when confronted with the need to utilize the machine when it was available. This reaction led to harvesting grain of a moisture content too high for safe storage over extended periods of time and established the necessity for drying by exposure to ambient air or artificially heated air. Because grain in small containers is much more difficult to dry than grain loose or in bulk this in turn added to the pressures to devise means for bulk handling and storage of grain.

Now the evolution of bulk grain handling and storage has been traced it is desirable to consider the nature of the handling and storage activity. The broad concept of the marketing function is, all actions related to the movement of a commodity from the point of production through the processing phase to the end consumer. Within this broad concept it becomes readily apparent that handling and storage is a facet of the transportation phase of the marketing process. Without regard to the magnitude of the capital investment, the location at which it takes place, the element of profit or loss for the operators involved, or the fact that such operators may otherwise be totally divorced from the general concept of transportation the conclusion is unavoidable that handling and storage is in fact a part of the effort in moving a commodity from the point where it is produced to that point where it has a market.

During the evolution of the bulk handling and storage function it became apparent that for it to be fully effective it must provide a means for multiple ownership of the common mass to be satisfied in its claims at any point between the point of commingling and the most distant market for any of the multiple owners. This demand resulted in the establishment of uniform standards for grade determinations which would permit the original depositor or any successor to his



interest to require the delivery of a comparable quantity of like quality from the stored mass. These standards in most of the countries that utilize the mechanics of bulk handling and storage in the marketing process were established by law and after consultation with representative groups having an interest in the problem, thus they represent a common judgement and a group acceptance of the standards and the means devised to insure fair and equitable determinations of grade pursuant to such standards.

With this means, of making bulk grain a fungible commodity, in force there was now no barrier to large scale commingling and moreover a means was established which permitted the owner to hypothecate his portion of the common mass as security for loans pending the final marketing of the commodity. This desire to establish liquidity of assets in turn led to the development of secured storage that could issue negotiable warehouse acceptable to financial institutions as collateral for loans.

Concurrently with these developments farmers and manufacturers of farm equipment modified existing equipment and designed new equipment to accept grain in bulk in the field and convey it to the first point of receipt and storage. Rail and highway transport companies also modified old and designed new equipment for the transport of bulk grain without excessive loss or damage.

The same type of economic forces which had brought about the developments in the field of bulk handling and storage wrought revolutionary changes in the pattern of farm family life and customs. The practice of family grinding of grain or consumption as whole grain gradually diminished and eventually disappeared. The result was that all the foodgrains produced by farm families found its way to the open market with the farmers repurchasing as finished products that portion which his family needed. This is important to this discussion because it materially increased the total volume moved off the farm and thus the total demand on the facilities for bulk handling and storage. Even in the case of grains grown primarily for animal food roughly 40% move in the channels of commerce as many farms specialize in growing the foodgrains and feed few or no animals of their own.

During this evolution the patterns of construction and ownership appeared in slightly varying manner in different countries. Generally the pattern was one of local entrepreneurs or cooperative associations of producers who built the facilities and installed the machinery for the facilities in the rural areas. At the marketing centers or processing points the field is usually divided between those entrepreneurs who specialize in the storage business and processors who established storage capacities in excess of their own needs and utilized the excess



for the operation of a public storage enterprise as a subsidiary of their principal business. The end result was that in each of these countries is found a comprehensive network of rail and highway service fed by the flow of bulk grain from the farms through the local storage facility enroute to the markets.

From the consideration of the evolution of bulk grain handling and storage there emerges a recognition of basic situation that must exist before the changes could or would take place. First the farm economy must be such as to make it profitable to pay for a service rather than perform it. Second the payment must permit a profitable operation for the storage owner. Third facilities must exist to move in bulk to and from the storage point. Fourth means must have been provided to make the bulk grain truly fungible. Fifth since the storage operator must inevitably suffer some shrinkage and storage losses and has a liability to deliver in full he must have at hand a market from which he can purchase the quantity required or establish the true market value of the shortage for the purpose of cash settlement in lieu of delivery. Sixth the total volume must be large enough to justify the capital expenditure and still maintain a reasonable level of fees for the service performed.

Can it be concluded from the foregoing that bulk handling and storage of grains has such inherent advantages that it justifies imposition upon the relatively primitive economies of the rural sector of developing nations? Can it be concluded that the developing nations offer the supporting circumstances which have been shown to be essential to the establishment and maintenance of a bulk handling and storage system? To answer these two questions it is necessary to consider the six situations enumerated in the preceding paragraph.

First: Is the farm economy such as to make it profitable for the farmer to pay for a service rather than render it for himself? Not if the pressure of population in the rural area is such that labor costs are at or below subsistence levels or the farmer's own family cannot be more profitably employed.

Second: Would the level of fees the farmer could pay permit a profitable operation for the labor and capital involved in a bulk storage and handling plant? Not at the present level of commodity prices in most developing countries.

Third: Do facilities exist for the bulk movement of grain from the field to and from the storage points? Not in many of the developing countries does this condition exist. In most the rail and highway service both in coverage and equipment is grossly inadequate.

Fourth: Have means been provided or are they likely to be provided in the near future to make bulk grains truly fungible? Few if any developing nations have as yet taken any positive steps to establish legal grain standards or enforce them if they were established.







FOOD AND AGRICULTURE ORGANIZATION  
OF THE UNITED NATIONS

*Handwritten:* No reply necessary!  
Discussed with Mr. Eiges during  
July Program Review.  
M.O.

Via delle Terme di Caracalla, 00100-ROME

Cables: FOODAGRI ROME

Telex: 61181 FOODAGRI

Telephone: 5797

Ref. BK-3/2.1 IND  
BK-3/2.7 "  
BK-3/2.9 "  
BK-3/2.13 "  
BK-3/2.14 "

JUL. 5 1968

Letter No. 00291

Dear Jim,

Subject: India - Discussions with Principal Secretary, Finance Ministry

*BARTSCH*  
*DARNELL*  
*VOTAW*  
We have recently had a visit from Mr. T.P. Singh, Principal Secretary, Ministry of Finance, Government of India. Among other things, we ascertained from and discussed with him the present line of thinking of the GOI on project possibilities in the field of agriculture. I am summarizing below the main points that emerged in the course of these discussions.

Mr. Singh agreed with us on the inadequacy of the existing grain storage facilities to handle the large crop that is coming into the market this year and emphasized the urgent need for additional storage facilities at intermediate and terminal levels. He mentioned that the problem is very acute and engaging the attention of the Government, which is putting priority on construction of grain storage and drying facilities. However, according to his admission, the shortage of facilities is not likely to be overcome in spite of the ad hoc measures being taken now. In the light of this situation and future development, he felt that a grain storage project could be considered for preparation and presentation to the Bank. He further mentioned that he was going to talk about this with the Food Secretary of the GOI.

He was very pleased with the project on Terai Seeds prepared with our assistance and thought that something more could be done in other parts of India.

He informed us that the Government was particularly keen to take an area approach to developing agriculture in key parts of India. He wondered whether in this area approach attention could be given not only to regions with assured resources of water but also to chronic deficit areas where resources presently not fully known, such as groundwater, could be incorporated as an important element of a possible project. In particular, he was thinking of parts of Bihar, Eastern U.P. and the south. Our reaction was that <sup>while</sup> from the point of view of overall stability of agricultural production in the country this would be a desirable strategy, the question of whether feasible and viable projects could be developed for such areas, needed both technical as well as policy considerations.

../..

*7/5 M.O.*  
Mr. L.J.C. Evans  
Assistant Director - Agriculture  
Projects Department  
International Bank for Reconstruction and Development  
1818 H Street, N.W.  
Washington, D.C. 20433  
U.S.A.



Another field of project possibility emphasized by him concerns the rehabilitation and strengthening of minor irrigation sources in specific areas, particularly in Eastern India. In effect what he suggested was that these sources are not being looked after, maintained and developed as well as they should be because of scarcity of resources and the institutional problems following on the land reforms, and that a broad programme with this objective could be easily formulated for consideration by an external financing agency. It is also likely that within such a programme specific projects could be prepared for consideration by the World Bank group.

On fisheries, Mr. Singh indicated that the earlier project proposal prepared by our Programme seemed to him to be one that could have been undertaken by now and implemented, especially since this involved a rather modest level of fishing activity which could have been managed and administered with the available facilities and expertise. However, the proposal to switch the project to large operations based in Bombay and Madras had changed the perspective and is causing difficulties in the further formulation and elaboration of the project. He wondered whether the earlier project proposal could not be revived and looked at again.

These are some of the ideas and proposals that Mr. Singh emphasized to us in the course of the brief meeting. On the whole he seemed very positively inclined to receiving more assistance in formulating agricultural projects for consideration by the World Bank group. I am sure you will be interested in the views he expressed. I am looking forward to discussing these with you when we meet next week.

With warm regards,

Yours sincerely,



I.H. Ergas  
Director

FAO/IBRD Cooperative Programme

Agricultural Recon.  
Missions - Irrig. & Cr.



Mr. L. J. C. Evans

June 28, 1968

W. A. Wapenhams

INDIA - Agricultural Reconnaissance Missions

1. I refer to Messrs. Votaw and Picciotto's memo to Mr. Cargill of June 13. The operational implications of the program set forth in that memo have been discussed with Messrs. Votaw and Picciotto. We have now agreed on a sequence of missions as set out below.

2. Irrigation Reconnaissance Mission: (Sept. 16 - Oct. 18)

This mission would review with the Indian authorities both at Center and State level priority irrigation projects in the context of the Fourth Five-Year Plan and ascertain their potential suitability for IDA support, the amount and nature of further preparation work required, and make recommendations as to the most practical follow-up activities to prepare the projects identified for appraisal. In addition, the mission would discuss with Indian authorities both at Center and State level the need and desirability of integrated water resource development programming including the development of groundwater resources within existing surface irrigation systems. In reviewing and identifying projects potentially suitable for IDA support the mission would be guided by considerations of economic priority, the institutional capability of the State(s) concerned, the inter-relationships between such project(s) and on-going priority programs in agriculture.

3. The mission would be staffed as follows:-

- Mr. Greyke - mission leader.
- Mr. Vergin - economist with experience in water resource development and planning.
- Mr. Tibor - consultant - planning engineer.
- Mr. von Uexkuel - consultant - agriculturalist with experience of Asian agriculture, tropical crops and soil sciences.

The mission leader would proceed to India in advance of the mission and prepare a work program in consultation with the New Delhi office and appropriate Indian authorities. Mr. Picciotto of the New Delhi office would work closely with the mission throughout its stay in India.

4. Agricultural Credit Reconnaissance Mission: (Oct. - Nov.)

This mission would review the possibilities of developing agricultural credit programs in selected States potentially suitable for IDA support with Indian authorities both at Center and State levels. The mission would try to restrict the scope of its activities to three or four States with a view to defining further work required in preparing a first

stage credit project potentially suitable for IDA support. It would also review the capability of financing institutions both at Center and State levels, their technical appraisal capacities and experience in agricultural lending.

5. The mission would be staffed as follows:-

Mr. Stoneham - mission leader.

Mr. Christoffersen - economist with agricultural credit experience.

Mr. Neal (FAO) - engineer with agricultural mechanization experience.

Mr. Mogg - consultant - engineer with tubewell experience.

It would be essential that Mr. Picciotto of the New Delhi office works closely with Mr. Stoneham especially in the identification of suitable credit channels, the selection of States for the development of a first stage credit program, and in identifying policy issues of relevance to agricultural credit programs.

cc: Messrs. Cargill, Ball

WAWapenhans:at  
IBRD



CROSS REFERENCE SHEET

COMMUNICATION:

Paper

DATED:

Undated (rec'd in Operational Files - June 1968)

TO:

FROM:

FILED UNDER:

INDIA - PAKISTAN - Fiscal & Financial Market Studies.

SUMMARY:

Entitled "The New Agricultural Strategy and Institutional Factors."  
by Mr. Ladejinsky.

GENERAL FILES AND COMMUNICATIONS

THIS FILE IS CLOSED AS OF DECEMBER 31 1968

FOR FURTHER CORRESPONDENCE PLEASE SEE VOLUME VI / 1969



Mr. I.P.M. Cargill

June 13, 1968

Gregory Votaw and Robert Picciotto *24*

INDIA - Lending for Agriculture

1. This note is complementary to Mr. Wapenhans' memorandum to Files dated March 25, 1968. It proposes a program of staff activity designed to increase the level of IDA lending for agricultural development in India. It does not deal with normal supervision activities or Indus-type studies. It assumes that current input financing may be provided by IDA in connection with high priority projects. If implemented, we estimate that the program could lead to about \$400 million worth of external financing support for agriculture between now and mid-1972. You will recall that \$260 million has been included under the heading of agriculture and irrigation in our five-year forecast of IDA operations. The balance of \$140 million (if our project expectations materialize) might come from allocations now proposed for other activities (e.g. railways) -- or, alternatively, from parallel financing by interested consortium members.

A. THE NEED FOR MORE PROJECTS

2. The case for more agricultural projects in India can be simply stated:

- (a) India has a third of the population and 30 percent of the cultivated area of IDA's less developed country membership. Agriculture originates half of India's domestic product, 70 percent of its employment and about three-fourths of its exports. By contrast, direct IBRD/IDA lending for agriculture in India (\$64 million) amounts to 6 percent of the Bank Group's worldwide agricultural lending and to 4 percent of its total lending to India (Table 1). There has been no direct lending to agriculture by the Bank Group since 1962.
- (b) Of course, Indian agriculture has been an indirect beneficiary of Bank Group investments in other sectors of the Indian economy. Through the industrial imports program, manufacturers of fertilizer, pesticides, pumps and tractors have secured supplies which are essential to meet a growing farmers' demand for modern inputs. <sup>1/</sup> Through the transportation loans and credits, elements of a basic railway and road infrastructure have been built and this is facilitating the growth of market-oriented farming. Finally, Bank Group assistance to the power sector has helped to meet a growing tubewell energy demand upon which much of the country's modern irrigated farming activity depends. However, the benefits which the agricultural sector has derived from such indirect aid and, more generally, of the Bank's role as

<sup>1/</sup> IDA has so far disbursed more than \$40 million to agricultural input and tractor manufacturers.

*Ref Jan 269 Cable  
54 P1a*

*Ref June 28  
7*



Consortium Chairman are difficult to trace, even though they are substantial.

- (c) The staggering capital and foreign exchange requirements of India's agricultural sector will not be met without external support. An estimate for annual foreign exchange outlays of \$400 - \$450 million, (including \$310 million for fertilizers) would be roughly consistent with the original Draft Fourth Plan Outline (Table 2). Total capital requirements have been estimated at \$1,400 million a year by Willem Holst, a consultant to the U.S. President's Science Advisory Committee on World Food Problems.
- (d) There is a need to induce or accelerate change in domestic resource allocation, administration and attitudes within the sector. Past GOI policy (pre-1965) was characterized by low resource allocation and ambitious production targets for agriculture. Fortunately, the high priority of the sector is now being translated into increased availability of modern inputs to the progressive farming sector. <sup>1/</sup> But sustained progress will require not only increased resource allocation to the sector, but also a closer interdependence of the current input, institutional and infrastructure requirements of Indian agriculture (particularly in the water field) as well as more emphasis on specific schemes to guide the resource allocation process. This means more projects.

3. In many ways, the present task of building up a pipeline of projects in India's agricultural sector differs from the job which faced IDA in the early sixties when IDA's "first generation" of agricultural projects was conceived. This was a felicitous time from the standpoint of IDA resources. The Bank had not yet built the diverse staff strength and competence it now enjoys in the agricultural field. These elements, and the haste with which the projects were put together, explain the "civil engineering" orientation of IDA's assistance. The irrigation and drainage projects to which IDA provided support are implemented by irrigation departments rather than by departments of agriculture on which the major responsibility for agricultural development rests.

4. Recognition of the need for more and better IDA projects in Indian agriculture is of course not new. The two agricultural projects now being appraised (Tarai Seeds and Punjab/Haryana Drainage) are the results of considerable efforts since 1964 by the Projects Department, FAO and the India Division. Together, these two projects may account for about \$27 million worth of lending. However, their importance reaches far beyond their size or their direct production merits. The Tarai project would strengthen a crucial component of the New Agricultural Strategy -- modern seed production

---

<sup>1/</sup> The following documents set forth the main elements of India's new agricultural policy: Report to the President of IBRD and IDA on India's Economic Development Effort, Volumes II to V, October 1, 1965, Indian Economic Policy and the Fourth Five-Year Plan, Volume II, May 23, 1967. The two economic reports dated October 13, 1967, and April 25, 1968, review the recent progress of this policy.



and processing. The Punjab/Haryana irrigation study would integrate ground-water utilization and surface system improvements -- particularly weak spots of current agricultural programs. Both projects experiment with administrative concepts which are relatively new to the sector. Tarai would be managed by an autonomous corporate entity grouping farmers, a land-grant type college, and input distribution firms in the public and private sectors. The project would also bring a major commercial bank into agricultural lending. The Punjab/Haryana project would provide expatriate consulting talent for an investment-oriented study in two states.

5. Beyond Tarai Seeds and Punjab/Haryana, there are no agricultural projects in the pipeline. This results from a number of related factors: uncertainty as to IDA resources; inadequate project preparation efforts by Indian authorities; differences in approach with respect to procurement practices and current input financing. But at least as important are the obstacles which result from the rules which seem to have governed IDA's relationship with GOI in matters of project design and selection. To these obstacles we now turn.

#### B. PREREQUISITES FOR PROGRAM SUCCESS

6. GOI's strategy in the aid game aims at maximizing the flow of non-project assistance from IDA both because of the special quality of IDA money and because of the exacting preparatory work associated with project finance. Central to the strategy is the assumed inelasticity of total IDA assistance to India. The game then consists in putting up relatively few agricultural projects for finance. Furthermore, even the few proposals which are put forward are more in the nature of requests for on-going programs rather than for specific investment projects. This strategy is effectively supported by rationing of information on alternative investment opportunities, by obstruction of other Indian players' entry into the game and by an allocation system of Central funds which leaves little incentive to individual States to go through the rigors (the Indians often use the term 'agony') of project preparation. <sup>1/</sup> The game is nearly over and successful, from the standpoint of the GOI player, when the focus of the project debate can be shifted from basic sectoral issues to IDA's own procedures, e.g. the channel for lending, current input financing, procurement policy, etc.

7. The behavior of the IDA player is more difficult to define since we run a much less disciplined team than GOI and also because we play the game in GOI's field, with teams originating from various divisions, departments and sections of the Bank and FAO. One danger of IDA's approach to the game is a growing dichotomy between its economic and sectoral analysis and its project work.

8. The following pre-conditions are necessary if the proposed program of staff activity in the agricultural sector is to be effective:

- (a) Substantial support forthcoming from the Central and State Governments in all phases of IDA's project design work;
- (b) Adequate headquarters support and leadership (involving the active participation of most sections of the Agricultural

---

<sup>1/</sup> IDA standards seem especially severe to Indian administrators given India's rather casual and imprecise approach to public investment budgeting.



Division) during project design as well as during appraisal and supervision;

- (c) Close coordination between IDA's economic work and project identification activities;
- (d) Substantial utilization of the FAO/Bank Program, UNDP and consultants at the post-identification stage.

9. Condition (a) is likely to obtain only if GOI understands that IDA plans to invest a stated minimum amount of its available funds in suitable agricultural projects identified by IDA. Under present operational assumptions concerning IDA replenishment, this would mean \$260 million worth of agricultural lending over the next five years; higher allocation to the sector would be provided if suitable opportunities for investment are developed. GOI should also be informed that IDA proposes to intensify its contacts with individual States during its project work. For this purpose, we would expect working groups including State as well as GOI officials to be organized to work with IDA/FAO.

10. Condition (b) implies that India will receive adequate priority in the working program of the Agriculture Division. A rather large portion of the manpower requirements which the Division would have to meet would be for pre-appraisal activities. This is due not only to an empty project pipeline but also to the overwhelming importance of coordinated project design in a country so vast and complex as India requiring continuity of staff attention. The first year's program of pre-appraisal activities should be agreed with the Agricultural Division as soon as possible.

11. Condition (c) results from the substantial effort already invested by IDA in agricultural policy assessment. Consortium reporting in agriculture should increasingly focus on a review of the country's investment program and on the identification of areas and actions deserving special support within these programs. Close liaison with other external agencies (FAO, UNDP, AID) operating in India is crucial in this connection. Given existing staff limits in the New Delhi Office, such a role largely hinges on whether (as assumed above) adequate headquarters staff support is made available.

12. Condition (d) is prompted by past agricultural project experience in India which suggests that unless Bank staff is intimately involved in initial stages of project design, subsequent efforts run the risk of being counter-productive. Hence, the role of FAO/Bank, UNDP and consultants has been deliberately geared to 'second stage' design activities.

#### C. INVESTMENT PRIORITIES

13. Administrative weaknesses in India (as in most developing countries) constitute a major constraint on agricultural development. These weaknesses (divided authority, poor coordination, weak management) are widely recognized and there is mounting farmer-based clamor for more effective supporting services to agriculture. The art of project design will largely consist in selecting or building up institutional devices which fit local conditions and offer the promise of satisfactory performance. As in the case of Tarai, IDA could assist Indian farming through a variety of institutions - including



agricultural universities, research institutions, industrial firms and commercial banks. Indeed, diversification of the institutional structure at the service of agriculture should be one of the criteria of our project work.

14. Farm production growth in India is dependent on increasing crop yields and the area under multiple cropping. In general, timely moisture supply rather than adequate temperature is the bottleneck to plant growth and, given the irregular and seasonal pattern of rainfall, intensive land use calls for assured water control through irrigation. In many areas, past irrigation policy has failed to provide adequate water control on the farm for the following reasons: (a) lack of adequate networks of terminal channels and lack of adequate maintenance on major works; (b) absence of consolidation measures where fragmented holdings prevail; (c) neglect of drainage works; (d) surface water systems overextended in relation to water requirements; (e) groundwater exploitation poorly integrated with the surface water utilization; (f) system operation unadapted to crop requirements; (g) water charges leading to inefficient water use.

15. Given the above, better use of existing irrigation assets through complementary agricultural programs should have high priority in IDA's investment program. The proposed program of staff activity would help identify such projects in Madras, Andhra Pradesh and three or four other states. Integrated river basin development programming should be initiated. All these activities may require substantial support by consultants.

16. Untapped groundwater resources are substantial and their increasing use under private management is an encouraging trend under the New Agricultural Strategy. If accompanied by detailed hydrologic examination, groundwater exploitation should have high priority in IDA's program. This would require the design and operation of expanded credit services to farmers and contractors as well as step-up of power transmission and connection programs. A tubewell project is likely to emerge soon from the Punjab study. In addition, we propose that a new credit scheme be developed for promoting minor irrigation development and mechanization in Andhra Pradesh, Madras, Maharashtra, Gujarat and/or Mysore.

17. The 1968 bumper rabi crop has brought to the fore the need for additional grain storage facilities in surplus areas. But here again, IDA should take a broad view of the country's agricultural marketing and processing structure before detailed project preparation is undertaken. Basic policy issues, including the removal of inter-state trade restrictions, may have to be settled before IDA invests in this sector.

18. Much of the impetus behind the New Agricultural Strategy is the outcome of foodgrains breeding and research. Yet, there are disturbing signs that production-oriented research programs are not receiving the support they deserve. Furthermore, the gap between research and extension at the Center and in most States leads to poor diffusion of agricultural innovation. The program of IDA lending proposed here would back up seed research in connection with a multi-state seed production project. Strengthening of the research-extension link would be achieved through assistance to selected agricultural universities.

19. The diffusion of the new technology is creating a rising demand for short, medium and long-term credit which the existing farm credit



structure is ill-equipped to handle. An immediate need is to develop new production credit arrangements adapted to an emerging pattern of input distribution where private dealers are becoming increasingly active. A further need is to strengthen the development lending programs of nationally important financial bodies such as the Agricultural Refinance Corporation and its network of Land Mortgage and commercial banks.

20. The Government's New Agricultural Strategy has centered mainly on foodgrains production and, as a result, actions to promote commercial crop development (such as tea, jute or oilseeds) and livestock production (dairy and poultry) have been neglected. The intelligence available to IDA on these important areas of agriculture is limited. The proposed program of activity makes provision for fact-finding missions in these sectors to lay the basis for possible project activity by IDA.

#### D. THE PROGRAM

21. The proposed five-year staff activity program and the related project lending forecast which it supports are set forth in Tables 3 and 4. The manpower estimated to be required relates both to economic and (pre-yellow cover) project activities. It excludes coordinating and supporting staff requirements (e.g. India Division and Delhi Office) as well as staff commitments already made. On this basis, about 60 man-years would be required for the five-year program, i.e. an annual requirement of 12 man-years on the average. Of this amount, 32 man-years (i.e. about 6 - 7 man-years each year) would come from the Bank and the Bank/FAO Cooperative Program. This is only 10 percent of the existing professional staff capacity of the division. The balance of the requirements would be covered by consultants and UNDP, as follows (in man-years):

	Bank and Bank/FAO	Consultants and UNDP	Total
Project Identification (including economic work and sector analysis)	10.4	-	10.4
Feasibility Studies and Project Preparation	10.9	26.4	37.3
Project Appraisal	<u>11.6</u>	<u>-</u>	<u>11.6</u>
Total, 5 years	32.4	26.4	59.3
Annual Average	6.4	4.4	10.8

22. The following missions are proposed for the next few months:

- (a) Fourth Plan Review in Agriculture: This review should involve contacts at the State level and concentrate on the weak areas of the New Agricultural Strategy, i.e. research, credit, water, export crops and livestock. In addition to the New Delhi Office staff, participation of an agronomist and a livestock specialist would be desirable. Field work should start in August.



- (b) Credit Project: A fact-finding mission including a credit specialist, an engineer, an agronomist and an economist is required to identify in broad outline a project to promote private minor irrigation and mechanization in selected Indian States. The mission should review the activities and structure of the Agricultural Refinance Corporation and other financial bodies active in agricultural lending, undertake a preliminary assessment of regional demand for irrigation and mechanization credit and build the framework of further project preparation activity. Field work should start in September.
- (c) Irrigation: An irrigation reconnaissance team including a senior irrigation engineer, an agricultural economist and an agronomist should visit India around November to review possibilities for improved planning and preparation of major irrigation projects. The mission's objective would be to identify potentially useful studies and project preparation activities in the irrigation field. It would undertake a preliminary review of investment possibilities in the Cauvery delta, in the Krishna-Godavari delta, as well as in other areas included in the Fourth Plan Outline list of major irrigation projects. It would discuss with the Government the need for integrated basin development studies. Another mission would probably have to follow up the results of this reconnaissance early next year.
- (d) Fertilizer Program: The identification and preparation of a production scheme through private channels is proposed within the marketing area of the Tarai Seeds Project. Agronomists, credit specialists and marketing consultants would be required for this activity. Field work could start before the end of the year.

#### E. SUMMARY

23. To sum up, direct IDA lending to Indian agriculture has heretofore been too small in relation to the needs of the sector, and its potential for productive investment under the Government's New Agricultural Strategy. To foster development of an agricultural system in which essential elements are adequately balanced and coordinated, investment in the following fields would have high priority: irrigation, groundwater development, research, output diversification, storage and farm credit. More agricultural project activity would help guide the resource allocation process within India. It would also give additional weight to IDA's economic policy recommendations and lead to improved reporting on agricultural development to Consortium members. In the past, agricultural project activity has been hindered by lack of suitable projects, scarcity of IDA funds and the exclusion of fertilizer imports as such from IDA's operational scope because of IDA's reluctance to finance current inputs. Budgeting of a minimum share of IDA funds for agricultural projects, intensification of IDA's contacts at the State level, better coordination of IDA and FAO staff activities and relaxation of IDA's current input financing criteria are suggested for improved project work.

cc: Messrs. Gilmartin/Ladejinsky, Chadenet/Bell, Evans/Wapenhans, Goodman/Street,  
RPicciotto:pop/pa B. King, Votaw, Kirk/Waide/Dunn  
IBRD/IDA



Table 1

INDIA - AGRICULTUREIBRD Loans and IDA Credits

<u>IBRD</u>	<u>No.</u>	<u>Original Principal Amount</u>		<u>Principal Amounts Disbursed</u>	
		<u>\$ Million</u>	<u>%</u>	<u>\$ Million</u>	<u>%</u>
1. Agriculture	1	10.0	0.9	7.2	0.7
2. Industry & mining	14	408.5	38.4	295.7	34.3
3. Transport	13	448.6	42.1	441.0	51.2
4. Public utilities	<u>8</u>	<u>198.0</u>	<u>18.6</u>	<u>118.7</u>	<u>13.8</u>
Total IBRD	36	1,065.1	100.0	862.6	100.0
 <u>IDA</u>					
1. Agriculture	7	67.5	7.5	57.0	6.9
2. Industry	4	415.0	46.1	392.1	47.5
3. Transport	5	275.5	30.6	252.4	30.5
4. Public utilities	<u>6</u>	<u>143.0</u>	<u>15.8</u>	<u>124.4</u>	<u>15.1</u>
Total IDA	22	901.0	100.0	825.9	100.0
 Total Agriculture	8	77.5	3.9	64.2	3.8
 Total IBRD & IDA	58	1,966.1	100.0	1,688.5	100.0



Table 2

## INDIA - AGRICULTURE

Estimated Foreign Exchange Requirements<sup>1/</sup>  
(\$ Million)

	<u>Total</u>	<u>1968/69</u>	<u>1969/70</u>	<u>1970/71</u>	<u>1971/72</u>	<u>1972/73</u>
<u>Fertilizer</u>						
Nitrogen	985	234	228	198	175	150
Phosphate	326	47	57	74	74	74
Potash	203	29	36	46	46	46
	<u>1,514</u>	<u>310</u>	<u>321</u>	<u>318</u>	<u>295</u>	<u>270</u>
<u>Pesticides</u>	199	39	40	40	40	40
<u>Tractors</u>						
Crawler Tractors	59	23	12	8	8	8
Wheel Tractors	110	27	23	20	20	20
Power Tillers	<u>118</u>	<u>16</u>	<u>21</u>	<u>27</u>	<u>27</u>	<u>27</u>
	<u>287</u>	<u>66</u>	<u>56</u>	<u>55</u>	<u>55</u>	<u>55</u>
<u>Major Irrigation</u>	230 <sup>2/</sup>	46	46	46	46	46
<u>Minor Irrigation</u>	19	6	4	3	3	3
<u>Other Uses</u>	65 <sup>2/</sup>	13	13	13	13	13
	<u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>
Total	<u>2,314</u>	<u>480</u>	<u>480</u>	<u>475</u>	<u>452</u>	<u>427</u>
	=====	=====	=====	=====	=====	=====

<sup>1/</sup> Based on Appendix IV, Vol. II (Agricultural Policy in India) of the Bell Mission Report - Indian Economic Policy and the Fourth Five-Year Plan, Asia Department, May 23, 1967. As a rough approximation, the requirements of 1970/71 have been carried through the following two years, except for nitrogen where a gradual decline after 1970/71 is assumed. The fertilizer price assumptions have been adjusted downwards to take account of recent price movements.

<sup>2/</sup> Fourth Plan Outline assumption.

INDIA - AGRICULTURE

Indicative Projection of IDA Commitments

(\$ Million)

	<u>1968/69</u>	<u>1969/70</u>	<u>1970/71</u>	<u>1971/72</u>	<u>1972/73</u>	<u>Total</u>
1. Seed project I <sup>1/</sup>	14					14
2. Punjab/Haryana I <sup>2/</sup>	14					14
3. Fertilizer program <sup>3/</sup>		60				60
4. Credit project <sup>4/</sup>			60			60
5. Seed project II <sup>5/</sup>			20			20
6. Punjab Haryana II <sup>6/</sup>			30			30
7. Sone/Shetrunji/ Salandi/Purna <sup>7/</sup>				35		35
8. Krishna Godavari <sup>8/</sup>				25		25
9. Cauvery <sup>9/</sup>				15		15
10. Grain storage <sup>10/</sup>				30		30
11. Punjab/Haryana III <sup>11/</sup>					35	35
12. Export crop development <sup>12/</sup>					30	30
13. Livestock development <sup>13/</sup>					25	25
14. Agricultural universities <sup>14/</sup>					15	15
Total	<u>28</u>	<u>60</u>	<u>110</u>	<u>105</u>	<u>105</u>	<u>408</u>

N.B. This list is for illustrative purposes only. Many items could be deleted, others could be added and the amounts indicated should be viewed as rough orders of magnitude.

(Footnotes on next page)



Footnotes to Table 3

- 1/ The project cost is estimated at \$27 million in the application (of which \$18 million is classified as investment).
- 2/ The project cost including the study is estimated at \$21 million (appraisal mission's back-to-office report).
- 3/ A scheme to provide fertilizer credit to farmers in selected Indian states through input dealers, commercial banks and other private entities. According to the Fertilizer Association Credit Committee, US\$50-60 million would represent one-fifth of the fertilizer credit requirements of farmers to be met in 1969-70 by sources other than co-ops. The IDA scheme would concentrate on North India where Terai seed is expected to be marketed.
- 4/ A scheme to provide medium- and long-term credit to farmers of selected Indian states for groundwater development and mechanization. The scheme would also provide for groundwater surveys, power transmission facilities and contractors' credit. The borrower would be the Agricultural Refinance Corporation. The funds would be channelled through selected Land-Mortgage Banks and commercial banks. The following states, where Land-Mortgage Banks are already active, would be covered by the scheme: Andhra Pradesh, Madras, Maharashtra, Gujarat and Mysore.
- 5/ A \$30 million project for development of 50,000 acres of seed production land in selected areas of Punjab, Maharashtra, Madras and Andhra Pradesh. The project would include provision for seed processing facilities and support of related research activities.
- 6/ A \$45 million groundwater development project to finance approximately 20,000 private tubewells in Punjab and Haryana over a four-year period. This would benefit approximately 300,000 acres, at a cost of US\$150 per acre.
- 7/ One or more "follow-up" projects designed to strengthen agricultural development programs within the command areas of existing IDA-financed schemes.
- 8/ This amount is based on a preliminary cost estimate of \$38 million for a drainage and flood control project prepared by the Andhra Pradesh PWO department for the Kolleru basin and adjoining areas of the Krishna-Godavari delta. More detailed studies are likely to be required to make economic use of existing infra-structure and available groundwater.
- 9/ This amount is based on a preliminary cost estimate of \$23 million for a scheme prepared by a Madras Government official. A UNDP survey is proposed for the area. Additional studies to integrate surface water system rehabilitation with groundwater utilization are likely to be required.

(continued on next page)

Footnotes to Table 3

- 10/ A project designed to increase grain storage capacity in selected surplus areas (0.6-0.7 million tons of storage at \$100 a ton).
- 11/ An integrated surface water system rehabilitation-cum-groundwater development project in Punjab and Haryana covering 600,000 acres at a cost of \$100 per acre.
- 12/ Support of export-oriented crop production programs (jute, tea, oil-seeds, tobacco, etc.). This might include plantation schemes or small holder development projects.
- 13/ Support of dairy and poultry schemes.
- 14/ Support of research, extension and education programs of selected agricultural universities.



Table 4

## INDIA - AGRICULTURE

Tentative Program of Activities and Related Manpower Requirements<sup>1/</sup>

	Mission Type	Expected Period	Man-Months*					Suggested Sources
			A	AE	E	FA	Total	
Fourth Plan Review - Agriculture	Economic	July-Dec.'68	4				4	P
Consortium Reporting <sup>2/</sup>	Economic	1969	4				4	P
Consortium Reporting <sup>2/</sup>	Economic	1970	4				4	P
Consortium Reporting <sup>2/</sup>	Economic	1971	4				4	P
Consortium Reporting <sup>2/</sup>	Economic	1972	4				4	P
Consortium Reporting <sup>2/</sup>	Economic	1973	4				4	P
Fertilizer Program - State Plan Review	PP	Sep.-Dec.'68	6	6			12	PE
Fertilizer Program - Organization <sup>2/</sup>	PP	Jan.-Mar.'69		4		6	10	F,PC,PE
Fertilizer Program <sup>2/</sup>	PA	Mar.-Jun.'69	3	4		3	10	PE
Credit Project	PI	July-Dec.'68	1	2	2	1	6	PS,PC or Ec
Credit Project <sup>2/</sup>	PP	Mar.'69-Mar.'70	3	5	4	3	15	PC,EC,FB
Credit Project <sup>2/</sup>	PA	Mar.-Jun.'70		4	4	3	12	PC
Seed Project II	PI	Jan.-Jun.'69	1				1	PG
Seed Project II <sup>2/</sup>	PP	Jan.-Jun.'70	3	4	3	3	13	PG,FB
Seed Project II <sup>2/</sup>	PA	Oct.-Dec.'70	3	4	2	2	11	PG
Punjab-Haryana II <sup>2/</sup>	PP	Jan.-Feb.'70	1	2	2		5	PI,PS
Punjab-Haryana II <sup>2/</sup>	PA	Mar.-Jun.'70	3	4	4		11	PI
Sone/Shetrunji/Salandi/Purna <sup>3/4/</sup>	PI	Jan.-Feb.'69	4	5	4		13	PI,D,EC
Sone/Shetrunji/Salandi/Purna <sup>2/</sup>	PP	Jun.'69-Jun.'71	48	24	24		96	C or U
Sone/Shetrunji/Salandi/Purna <sup>2/</sup>	PA	Jun.-Aug.'71	4	5	4	4	17	P
Krishna Godavari <sup>4/</sup>	PI	July-Dec.'68	1	2	1		4	D,PS,PI
Krishna Godavari <sup>2/</sup>	PP	Jun.'69-Jun.'71	40	24	24		96	C or U
Krishna Godavari	PA	Jun.-Aug.'71	3	4	3		10	P
Cauvery <sup>2/</sup>	PI	July-Dec.'68	1	2	1		4	PS,PI
Cauvery <sup>4/</sup>	PI	Sep.-Dec.'70	1	2	1		4	PS,PI
Cauvery <sup>2/</sup>	PP	Jan.-Jun.'71	6	6	6		18	PI,C,FB
Cauvery <sup>2/</sup>	PA	Jun.-Aug.'71	3	4	3		10	PI
Grain Storage <sup>4/</sup>	PI	Jun.-July'69	1	2	1		4	PS,PG
Grain Storage <sup>2/</sup>	PP	Jan.'70-Dec.'71	24	24	24		72	C,U
Grain Storage <sup>2/</sup>	PA	Mar.'71-Jun.'71	3	4	3		10	PG
Punjab-Haryana III <sup>2/</sup>	PI	Jan.-Mar.'71	1	2	1		4	PS,PI
Punjab-Haryana III <sup>2/</sup>	PA	Mar.-Jun.'72	3	4	3		10	PI
Export Crop Development	PI	Jan.-Jun.'69	3	4			7	PE,EC or FB
Export Crop Development <sup>2/</sup>	PP	Mar.'71-Mar.'72	4	4		4	12	PG,FB
Export Crop Development <sup>2/</sup>	PA	Jul.-Sep.'72	3	4		3	10	PG,PC
Livestock Development	PI	Jun.-Dec.'69	3	4			7	PC,FB
Livestock Development <sup>2/</sup>	PP	Mar.'71-Mar.'72	4	4		4	12	PC,FB
Livestock Development <sup>2/</sup>	PA	Jul.-Sep.'72	3	4		3	10	PC
Agricultural Universities	PI	Jan.-Mar.'70	3	3		3	9	E,PE,UE
Agricultural Universities <sup>2/</sup>	PP	Jul.'71-Jul.'72	4	4		4	12	E,UE
Agricultural Universities <sup>2/</sup>	PA	Jul.'72-Sep.'72	3	3		3	9	E
Total:			234	187	124	49	594	
Of which: (Consultants and UNDP			121	71	72	-	264	
(Bank and FAO/Bank			113	116	52	49	330	

1/ This does not include supervision activities except those likely to lead to new appraisal activity. It excludes manpower resources already committed. It also excludes supporting field and headquarters staff requirements (e.g., Delhi Office, India Division, etc.).

2/ A mission to review the progress of a study.

3/ A "reappraisal" mission.

4/ A mission to establish terms of reference for a study.

5/ Scope and timing dependent on the results of a prior mission.

6/ Education specialist.

\* On the basis of 10 working man-months per man-year.

## Nomenclature:

A	Agriculturist	E	Projects Depart.-	PS	Studies Section	PI	Project Identifi-
AE	Agricultural Economist		Educ. Division	PC	Credit/Livestock		cation
E	Engineer	F	IFC		Section	PP	Project Preparation
FA	Financial Analyst or	P	Projects Depart.-	PG	Gen. Agriculture	PA	Project Appraisal
	Credit Specialist		Agri.Division		Section	PS	Project Supervision
		Ec	Economics Depart.	U	UNDP Program		
		PE	Economic Section	UE	UNESCO		
		PI	Irrigation Section	FB	FAO/IBRD Program		
				C	Consultant		

*Ld Agn*

Mr. W. A. Wapenhans

May 29, 1968

Bernard R. Bell (Signed) Bernard R. Bell

INDIA - Lending for Agriculture

I am sorry not to have given this back to you long ago. When I first read this I had a number of thoughts about modification but at this point most of them seem to have escaped. In the interest of no further delay, let's forget any thoughts I had.

Attachment - cc Memo to Files from W.A. Wapenhans dated 4/9/68  
on above subject

*(man:25  
wbp file)*

BRBell:lfb  
IBRD

Dictated by Mr. Bell 5/28 and  
signed in his absence.



## OFFICE MEMORANDUM

TO: Files

DATE: May 28, 1968

FROM: Michael L. Hoffman *MLH*SUBJECT: Indian Food Problems

On May 27th 1968 I attended a small luncheon at the Council on Foreign Relations in New York at which W. David Hopper of the Rockefeller Foundation addressed a group on Indian Agricultural problems. (Hopper's credentials on agriculture and India need no underlining, but I was not aware that he actually farmed in an Indian village for about two years at one stage of his career). Among those present were Willem Holst, Dave Bell, Frosty Hill (all Ford Foundation) Roger Revelle and Willard Thorpe.

The gist of Hopper's message was that the agricultural revolution, sparked by the new varieties of wheat, rice and sorghum plus a run of good prices, is real but that it has given us only five or six years of comparative ease on the food front. Unless there is a drastic change in government attitudes towards agriculture and corresponding action, Hopper believes that in five or six years we will be right back where we were. There is still, as he put it, no vision about agriculture in the higher civil service. There is no sense that agriculture is to be treated as a system which one technical change (e.g. seeds) can affect, but which cannot really progress without appropriate changes all through the system. He fears that the civil service will be complacent and go right back to starving agriculture in favour of what it regards as the modern sector (I was somewhat surprised that he cited G. Patel particularly as exemplifying this tendency) - feeling that the new seeds, plus fertilizer, have solved all their problems and therefore they can forget about agriculture. There is still no strategy for agricultural development in the Government.

Hopper cited irrigation, particularly tube-well irrigation, the establishment of research institutes of the quality and scale of the IRRI in the Philippines, the analysis of the new pest problem created by the new strains of plants and pest control, as critical areas where action now is needed but not being taken. He also suspects that there will be a tendency to permit, or encourage, grain prices to revert to former levels. He was strongly critical of the apparent intention to bring in six or seven tons of PL480 grain this year, feeling that it would lead to price declines and a corresponding loss of momentum. He emphatically rejected the notion that the Indian farmer is any less responsive to price incentive than the farmer anywhere else. Mr. Hopper commented on what he called the illogicality of Indian irrigation officials, "who are the best in the world with the

techniques/...

*Ref July 8 68*  
*(Hed) D. D. Gupta*  
*Resident*  
*Adm.*

techniques of the 1930's" but indifferent, or even hostile, to the development of ground water resources. He said that there is considerable evidence of the existence of a huge aquifer under the Ganges plain - Reville questioned this. What is needed is a full-scale hydrological survey. This has been repeatedly proposed to the Indian Government and US (AID) has offered to finance it, but the Government is still resisting the idea. Evidently this resistance is particularly against having United States engineers in large numbers working in the Ganges basin and Hopper suspects that the Indians feel that the United States is pro-Pakistan on water issues - such as the Ganges barrages. He said that each year the hydrological survey is postponed moves the possibility of exploiting whatever water resources are there three to four years into the future.

cc: Mr. McNamara  
Mr. Demuth  
Mr. Aldewereld  
Mr. Kamarck  
Mr. Chadenet



## OFFICE MEMORANDUM

TO: Files

DATE: May 21, 1968

FROM: Wolf Ladejinsky *WL*

SUBJECT: On Wheat Procurement in Punjab, Prices and Agricultural Take Off.

1. During a recent visit to Ludhiana (Punjab) we spent several hours at the wheat market in the company of Mr. Sharma, our driver, himself a Punjabi, who now and then also performed as an interpreter. Upon listening, among other things, to wondrous accounts of Rs.1,000 net income per acre of wheat, he stated that he is in the "wrong business". Indeed, he is, and so are we, and so, we suppose, is our friend George Darnell who only recently spoke longingly of a couple of hundred acres in the Terai. Having looked at this corner of Punjab, we hereby offer him an alternative: he could do just as well on 200 acres in Punjab; the yields are excellent and as a Punjabi farmer he would be just as innocent of any tax burden as a farmer in the Terai. There is nothing apocryphal about this. Recalling the area as it was not many years ago, even a brief visit conveys the impression that, for the greater part, agriculture in Punjab has taken off; those with land of their own, particularly in the category of 20 acres and more, are making money "hand over fist", and barring exceptional mishaps much of Punjab's agriculture is on its way to being largely transformed into a highly capitalised and highly productive economy.

2. The purpose of the visit was three-fold: To see at first hand (a) how procurement prices were faring; (b) how well the procurement campaign is going, and (c) the role of the Punjab Agricultural University in the new technology. It takes little searching to see the shape of things on all three scores. Though a bumper crop, procurement prices are the same as those of the 1966-67 much smaller crop; they range from Rs.76 per quintal (\$ 2.76 per bushel) for common white and Mexican varieties to Rs.81 (\$ 2.96 per bushel) for superior quality wheat. Despite the earlier, but unsuccessful, plea of the Punjab Government that anything less than Rs.100 would be detrimental to the welfare of the farmers, the signs of discontent are few; most farmers, especially the efficient ones, are satisfied with the prices and eager to unburden themselves of the surpluses. The misgivings they harbour derive from the fear that the support prices may break down under the impact of a rising tide of stock offerings and the inability of the official purchasing agencies to lift them. But as of the time of our observations (May 16) all the auction sales were within the range of officially set prices.

3. Many farmers are still busy threshing and the marketing peak will be reached by the middle of June. Meanwhile, the flow of grain to the market is assuming unprecedented proportions. Physically, the Ludhiana market, and reportedly other markets as well if not quite to the same degree, can hardly cope with the outpouring of the grain. At 9 a.m., when the Ludhiana market

1968 MAY 25 AM 11:17



just opened for business, one trod his way on foot into the market with considerable difficulty. Every inch of the ground was covered with bags and mounds of wheat, and more was coming in by cart, tractor-driven trailers and trucks, stretching blocks away from the market, reflecting above all a bumper crop and the desire to cash in. How bumper may be judged by the unofficial estimate of 3.5 to 4 million tons of wheat as against 2.5 million tons the year previous. On this reckoning the procurement target of 1.5 million tons is realistic, amply supported by current market activities. Most of the offerings will be Mexican wheat, which represents about 55 percent of the State's wheat acreage. The farmers recognize its high yielding qualities, but they refer to it somewhat disdainfully as "export" wheat because the Punjabis like neither its colour nor taste. If prices should soften, the farmers would rather "gamble" on the retained non-Mexican wheat.

4. The word most commonly heard in connection with procurement is "congestion". Congestion at the market approaches; congestion at the market; congestion at the railheads, congestion from a shortage of railway transportation; congestion from a shortage of trucks, and indeed congestion also at the notoriously limited storage points. The problems of marketing, storage and transportation created by the biggest wheat crop Punjab ever recorded are the more serious since about two-thirds of the surplus of wheat and other winter grains are normally sold in the quarter immediately following harvest so as to avoid the ravages of the monsoon rains. The other worrisome problem is the concern of a price breakdown if the lifting of the procured wheat is not moving expeditiously; the reasoning behind it is that official prices will hold only so long as the procurement agencies remove the bottlenecks standing in the way of smooth handling of the purchased stocks. Failing that, the procurement program would slow down and cultivators would have to make their own "adjustments" with private traders. This is understood in farm and non-farm circles and it explains at least a part the stampede to the markets.

5. The success of the procurement campaign will depend on how well the agencies involved succeed in solving the various "congestions". Local sources are not too sanguine about the prospects. It will take special and effective measures to preclude the development of an emergency in the few weeks immediately ahead. It is not excluded that steps appropriate to the occasion will be taken. The reason is not far to seek. The entire procurement program of 1967-68 hinges on the procurement of Punjab's wheat surplus, accounting as it does for 75 percent of the targetted collections from the rabi wheat crop. Considering the poor performance of the Kharif procurement program, the fulfilment of the Punjab target offers the one bright spot in the otherwise discouraging national procurement picture. On the face of it, the Union Government cannot afford to miss this opportunity. Chances are, therefore, that in this instance much will be done to ensure the movement of the crop and, as a corollary, maintain present price levels throughout the season. This said, we are not prepared to eat our hat if the proverbial slip between the cup and the lip does occur.



6. Regardless of the procurement and price prospects, even a whiff and a smell of the new Punjab reveals its high rates of productivity and the factors which have made this possible. We say new Punjab advisedly, for only seven-eight years ago, and with the ever-present and notable exceptions notwithstanding, parts of the State still resembled what was described in Darling's classic "The Punjab Farmer in Debt and Prosperity", written forty odd years ago. The point of the book was that in prosperity, too, the farmer and his economy were stagnating. It is an understatement to say that this is no longer true; it is surely not true in Ludhiana, admittedly the most developed district in the State. There, for example, the average wheat yield in 1960-61 was 17 maunds; <sup>1/</sup> in 1966-67 it was 29, and 1967-68 the yield is estimated at 32 maunds. More or less the same is reported from other districts, depending about the efficiency of the farmers, size of the holdings and resources that go with it. Punjab University scientists like to remind a visitor with pardonable pride that on a per acre basis the yields exceed those of such important wheat growing countries as U.S.A., Australia, Canada, Argentina, USSR, Pakistan, Mexico and Japan. Leaving aside some of the special circumstances which explain the doubling of the yields, the fact, for instance, that about 60 percent of Ludhiana's acreage is irrigated, the sharp rise in yields between then and now is there nevertheless.

7. It is not necessary - nor can we - assign any values to particular inputs which lie behind this development, but it is unquestionable that the introduction of Mexican Lerma Rojo during the rabi season 1965-66 was the turning point. In that year, in Ludhiana district, this variety was sown on only 170 acres; 18,000 in the year following, and 245,000 acres in 1967-68. Although Lerma Rojo is still the dominant variety, with the aid of the University the farmers here also put in an undetermined acreage under more nearly indigenous varieties of dwarf wheat such as VP-18, Kalyan 227, S-227 and S-308. The plant breeders of the University are of the opinion that in about two years little will remain of the original Mexican dwarf and of the traditional indigenous varieties. The new breeding material is sufficiently promising to replace the former with an eye on a still greater yield potential, eliminating at the same time the color and taste the cultivators and consumers frown upon. The receptivity of the farmers to new and newer varieties leaves little to be desired. The eagerness is proving costly to some of them. The "triple dwarf" variety is still in an experimental stage and is not available for sale. Yet some shrewd entrepreneurs sell this non-existing dwarf to gullible but anxious farmers at fancy prices. This illustrates still another point: the growing, if temporary, confusion in the minds of many farmers as new varieties come into the market in great profusion. Since this is not a study of all the material inputs that comprised the package of practices, suffice it to say that a vast expansion of irrigation facilities, of fertilizer consumption and of mechanization of agriculture are the other principal ingredients of change from the old to the new.

8. In much of this the Punjab Agricultural University is playing a signif-

---

<sup>1/</sup> One maund equals 82 pounds.



dis ?  
icant role. As Universities go it is among the youngest; it has only left the "drawing-board" stage a mere six years ago. Despite this, an interested observer cannot but become aware that it is alive to the current developments in the new farm technology, by contributing its share to the breeding of high-yielding varieties, as well as through other closely related research activities. We are too ignorant of such matters to judge them with any degree of accuracy, and we rest on the view of specialists not connected with the University that in this field it is one of the very best among India's eight agricultural universities. But what impresses one about yet another role of the Punjab University, and with no reference this time to outside opinion, is that it is completely involved in disseminating the results of its research down to the farm. The statement of the farmer at the threshing table that he learned about his high-yielding variety at the University was no accident. The farmer may not have known that the University is an Indian version of the American Land Grant College <sup>1/</sup> and that as such it is responsible for all agricultural research in the State and for all extension education work. The Village Level Worker (VLW) or extension agent is at a discount in Punjab as elsewhere, but "subject matter" specialists of the University are closely tied in with district agricultural offices as spokesmen, interpreters and activators of research results attained.

9. The University is more than a school for future agricultural specialists, or a center of agricultural research. It is, in addition, a center for training of farmers of all ages, of farm-fairs and farm exhibitions attended by thousands of farmers. The training given by the University staff takes place throughout the greater part of the year. It also conducts something resembling a mail order business, except that the "catalogues" provide timely information on agricultural developments and the questions raised by the farmers are either met immediately or they stimulate further study and research. In all, while the University is probably not the paragon as some commentators see it, neither is it an ivory tower removed from its rural surroundings, where the quest for new and better practices is visibly pronounced. Taking for granted the high quality of the University's research directed to practical ends, it is fair to conclude that the University has also given rise to the kind of farmer education that the Extension Service with all its massive and widespread paraphernalia has never quite learned how to extend.

10. From all the preceding it is apparent that the new agricultural strategy as applied to the wheat crop <sup>2/</sup> has given most gratifying results in terms of yields and total output. How uneven the results are in a State with ten type-of-farming regions, or where 58 percent of all the holdings (547,000) are small (average size 11 acres), 27 percent medium (23 acres) and 15 percent of large holdings averaging 42 acres, is a matter of further investigation. This would

---

<sup>1/</sup> Developed under the auspices of Ohio State University.

<sup>2/</sup> The total wheat acreage accounts for 38 percent of Punjab's slightly more than 10 million cultivated acres under all crops. The new rice varieties on Punjab's 900,000 or more acres under rice, or 9.5 percent of the cultivated area, have not yet caught on, just as they haven't in most other parts of India.



have to take into account the fact that each size group claims roughly one-third of the cultivated area, and that 27 percent of the area under small holdings is rented land compared with 16 percent on medium and 2 percent on the large holdings. But that the wheat growers have benefited unequally reflecting the variety of yardsticks against which the gains would have to be measured doesn't detract from the overall performance of the new strategy, of which Punjab takes great pride.

11. When the question of prospects is raised, the Punjabis are inclined to the view that the sky is the limit. When they speak of the State as the future bread basket of India, it partakes of the above attitude. Time will tell if this anticipation will be fulfilled, but what is worth recording is that the current achievements and confidence in the future are not attributed solely to the new varieties and other physical inputs. Without underestimating their crucial role, the contention is that they stimulated peculiarly Punjabi human qualities, without which agriculture could not have progressed this far so quickly. More specifically, the argument runs that Punjab has been undergoing salutary changes since the partition of India, which brought into the truncated State hundreds of thousands of enterprising and hard-working, but temporarily destitute, people struggling for survival. The allotment of land to so energetic a group, together with the completion of the Bakhra Dam, the Nangal Fertilizer Factory, the spread of education and transportation, and the greater availability of electric power set the stage for vigorous development. All these served to instill new notions about agriculture as a **business** and agriculture as a source of better living, particularly in the decade before the new technology made its appearance in the form it is known now. Savings, capital accumulation, investment, risk-taking, higher values placed on practical education and other emerging economic and social ideas were affecting a gradually widening circle of farmers. By the time the new agricultural science and technology came into the picture, the ground was well prepared, and it is not surprising that the Punjab farmers opted for it with an alacrity unequalled in most other parts of India.

12. This, to repeat, is one of the basic arguments that explains Punjab's success story. Whether it is true, whether the Punjabi farmers are indeed endowed with attributes that make a difference in the rate of application of what is new and promising in agriculture, we cannot state with certainty. On the other hand, the pockets of remarkable effort observable in Punjab nearly a decade ago demonstrate that evidence of their aspirations is not only of recent date. But even if the attitude and claims are only products of pride of achievement and pride of belonging to an innovating State, their productive potential apart from the material inputs cannot be underestimated. Not so long as "The locked up energies of the people are being released and they are finding constructive, productive and creative channels." 1/

---

1/ Dynamics of Punjab Agriculture, Department of Economics and Sociology. Punjab Agricultural University, 1966. p.8



cc: Messrs. Cargill ✓  
Votaw  
King  
Evans  
Wapenhans  
Takahashi  
Darnell  
Picciotto

# Crop Quality Council

828 MIDLAND BANK BLDG.

• MINNEAPOLIS, MINN. 55401

• 333-5237 Area Code 612

*J. B. Aquino*  
EUGENE B. HAYDEN  
Executive Vice President

*V. V. Goodfellow*  
VANCE V. GOODFELLOW  
Secretary

G. ALLAN TAYLOR  
Associate Secretary

*JEH*  
Dear Mr. Evans:

Projects Dept. Correspondence

ANS'D BY

*No reply*

May 20, 1968

DATE

I think you will be interested in the following thoughts included in a presentation I made recently at the American Railway Development Association annual meeting held in Montreal:

Very rapid progress is being made in increasing the wheat production capacity of India and Pakistan, with world-wide implications. It appears that Pakistan will achieve near, if not full, wheat self-sufficiency at the completion of the harvest now underway.

The commercial seed industry is now making a major research effort on hybrid wheat, and an appraisal of this new development is given.

I hope you will find the information useful.

Sincerely yours,

*Eugene B. Hayden*

Eugene B. Hayden

Enclosure



RECEIVED  
GENERAL FILES  
COMMUNICATIONS

1968 MAY 22 AM 9:15

## SIGNIFICANT AGRICULTURAL CHANGES AHEAD

Eugene B. Hayden, Executive Vice President

Crop Quality Council

Minneapolis, Minnesota

It is a genuine pleasure to meet with you and attempt to place in perspective some key developments in the crop production field, which are likely to have major impact on North American grain production in the next 10 years.

I feel it a particular privilege to meet with this railroad group, because of the key role your industry originally played in opening up for agricultural development the vast land areas of the Great Plains of the United States and of the Canadian Prairie Provinces - an area which has contributed importantly to supplying grains to the world, and which is a major resource available to meet world grain and food needs in the decades ahead.

### Increased World Wheat Production Capabilities Emerging

Last year there was great optimism that the time had come to unleash North America's grain production capacity in order to meet world wheat needs. However, present large world wheat supplies, including record levels of food grain production in India (nearly 100 million metric tons), have been reflected in lower prices, a softening of export demands, and a build-up of wheat supplies in the United States and Canada. Favorable weather conditions in India have contributed greatly to her expected record harvest, in sharp contrast to 2 previous years of serious drought which resulted in U. S. food aid shipments of 264 million bushels of wheat, plus other grains, in a single year.

Of greater importance for the future is the rapid progress being made in increasing the wheat production capacity of India and Pakistan. This year more than 40% of the Pakistan wheat crop is being produced on only 20% of the total area seeded to wheat. In this important area, the high yielding, fertilizer-responsive Mexican semidwarf wheats have been combined with fertilizer and better soil and water handling practices to produce dramatic increases in per acre yields. The successful introduction of this new wheat production technology into Pakistan means that Pakistan will achieve near, if not full, self-sufficiency in wheat production during the current harvest which is now underway. This new technology can, according to Dr. Norman Borlaug of the Rockefeller Foundation, be rapidly extended to much larger areas of Pakistan and make continued self-sufficiency a reality.

---

Presented to the American Railway Development Association, Montreal,  
Canada on April 30, 1968



Great progress is also being made in India, where about 6,000,000 acres are now seeded to the high yielding Mexican wheat varieties, and is likely in other countries where campaigns to increase wheat production are underway. There has been a large-scale movement of these broadly adapted Mexican seed wheats into India, Pakistan, Turkey and Afghanistan, and semidwarf breeding materials are being evaluated throughout North America, North Africa, and in many other parts of the world. The implications of Pakistan and India moving toward self-sufficiency in wheat production are very great, as these two countries have accounted for nearly 1/3 of total grain imports by the developing countries in recent years.

Significant efforts are also underway to increase wheat production in some of the traditional wheat exporting countries as well. Increasing acreage in Australia, and efforts in Argentina to increase both total acreage and per acre yields, can have important effects on world wheat supplies in the decade ahead.

#### Increasing Competition for Markets

The pattern of success in introducing a new wheat production technology into Pakistan and India, with dramatically increased per acre yields, has the potential for markedly changing world wheat production and distribution patterns. Similar changes are also being achieved in some Asian countries through the use of new short straw fertilizer-responsive varieties of rice. These wheat and rice varieties show major promise in helping to keep world food supplies and rapidly increasing population growth in balance in the years immediately ahead.

These recent developments suggest the following to me:

1. Current world wheat production prospects, and the potential likely in the next several years, clearly indicate there will be increasing competition for access to commercial grain markets. The ability to supply wheats with desired milling and baking qualities will continue to be vital in marketing.
2. Continued efforts by the railroad industry to provide more efficient and economical transportation for grains will be of increasing importance, as North American wheat enters a decade of greater competition.
3. New research developments, such as attempts to develop higher yielding hybrid wheat varieties, have the potential for increasing wheat production efficiency in North America, thus helping to meet increasing world-wide competition.



## Private Industry Contributes to Agriculture

There has been growing investment and involvement of private industry in agricultural research and development.

The chemical and fertilizer industries are making an increasingly important contribution to agricultural productivity through the development and efficient merchandising of fertilizer and disease, insect, and weed control chemicals.

The commercial seed industry continues to play a vital role in the development of superior corn hybrids through research. The rise of hybrid grain sorghum to a major commercial crop was greatly speeded through research investments by the seed trade, and the recent development of forage hybrids (crosses between Sudangrass and sorghum), which hold substantial future promise, has come from seed industry research which now approximates \$10,000,000 annually.

The farm implement industry invests between 200 and 300 million dollars in research and engineering costs each year to develop machinery, which permits more timely and efficient land preparation, seeding and harvesting operations.

Substantial investments in improved equipment by the railroad industry have speeded the distribution of agricultural products at reduced cost. A revolution in the development and use of equipment by railroads serving the Upper Midwest has already occurred. During 1966 four lines serving this grain producing area took delivery or placed orders for 2,600 high capacity covered hopper cars. Each car cost an average of \$18,000 for a total investment of 47 million dollars. The unit train, an entire train transporting a single commodity, is now providing more rapid service at substantially reduced cost. Single cars formerly took up to 20 days for the round trip from the Head of the Lakes to eastern destinations - unit trains complete the round trip in about 7 days.

Canadian railroads can take pride in their record of moving more than 800,000,000 bushels of grain during a recent crop year, despite a shortage of diesel locomotives which forced leasing of some units from the United States, and during the most severe winter on record.

## A New Resource Being Committed to Wheat Improvement - The Commercial Seed Industry

Hybrid wheat has received a great deal of publicity during the past several years. Although production of hybrid wheat on any substantial commercial acreage is still about 4 to 5 years away, the genetic discovery which permitted scientists to begin efforts to develop hybrid wheat varieties has



several important aspects. The development of economically useful hybrids would increase wheat yields at least 25-30% per acre. Farmers would need to purchase hybrid seed each spring, as is now true in the case of corn and sorghum. It could also mean greatly increased economic activity in the production, marketing and distribution of hybrid seed for a potential market of 80-100 million acres seeded to wheat in the United States and Canada.

The potential of a market of this size has been a great stimulus, causing a substantial number of seed companies to begin wheat research activities for the first time. Currently DeKalb, Funk Bros., Rudy-Patrick Seed Division of W. R. Grace & Company, Northrup, King & Co., and others have hybrid wheat research programs underway, as do universities and agricultural experiment stations in the United States and Canada. Only recently Cargill, Inc., one of the world's major grain trading companies, has initiated a hybrid wheat research effort.

A substantial wheat research effort by the seed industry is new and desirable. The hybrid mechanism provides a means by which research investments by industry can be recovered through seed sales. The successful development of commercial hybrids, not yet achieved, will make continuing investments in wheat research attractive to industry.

The Crop Quality Council has had a long history of encouraging additional investment of state and federal funds in wheat research, so we look upon the participation of private industry as a desirable addition to the effort. We have encouraged seed industry participation in wheat research by sponsoring the first Hybrid Wheat Seminar in 1964 to encourage communication and cooperation among industry, state and federal wheat scientists throughout North America. Our sponsorship last January of a working conference, "Wheat Development Opportunities in the Decade Ahead" is part of this continuing effort.

#### Council Efforts to Encourage Crop Production

The Crop Quality Council looks at grain and wheat production from both a short and long-run viewpoint. Our extensive crop survey trips, from Texas northward to North Dakota and across the Canadian Prairie Provinces, generate current information on grain crop potentials. This timely information, supplemented by continuing contact with key grain research programs throughout North America, provides a long-range view of research or crop protection areas which require strengthening.

Many in this group will recall the devastating reductions in wheat production caused by stem rust attacks in the Upper Midwest and Canada during the early 1950's. Heavy losses in income were sustained by crop producers, grain loadings were reduced, and implement sales declined.



Out of the need to quickly develop new rust resistant wheat varieties evolved the Council-sponsored winter seed increase program in Mexico. This provides U. S. and Canadian scientists with an opportunity to reduce the 12-15 years required to develop a new spring wheat, durum, barley or oat variety. It extends the hands of the plant scientists by permitting a second crop of their breeding materials to be grown in Mexico each winter, thus speeding the release of new varieties. Within the last 10 days breeding lines from the Mexican harvest were returned to scientists at Upper Midwest and Canada experiment stations. This cooperative international program has played an important role in speeding development and release of an impressive number of new grain varieties.

Another important step in strengthening stem rust control efforts will be taken when construction of a new \$650,000 research facility for the Cooperative Rust Laboratory gets underway later this year on the St. Paul Campus of the University of Minnesota. This national research group has responsibility for detecting and identifying dangerous new races of both wheat and oat stem rust, so that plant breeding programs can develop varieties with resistance to them.

The cereal leaf beetle, a destructive foreign insect pest, was first found in North America in 1962 in southern Michigan and northern Indiana. The Council has maintained close association with cereal leaf beetle control efforts because of the potential for heavy damage which this insect could cause to spring seeded wheat, oats and barley in major producing areas of the United States and Canada. Extensive efforts have been made by pest control officials to prevent the westward spread of this pest into principal small grain producing regions and to provide time for scientists to develop insect resistant varieties. Nearly 2 million acres were sprayed during 1966 and 1967 as part of this effort, and 420,000 acres will be treated in eastern Illinois this spring.

It is appropriate to mention that continuing efforts are being made by the Council to have plant quarantine activities strengthened to prevent the introduction of other destructive foreign pests. Opening of the St. Lawrence Seaway in 1959 exposed major North American crop producing areas, and concentrated grain storage facilities, to the threat of dangerous foreign pests when more than 1,000 ships entered the Seaway from 43 foreign countries. The substantial expenditures required to prevent the introduction of a new pest are sound investments when viewed against resulting reductions in crop production and eventual control costs.

The job of maintaining North America's agricultural productive capacity is of vital importance to producers, industry and the general economy. It is for this reason that the Crop Quality Council works to strengthen crop research and pest control programs.



Agri  
DRAFT

Mr. I.P.M. Cargill

May 17, 1968

~~Gregory Votaw and Robert Picciotto~~

INDIA - Lending for Agriculture

1. This note is complementary to Mr. Wapenhans' memorandum to Files dated March 25, 1968. It proposes a program of staff activity designed to increase the level of IDA lending for agricultural development in India. It assumes that current input financing may be provided by IDA in connection with high priority projects. If implemented, we estimate that the program could lead to about \$400 million worth of external financing support for agriculture between now and mid-1972. You will recall that \$260 million has been included under the heading of agriculture and irrigation in our five-year forecast of IDA operations. The balance of \$140 million (if our project expectations materialize) might come from allocations now proposed for other activities (e.g. railways)--or, alternatively, from parallel financing by interested consortium members.

A. THE NEED FOR MORE PROJECTS

2. In many ways, the present task of building up a pipeline of projects in India's agricultural sector differs from the job which faced the Bank in the early sixties when our "first generation" of agricultural projects was conceived. This was a felicitous time from the standpoint of IDA resources. The Bank had not yet built the diverse staff strength and competence it now enjoys in the agricultural field. Furthermore, the country's absorptive capacity for Bank-type investments in agriculture was low as a result of misguided Government policy and the lack of appropriate economic incentives for progressive farming. These elements, and the haste with which the projects were prepared, explain the "civil engineering" orientation of our assistance. The irrigation and drainage projects to which the Bank and IDA provided about \$78 million worth of support had all the reassuring attributes of capital-intensive projects. They were implemented by irrigation departments rather than by the departments of agriculture which, in most Indian States, have major responsibility for agricultural programs.

3. India has 35 percent of the farmers and 40 percent of the cultivated area of IDA's less developed country membership. Agriculture originates half of India's domestic product, 70 percent of its employment and three-fourths of its exports. By contrast, direct IBRD/IDA lending for agriculture in India amounts to 7 percent of the Bank Group's worldwide agricultural lending and to 4 percent of its total lending to India (Table 1). However, this understates the benefits which the rural sector has actually derived from Bank Group lending. Through the industrial imports program, manufacturers of fertilizer, pumps and tractors have secured supplies which are essential to meet a growing farmers' demand for modern inputs. Through the transportation loans and credits,



elements of a basic railway and road infrastructure have been built and this is facilitating the growth of market-oriented farming. Finally, the Bank Group's assistance to the power sector has helped to meet a growing tubewell energy demand upon which much of the country's modern irrigated farming activity depends. Thus, given the importance of non-project aid in our Indian program (and the difficulty of tracing the benefits of such aid), the case for IDA's increased project involvement in Indian agriculture cannot rest on the apparent imbalance which emerges from a cursory review of the Bank Group's lending portfolio.

4. Similarly, the capital and foreign exchange requirements of India's agricultural sector are of such staggering size <sup>1/</sup> (Table 2) and IDA's resources are, by comparison, so small and (at this stage) so uncertain, that a case based on "need," while valid, is rather unhelpful for charting an investment course. Such a case would merely amount to "siding with the angels," a position which IDA already holds in the Indian consortium.

5. This does not detract, however, from the crucial role that IDA should play as Chairman of the consortium (and as direct lender) in helping ensure that the foreign exchange bottleneck does not become crippling to India's New Agricultural Strategy. Indeed, circumstances are such as to justify IDA's undertaking of fertilizer financing if only because fertilizer constitutes the major identifiable foreign exchange component of total project cost, and there are substantial economies to be achieved in world-wide procurement of this commodity. On the other hand because of the overwhelming role of domestic resource mobilization in agricultural projects, the foreign exchange content of alternative investment opportunities should not be allowed to dominate our project design strategy.

6. The case for more agricultural projects in India essentially rests on the need to induce or accelerate change in domestic resource allocation, administration and attitudes within the sector. Past GOI policy (pre-1965) was unfortunately characterized by low resource allocation and ambitious production targets for agriculture. Fortunately, the high priority of the sector is now being translated into increased availability of modern inputs to the progressive farming sector. <sup>2/</sup>

---

<sup>1/</sup> An estimate for annual foreign exchange outlays of \$400 - \$450 million, (including \$310 million for fertilizers) would be roughly consistent with the Draft Fourth Plan Outline. Capital requirements have been estimated at \$1,400 million a year by the U.S. President's Science Advisory Committee.

<sup>2/</sup> The following documents set forth the main elements of India's new agricultural policy: Report to the President of IBRD and IDA on India's Economic Development Effort, Volumes II to V, October 1, 1965, Indian Economic Policy and the Fourth Five Year Plan, Volume II, May 23, 1967. The two economic reports dated October 13, 1967, and April 25, 1968, review the recent progress of this policy.



But sustained progress will require not only increased resource allocation to the sector, but also a closer dependence of the current input, institutional and infrastructure requirements of Indian agriculture (particularly in the water field) as well as more emphasis on specific schemes to guide the resource allocation process. In our parlance, this means more projects.

7. Recognition of the need for more and better IDA projects in Indian agriculture is of course not new. The two agricultural projects now in the pipeline (Tarai Seeds and Punjab/Haryana Drainage) are the results of considerable efforts over the past four years by the Projects Department and our Division. Together, these two projects may account for about \$30 million worth of lending. However, their importance reaches far beyond their size or their direct production merits. The Tarai project would strengthen a crucial component of the New Agricultural Strategy--seed. The Punjab/Haryana project would integrate ground-water utilization and surface system improvements--particularly weak spots of current agricultural programs. Both projects experiment with administrative concepts which are relatively new to the sector. Tarai would be managed by an autonomous corporate entity grouping farmers, a land-grant type college, and input distribution firms in the public and private sectors. The Punjab/Haryana project would provide expatriate consulting talent for an investment-oriented irrigation study in two states.

8. Thus, the unfortunate characteristic of our agricultural project pipeline contents is not so much quality as quantity. This partly reflects IDA's financial straits. However, given the IDA's favorable analysis of the Government's New Agricultural Strategy, this void also stands as a mute testimony of the administrative obstacles which must be surmounted to translate an assessment of economic priorities into an investment program. Among these obstacles, we may count the unwritten rules which seem to have governed our project design activity in India.



## B. PREREQUISITES FOR PROGRAM SUCCESS

9. GOI's strategy in the aid game aims at maximizing the flow of non-project assistance from IDA both because of the special quality of IDA money and because of the delays commonly associated with project finance. Central to the strategy is the assumed inelasticity of total IDA assistance in relation to the project latitude given to IDA.<sup>1</sup> The game then consists in putting up relatively few agricultural projects for finance. Furthermore, even the few projects which are put up include non-project aid features. This strategy is effectively supported by strict rationing of information on alternative investment opportunities and by obstruction of other Indian players' entry into the game. This is ensured through an allocation system of Central funds which leaves no incentive to individual States to go through the rigors (the Indians often use the term 'agony') of project preparation.<sup>2</sup> The game is nearly over and successful, from the standpoint of the GOI player, when the focus of the project debate can be shifted from basic sectoral issues to IDA's own procedures, e.g. the channel for lending, current input financing, procurement policy, etc.

10. The behavior of the IDA player is more difficult to pinpoint since we run a much less disciplined team than GOI and also because we play the game in GOI's field, with teams originating from various divisions, departments and sections of the Bank and FAO. One result of IDA's approach to the game has been the growing dichotomy between its sectoral work and its project work.

11. The following assumptions underlie the proposed program of staff activity in the agricultural sector:

- (a) Substantial support would be forthcoming from the Central and State Governments in all phases of IDA's project design work;
- (b) Adequate headquarters support and leadership (involving the active participation of most sections of the Agricultural Division) would be provided during project design;
- (c) Project identification activities (the initial stage of project design) would be closely coordinated with IDA's economic reporting work;
- (d) Substantial utilization of the FAO/Bank Program, UNDP and Consultants would be made, particularly at the post-identification stage;

---

<sup>1</sup>This assumption is especially convincing in the short-run. Hence, under conditions of aid uncertainty, it tends to dominate GOI's behavior.

<sup>2</sup>FAO or Bank staff are sometimes used to substitute for the resulting loss in State participation.



12. Assumption (a) is likely to obtain only if GOI is told in no uncertain terms that IDA plans to invest a minimum proportion (or amount) of its available funds in suitable agricultural projects identified by IDA. IDA should also make clear that while, under present operational assumptions concerning IDA replenishment, this would mean \$260 million worth of agricultural lending over the next five years, higher allocations to the sector would be favored if enough opportunities for suitable investment are developed. GOI should be further informed that IDA proposes to intensify its contacts with individual States during its project work. For this purpose, working groups comprising GOI as well as State officials would be organized to support IDA/FAO project design efforts.

13. Assumption (b) implies that India will receive adequate priority in the working program of the Agriculture Division. A rather large portion of the manpower requirements which the Division would have to meet would be for pre-appraisal activities. This is due not only to an empty project pipeline but also to the overwhelming importance of coordinated project design in a country so vast and complex as India. Indeed, because of IDA's special interest and stake in Indian agriculture, the establishment of a coordinating "task force" within the Division would be desirable. In any case, a full year's program of pre-appraisal activities should be agreed with the Division as soon as possible.

14. Assumption (c) is related to the notion that, given the substantial effort already invested by IDA in agricultural policy assessment, consortium reporting in agriculture should increasingly focus on a review of the country's investment program and on the identification of areas and actions deserving special support within these programs. In this connection, it might be appropriate to inform consortium members about IDA's plans to become involved in agricultural project formulation on its own behalf, and (as required) on behalf of other consortium members. Given existing staff limits in the New Delhi Office, such a role largely hinges on whether (as assumed above) adequate headquarters staff support is made available. Alternatively, the New Delhi Office tasks and its staff could be suitably expanded to cover project design activities.

15. Assumption (d) is prompted by past agricultural project experience in India which suggests that unless Bank staff is intimately involved in initial stages of project design, subsequent efforts run the risk of being counter-productive. Hence, the role of FAO/Bank, UNDP and consultants has been deliberately geared to 'second stage' design activities.



### C. INVESTMENT PRIORITIES

16. Administrative weaknesses in India (as in most developing countries) constitute a major constraint on agricultural development. These weaknesses (divided authority, poor coordination, weak management) are widely recognized and there is mounting farmer-based clamor for more effective supporting services to agriculture. The art of project design will largely consist in selecting or building up institutional devices which fit local conditions and offer the promise of satisfactory performance. As in the case of Terai, IDA could assist Indian farming through a variety of institutions - including agricultural universities, research institutions, industrial firms and commercial banks. Indeed, diversification of the institutional structure at the service of agriculture should be one of the criteria of our project work.

17. Farm production growth in India is dependent on increasing crop yields and the area under multiple cropping. In general, timely moisture supply rather than adequate temperature is the bottleneck to plant growth and, given the irregular and seasonal pattern of rainfall, intensive land use calls for assured water control through irrigation. In many areas, past irrigation policy has failed to provide adequate water control on the farm for the following reasons: (a) lack of adequate networks of terminal channels and lack of adequate maintenance on major works; (b) absence of consolidation measures where fragmented holdings prevail; (c) neglect of drainage works; (d) surface water systems overextended in relation to water requirements; (e) groundwater exploitation poorly integrated with the surface water utilization; (f) system operation unadapted to crop requirements; (g) water charges leading to inefficient water use.

18. Given the above, better use of existing irrigation assets through complementary agricultural programs should have high priority in IDA's investment program. The proposed program of staff activity would help identify such projects in Madras, Punjab, Andhra Pradesh and four other states where IDA has already made investments in major irrigation. Integrated river basin development programming should be initiated. This may require substantial support by consultants.

19. Untapped groundwater resources are substantial and their increasing use under private management is an encouraging trend under the New Agricultural Strategy. If accompanied by detailed hydrologic examination, groundwater exploitation should have high priority in IDA's program. This would require the design and operation of expanded credit services to farmers and contractors as well as step-up of power transmission and connection programs. A tubewell project is likely to emerge soon from the Punjab study. In addition, we propose that a new credit scheme be developed for promoting minor irrigation development and mechanization in Andhra Pradesh, Madras, Maharashtra, Gujarat and Mysore.



20. Much of the impetus behind the New Agricultural Strategy is the outcome of foodgrains breeding and research. Yet, there are disturbing signs that production-oriented research programs are not receiving the support they deserve. Furthermore, the gap between research and extension at the Center and in most States leads to poor diffusion of agricultural innovation. The program of IDA lending proposed here aims at backing up seed research in connection with a multi-state seed project, and at strengthening the research-extension link through assistance to selected agricultural universities.

21. The diffusion of the new technology is creating a rising demand for short, medium and long-term credit which the existing farm credit structure is ill-equipped to handle. An immediate need is to develop new production credit arrangements adapted to an emerging pattern of input distribution where private dealers are becoming increasingly active. A further need is to strengthen the development lending programs of nationally important financial bodies such as the Agricultural Refinance Corporation and its network of Land Mortgage and commercial banks. IDA's activity in these fields should be accompanied by an overall review of the credit structure and its legislation.

22. The Government's New Agricultural Strategy has centered mainly on foodgrains production and, as a result, actions to promote commercial crop development (such as tea, jute or oilseeds) and livestock production (dairy and poultry) have been neglected. The intelligence available to IDA on these important areas of agriculture is limited. The proposed program of activity makes provision for fact-finding missions in these sectors to lay the basis for further project activity by IDA.

23. The 1968 bumper rabi crop has brought to the fore the need for additional grain storage facilities in surplus areas. But here again, IDA should take a broad view of the country's agricultural marketing and processing structure before detailed project preparation is undertaken. Basic policy issues, including the removal of inter-state trade restrictions, should probably be settled before IDA invests in this sector.



#### D. THE PROGRAM

24. The proposed five-year staff activity program and the related project lending forecast which it supports are set forth in Tables 3 and 4. The manpower estimated to be required relates both to economic and (pre-yellow cover) project activities. It excludes coordinating and supporting staff requirements (e.g. India Division and Delhi Office) as well as staff commitments already made. On this basis, about 60 man-years would be required for the five-year program, i.e. an annual requirement of 12 man-years on the average. Of this amount, 32 man-years (i.e. about 6 - 7 man-years each year) would come from the Bank and the Bank/FAO Cooperative Program. The balance of the requirements would be covered by consultants and UNDP, as follows (in man-years):

	<u>Bank and Bank/FAO</u>	<u>Consultants and UNDP</u>	<u>Total</u>
Economic and Identification	10.4	-	10.4
Studies and Preparation	10.9	26.4	37.3
Appraisal	<u>11.6</u>	<u>-</u>	<u>11.6</u>
Total, 5 years	32.4	26.4	59.3
Annual Average	6.4	4.4	10.8

25. The following missions are proposed till June 1969:

- (a) Fourth Plan Review in Agriculture: Subject to further discussions of the desirable scope and timing of this exercise, this review could involve contacts at the State level and concentrate on the weak areas of the New Agricultural Strategy, i.e. research, credit, water, export crops and livestock. In addition to the New Delhi Office staff, participation of a credit specialist, two agronomists, and a livestock specialist, and an irrigation engineer would be desirable. The participation of a senior consultant of the caliber of Sir John Crawford would be desirable.
- (b) Fertilizer Program: The identification and preparation of a production credit scheme through private channels in selected Indian States is proposed. Because the bulk of India's fertilizer imports come from consortium countries, this activity might be undertaken by IDA on behalf of some consortium participants. Agronomists, credit specialists and marketing consultants would be required for this activity. Field work would start around December 1968.



- (c) Credit Project: A fact-finding mission including a credit specialist, an engineer, an agronomist and an economist is required to identify in broad outline a project to promote private minor irrigation and mechanization in selected Indian States. The mission should review the activities and structure of ARC and other financial bodies active in agricultural lending, undertake a preliminary assessment of regional demand for irrigation and mechanization credit and build the framework of further project preparation activity. Field work could start around March 1969.
- (d) Irrigation: An irrigation reconnaissance team including a senior irrigation engineer, an agricultural economist and an agronomist should visit India early next year to review possibilities for improved planning and preparation of major irrigation projects. The mission's objective would be to identify potentially useful studies and project preparation activities in the irrigation field. It would undertake a preliminary review of investment possibilities in the Cauvery delta, in the Krishna-Godavari delta, as well as in the command areas of selected IDA - financed irrigation schemes. It would discuss with the Government the need for integrated basin development studies.

#### E. SUMMARY

26. To sum up, direct IDA lending to Indian agriculture has heretofore been too small in relation to the needs of the sector, and its potential for productive investment under the Government's New Agricultural Strategy. High priority areas for investment include irrigation, groundwater development, research, output diversification, storage and farm credit. More agricultural project activity would help guide the resource allocation process. It would also give additional policy leverage to IDA and lead to improved consortium reporting in the agricultural sector. In the past, agricultural project activity has been hindered by lack of funds, the scale of IDA's non-project assistance program and the exclusion of fertilizer financing from IDA's operational scope. Budgeting of a minimum share of IDA funds for agricultural projects, intensification of IDA's contacts at the State level, better coordination of IDA and PAO staff activities and relaxation of IDA's current input financing criteria are suggested for improved project work.

RPicciotto:pop

cc: Messrs. Gilmartin, Waide, Bell, Wapenhans, Takahashi, Sir John Crawford

May 17

Table 1.

INDIA - AGRICULTURE

IBRD Loans And IDA Credits

<u>IBRD</u>	<u>No.</u>	<u>Original Principal Amount</u>		<u>Principal Amounts Disbursed</u>	
		<u>\$ Million</u>	<u>%</u>	<u>\$ Million</u>	<u>%</u>
1. Agriculture	1	10.0	0.9	7.2	0.7
2. Industry & mining	14	408.5	38.4	295.7	34.3
3. Transport	13	448.6	42.1	441.0	51.2
4. Public utilities	8	198.0	18.6	118.7	13.8
Total IBRD	36	1,065.1	100.0	862.6	100.0
 <u>IDA</u>					
1. Agriculture	7	67.5	7.5	57.0	6.9
2. Industry	4	415.0	46.1	392.1	47.5
3. Transport	5	275.5	30.6	252.4	30.5
4. Public utilities	6	143.0	15.8	124.4	
Total IDA	22	901.0	100.0	825.9	100.0
Total Agriculture	8	77.5	3.9	64.2	3.8
Total IBRD & IDA	58	1,966.1	100.0	1,688.5	100.0



Table 2

## INDIA - AGRICULTURE

Estimated Foreign Exchange Requirements<sup>1/</sup>  
(\$ Million)

	<u>Total</u>	<u>1968/69</u>	<u>1969/70</u>	<u>1970/71</u>	<u>1971/72</u>	<u>1972/73</u>
<u>Fertilizer</u>						
Nitrogen	985	234	228	198	175	150
Phosphate	326	47	57	74	74	74
Potash	203	29	36	46	46	46
	<u>1,514</u>	<u>310</u>	<u>321</u>	<u>318</u>	<u>295</u>	<u>270</u>
<u>Pesticides</u>	199	39	40	40	40	40
<u>Tractors</u>						
Crawler Tractors	59	23	12	8	8	8
Wheel Tractors	110	27	23	20	20	20
Power Tillers	118	16	21	27	27	27
	<u>287</u>	<u>66</u>	<u>56</u>	<u>55</u>	<u>55</u>	<u>55</u>
<u>Major Irrigation</u>	230 <sup>2/</sup>	46	46	46	46	46
<u>Minor Irrigation</u>	19	6	4	3	3	3
<u>Other Uses</u>	<u>65<sup>2/</sup></u>	<u>13</u>	<u>13</u>	<u>13</u>	<u>13</u>	<u>13</u>
 Total	 <u>2,314</u>	 <u>480</u>	 <u>480</u>	 <u>475</u>	 <u>452</u>	 <u>427</u>

<sup>1/</sup> Based on Appendix IV, Vol. II (Agricultural Policy in India) of the Bell Mission Report - Indian Economic Policy and the Fourth Five Year Plan, Asia Department, May 23, 1967. As a rough approximation, the requirements of 1970/71 have been carried through the following two years, except for nitrogen where a gradual decline after 1970/71 is assumed. The fertilizer price assumptions have been adjusted downwards to take account of recent price movements.

<sup>2/</sup> Fourth Plan Outline assumption.

INDIA - AGRICULTURE

Indicative Projection of IDA Commitments

(\$ Million)

	<u>1968/69</u>	<u>1969/70</u>	<u>1970/71</u>	<u>1971/72</u>	<u>1972/73</u>	<u>Total</u>
1. Seed project I <sup>1/</sup>	16					16
2. Punjab/Haryana I <sup>2/</sup>	14					14
3. Fertilizer program <sup>3/</sup>		60				60
4. Credit project <sup>4/</sup>			60			60
5. Seed project II <sup>5/</sup>			20			20
6. Punjab Haryana II <sup>6/</sup>			30			30
7. Sone/Shetrunji/ Salandi/Purna <sup>7/</sup>				35		35
8. Krishna Godavari <sup>8/</sup>				25		25
9. Cauvery <sup>9/</sup>				15		15
10. Grain storage <sup>10/</sup>				30		30
11. Punjab/Haryana III <sup>11/</sup>					35	35
12. Export crop development <sup>12/</sup>					30	30
13. Livestock development <sup>13/</sup>					25	25
14. Agricultural universities <sup>14/</sup>					15	15
Total	<u>30</u>	<u>60</u>	<u>110</u>	<u>105</u>	<u>105</u>	<u>410</u>

N.B. This list is for illustrative purposes only. Many items could be deleted, others could be added and the amounts indicated should be viewed as rough orders of magnitude.

(Footnotes on next page)



Footnotes to Table 3

- 1/ The project cost is estimated at \$27 million in the application (of which \$18 million is classified as investment).
- 2/ The project cost including the study is estimated at \$21 million (appraisal mission's back-to-office report).
- 3/ A revolving fund scheme to provide fertilizer credit to farmers in selected Indian states through input dealers, commercial banks and other private entities. According to the Fertilizer Association Credit Committee, US \$50-60 million would represent one fifth of the fertilizer credit requirements of farmers to be met in 1969-70 by sources other than co-ops. The IDA scheme would concentrate on 3-4 states where there is substantial potential for growth and co-ops are weak, e.g. Maharashtra, Andhra Pradesh and Orissa.
- 4/ A scheme to provide medium and long term credit to farmers of selected Indian states for groundwater development and mechanization. The scheme would also provide for groundwater surveys, power transmission facilities and contractors' credit. The borrower would be the Agricultural Refinance Corporation. The funds would be channelled through selected Land-Mortgage Banks and commercial banks. The following states, where Land Mortgage Banks are already active, would be covered by the scheme: Andhra Pradesh, Madras, Maharashtra, Gujarat and Mysore.
- 5/ A \$30 million project for development of 50,000 acres of seed production land in selected areas of Punjab, Maharashtra, Madras and Andhra Pradesh. The project would include provision for seed processing facilities and support of related research activities.
- 6/ A \$45 million groundwater development project to finance approximately 20,000 private tubewells in Punjab and Haryana over a four year period. This would benefit approximately 300,000 acres, at a cost of US \$150 per acre.
- 7/ One or more "follow-up" projects designed to strengthen agricultural development programs within the command areas of existing IDA-financed schemes.
- 8/ This amount is based on a preliminary cost estimate of \$38 million for a drainage and flood control project prepared by the Andhra Pradesh PWO department for the Kolleru basin and adjoining areas of the Krishna-Godavari delta. More detailed studies are likely to be required to make economic use of existing infrastructure and available groundwater.

(continued on next page)

Footnotes to Table 3

- 9/ This amount is based on a preliminary cost estimate of \$23 million for a scheme prepared by a Madras Government official. A UNDP survey is proposed for the area. Additional studies to integrate surface water system rehabilitation with groundwater utilization are likely to be required.
- 10/ A project designed to increase grain storage capacity in selected surplus areas (0.6-0.7 million tons of storage at \$100 a ton).
- 11/ An integrated surface water system rehabilitation-cum-groundwater development project in Punjab and Haryana covering 600,000 acres at a cost of \$100 per acre.
- 12/ Support of export-oriented crop production programs (jute, tea, oil-seeds, tobacco, etc.). This might include plantation schemes or small holder development projects.
- 13/ Support of dairy and poultry schemes.
- 14/ Support of research, extension and education programs of selected agricultural universities.



Table 4

## INDIA - AGRICULTURE

Tentative Program of Activities and Related Manpower Requirements<sup>1/</sup>

	Mission Type	Expected Period	Man-Months*				Total	Suggested Sources
			A	AE	E	FA		
Fourth Plan Review - Agriculture	Economic	Oct-Dec. '68	12	4	4		20	PE, I
Consortium Reporting <sup>5/</sup>	Economic	1969		4			4	P
Consortium Reporting <sup>5/</sup>	Economic	1970	6	4			10	PE, I
Consortium Reporting <sup>5/</sup>	Economic	1971		4			4	P
Consortium Reporting <sup>5/</sup>	Economic	1972	6	4			10	PE, I
Consortium Reporting <sup>5/</sup>	Economic	1973		4			4	P
Fertilizer Program - State Plan Review	PP	Sep.-Dec. '68	6	6			12	PE
Fertilizer Program - Organization <sup>5/</sup>	PP	Jan.-Mar. '69		3		6	9	F, PC, PE
Fertilizer Program <sup>5/</sup>	PA	Mar.-Jun. '69	3	3		3	9	PE
Credit Project	PI	Jan.-Mar. '69	1	1	1	1	4	PS, PC or Ec
Credit Project <sup>5/</sup>	PP	Mar. '69-Mar. '70	3	4	4	3	14	PC, Ec, FB
Credit Project <sup>5/</sup>	PA	Mar.-Jun. '70		3	3	3	9	PC
Seed Project II	PI	Jan.-Jun. '69	1				1	PG
Seed Project II <sup>5/</sup>	PP	Jan.-Jun. '70	3	3	3	3	12	PG, FB
Seed Project II <sup>5/</sup>	PA	Oct.-Dec. '70	3	3	2	2	10	PG
Punjab-Haryana II <sup>2/</sup>	PP	Jan.-Feb. '70	1	1	1		3	PI, PS
Punjab-Haryana II <sup>5/</sup>	PA	Mar.-Jun. '70	3	3	3		9	PI
Sone/Shetrunji/Salandi/Purna <sup>3/4/</sup>	PI	Jan.-Feb. '69	4	4	4		12	PI, D, Ec
Sone/Shetrunji/Salandi/Purna <sup>5/</sup>	PP	Jun. '69-Jun. '71	48	24	24		96	C or U
Sone/Shetrunji/Salandi/Purna <sup>5/</sup>	PA	Jun.-Aug. '71	4	4	4	4	16	P
Krishna Godavari <sup>4/</sup>	PI	Jan.-Mar. '69	1	1	1		3	D, PS, PI
Krishna Godavari <sup>5/</sup>	PP	Jun. '69-Jun. '71	40	24	24		96	C or U
Krishna Godavari	PA	Jun.-Aug. '71	3	3	3		9	P
Cauvery <sup>2/</sup>	PI	Jan.-Mar. '69	1	1	1		3	PS, PI
Cauvery <sup>4/</sup>	PI	Sep.-Dec. '70	1	1	1		3	PS, PI
Cauvery <sup>5/</sup>	PP	Jan.-Jun. '71	6	6	6		18	PI, C, FB
Cauvery <sup>5/</sup>	PA	Jun.-Aug. '71	3	3	3		9	PI
Grain Storage <sup>4/</sup>	PI	Jun.-Jul. '69	1	1	1		3	PS, PG
Grain Storage <sup>5/</sup>	PP	Jan. '70-Dec. '71	24	24	24		72	C, U
Grain Storage <sup>5/</sup>	PA	Mar. '71-Jun. '71	3	3	3		9	PG
Punjab-Haryana III <sup>2/</sup>	PI	Jan.-Mar. '71	1	1	1		3	PS, PI
Punjab-Haryana III <sup>5/</sup>	PA	Mar.-Jun. '72	3	3	3		9	PI
Export Crop Development	PI	Jan.-Jun. '69	3	3			6	PE, Ec or FB
Export Crop Development <sup>5/</sup>	PP	Mar. '71-Mar. '72	4	4		4	12	PG, FB
Export Crop Development <sup>5/</sup>	PA	Jul.-Sep. '72	3	3		3	9	PG, PC
Livestock Development	PI	Jun.-Dec. '69	3	3			6	PC, FB
Livestock Development <sup>5/</sup>	PP	Mar. '71-Mar. '72	4	4		4	12	PC, FB
Livestock Development <sup>5/</sup>	PA	Jul.-Sep. '72	3	3		3	9	PC
Agricultural Universities	PI	Jan.-Mar. '70	3	3		36/	9	E, PE, UE
Agricultural Universities <sup>5/</sup>	PP	Jul. '71-Jul. '72	4	4		4	12	E, UE
Agricultural Universities <sup>5/</sup>	PA	Jul. '72-Sep. '72	3	3		3	9	E
Total:			234	187	124	49	594	
Of which: (Consultants and UNDP			121	71	72	-	264	
(Bank and FAO/Bank			113	116	52	49	330	

1/ This does not include supervision activities except those likely to lead to new appraisal activity. It excludes manpower resources already committed. It also excludes supporting field and headquarters staff requirements (e.g., Delhi Office, India Division, etc.).

2/ A mission to review the progress of a study.

3/ A "reappraisal" mission.

4/ A mission to establish terms of reference for a study.

5/ Scope and timing dependent on the results of a prior mission.

6/ Education specialist.

\* On the basis of 10 working man-months per man-year.

## Nomenclature:

A Agriculturist	E Projects Depart. -	PS Studies Section	PI Project Identification
AE Agricultural Economist	Educ. Division	PC Credit/Livestock Section	PP Project Preparation
E Engineer	F IFC	PG Gen. Agriculture Section	PA Project Appraisal
FA Financial Analyst or Credit Specialist	P Projects Depart. -	U UNDP Program	PS Project Supervision
	Agri. Division	UE UNESCO	
	Ec Economics Depart.	FB FAO/IBRD Program	
	PE Economic Section	C Consultant	
	PI Irrigation Section		

Ld Agri

May 9, 1968

Mr. J. E. Kivlin  
US-AID/TS  
APO NY 09687

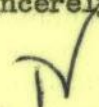
Dear Mr. Kivlin:

Thank you very much for the book on agricultural innovations which I received and read with a great deal of interest. I have also passed it on to several of my colleagues who are interested in the development of Indian agriculture. They found it, as I did, a very significant study which tries to develop some facts where generally we have only suppositions and theories.

We are also bringing this book to the attention of Mr. Ladejinsky at our Delhi office who is particularly interested in social aspects of agricultural development.

Please remember me to Dr. Roy and his wife, and once again many thanks for the book.

Sincerely,

  
Tillman Neuner  
Asia Department

cc: Mr. Ladejinsky\*

\* Please take note of the title, "Agricultural Innovations in Indian Villages", authored by F. C. Fliegel, P. Roy, Lalit Sen and J. E. Kivlin, and published by the National Institute of Community Development, Hyderabad.

/bj

1888 MUA 10 BHIS: 58

COMMUNICATIONS  
RECEIVED  
MAY 10 1968



RECEIVED  
GENERAL FILES  
COMMUNICATIONS

1968 MAY 10 PM 12:28

✓p2

Department of Community Development, Hagerstrom.  
Letter sent to J. E. Klatzky, and forwarded by the National  
in Indian Affairs, approved by E. C. Lister, E. Klatzky.  
\* Please take note of the title, "Voluntary Indian  
cc: Mr. Lister."

Voluntary Indian  
Department

Letter

Letter from the book.

Please forward me to Mr. Klatzky and the letter, and once again

interested in the work of the Department.

Mr. Lister is our best officer in the Department.  
We are also planning the book to the attention of

the people.

to develop some work which is more useful and important  
than the work of the Department. I am sure that the work of the  
Department is the most important work of the Department.  
I am sure that the work of the Department is the most important  
work of the Department. I am sure that the work of the Department  
is the most important work of the Department.

Dear Mr. Klatzky:

Very truly yours,

W. E. Klatzky

Mr. J. E. Klatzky

May 10, 1968

Agri 9c

Mr. Robert Picciotto

May 9, 1968

Gregory B. Votaw

INDIA - Agricultural Research

1. Attached please find two papers by Leonard Joy of the Institute of Development Studies at the University of Sussex. One is on "Problems of Agricultural Administration and Extension Services" and the other "The Economics of Food Production." You may dispose of these papers as you wish.

2. Joy was not at the University of Sussex during my visit, since he was setting up a research study in West Bengal. From what I heard I think you will be interested in contacting him and in keeping track of the West Bengal project.

3. I spent a good deal of time with Michael Lipton when I was in Sussex. His research has been primarily in Maharashtra. I am trying to get hold of a book he published recently on the evaluation of development programs and will let you know if it appears to be worth reading after I have located it. From my conversations, which were inevitably limited by the short time available, I gained a very good impression of Lipton and would like to see him more closely involved with the Bank's interest in Indian agriculture. I have nothing specific in mind just now but would urge you to seek a chance to meet him either in England or in India. He is still very young but if his early achievements are any indication he has a very brilliant career ahead of him. Three of his papers are attached for your entertainment; I would like them back when you have finished.

Attachments

GVotaw:sao  
IBRD



## OFFICE MEMORANDUM

TO: Files

DATE: May 8, 1968

FROM: R. Picciotto *HP*SUBJECT: INDIA - Agricultural Innovation

1. The importance of sociological factors in the formulation of Indian agricultural policy has long been a matter for debate. With the launching of the new agricultural strategy in 1965, the debate has largely been confined to the academic field. A recent book on the above subject put out by the National Institute of Community Development (Hyderabad) is an unusually competent contribution to the discussion.
2. The study examines the diffusion process whereby modern agricultural practices are conveyed to the farmer in India. It is part of a larger study which also covers Brazil and Nigeria. The village is taken as unit of analysis, i.e. the factors which promote improved production methods are analyzed and compared village by village. A follow-up study (which might throw light on the big vs. small farmer controversy) will use the individual cultivating family as the unit of analysis.
3. Unfortunately, the study does not include the wheat growing areas of the North of India where modern agriculture seems to have taken hold. It is based on data from 108 villages located in selected blocks of Andhra Pradesh, Maharashtra and W. Bengal.
4. The book includes many eye-opening and sometimes surprising correlations. But, in my view, the major finding is that there is no significant difference in the success or failure of agricultural programs as a result of the intensity of Government administrative effort, e.g. under the "package" program. Similarly, the study concludes that extension agents with more formal education are only slightly more successful than agents with less, and that the amount of in-service training in agriculture is only slightly and sometimes inconsistently related to agricultural progress. The study also finds that the amount of fertilizer distributed in a village cannot be taken as index of efficiency of the extension effort since this amount is generally at the ceiling of the available supply. I hope that the sophisticated correlations presented in the book will help convince some of the "community development" die-hards still to be found in India and abroad, that availability of modern inputs (including water and power) rather than exhortation, is what the Indian farmer needs to raise his output.

RPicciotto:pop

cc: Messrs. Gilmartin/Ladejinsky  
Votaw/Neuner  
Wapenhans/Takahashi

Mr. Gregory B. Votaw

May 8, 1968

R. Picciotto *attached*

American Embassy Memorandum on Indian Agriculture

1. You have asked for my comments on the above. As background paper for visitors to India, it is a good introduction. However, in my view, the paper leaves the reader with too comfortable a feeling. I am particularly puzzled by the five-fold yield increase calculated on page 9. Somehow the exercise appears too simple to be true and obviously inconsistent with the optimism and self-congratulation generated by a 95 million ton crop in 1967/68, (see page 1).
2. Rather surprisingly, the paper does not bring out that much of the improvement in the Indian diet has resulted from rising foodgrains imports through PL 480 (page 2).
3. For anybody in India who cares to look around and listen, there is considerable doubt about the net contribution of the nationwide network of extension workers set up under the community development program (page 3).
4. The list of unanswered questions listed on pages 10-13 is useful. However, it leaves aside the all-important water policy question as well as the institutional deficiencies which continue to plague the agricultural development effort.

RPicciotto:pop

cc: Messrs. Gilmartin  
Ladejinsky  
Wapenhans  
Takahashi



Form No. 75  
(2-60)

INTERNATIONAL BANK FOR  
RECONSTRUCTION AND DEVELOPMENT

INTERNATIONAL FINANCE  
CORPORATION

INTERNATIONAL DEVELOPMENT  
ASSOCIATION

ROUTING SLIP

Date

7 May '68

NAME

ROOM NO.

~~Bob Piccotto~~ *RF*

~~Bong Sub~~ *hee*

*Files*

~~Notam~~

To Handle

Appropriate Disposition

Approval

Comment

Full Report

Information

Initial

Note and File

Note and Return

Prepare Reply

Per Our Conversation

Recommendation

Signature

Send On

REMARKS

This came in with a letter to  
Mr Namara from ~~the~~ Ambassador  
Bowles. (Is the letter <sup>more</sup> interesting?)

Sounds very optimistic.

Long live the "Agricultural  
Revolution"!

F. ...

*GEV*

Prepared for: Visitors Center  
American Embassy  
New Delhi

Not for Quotation  
or Attribution

Background Memorandum

PROSPECTS FOR INDIAN AGRICULTURE

October 30, 1967

In India, after two years of severe drought, prospects for a record grain harvest are excellent. With normal weather from now until the winter crop is harvested in March production may exceed 95 million tons in comparison to 75 million tons last year.

A major factor in this record production has been an excellent monsoon. Rainfall has been plentiful, widespread and well-timed.

But even more important for the longer haul, this year's bumper harvest reflects the first stages of a revolution in Indian agriculture based on improved seeds, expanded credit, the increased use of fertilizer and pesticides, and better management of irrigation water.

Three or four years ago only a handful of wishful thinkers would have suggested the possibility of India becoming self-sufficient in foodgrains in the foreseeable future. Now there is some basis for hope that, with good rains and the continuing expansion of the present program, this goal may be reached by the early 1970's.

Let us consider the background behind this development. First for the basic logistics:

I. LOGISTICS OF INDIAN AGRICULTURE

At present India has some 368 million acres under cultivation which amounts to approximately 45 per cent of the total land area (only 14 per cent of the land area is cultivated in China).



Twenty-three per cent of the Indian cultivated acreage is planted in rice, 8 per cent in wheat, 28 per cent in coarse grains, 16 per cent in pulses, 2 per cent in sugar cane, 5 per cent in cotton, one per cent in jute, less than one per cent in tea, 16 per cent in oil seeds and miscellaneous crops.

When the British left in 1947, India had 45 million acres or 15 per cent of its cultivated land under irrigation. In the last 20 years this area has grown to 85 million acres with plans for an increase to 111 million by the early 1970's. During the current crop year (April 1967 to April 1968) India expects to produce about 41 million tons of rice, 15 million tons of wheat, 27 million tons of coarse grains and 12 million tons of pulses.

## II. LAGGING FOOD PRODUCTION IN THE 1950's

The story behind the current progress begins in the 1950's. From 1950 to 1961 Indian food grain production increased by roughly 37 per cent while the increase in population was 21.5 per cent. Consequently the daily diet of the average Indian had gradually increased from 1,700 calories to 2,000 calories.

These production increases were made possible not so much by improvements in agricultural techniques but rather because (1) more land was opened up for cultivation, and (2) double cropping in some areas was made possible by the new multi-purpose dams and by additional wells. Output per acre showed but little change.

By the early 1960's the possibility of further extending cultivated acreage had been greatly reduced. The new hybrid seed varieties were not yet available and prices were too low to encourage cultivators to increase their investment in fertilizer and pesticides. Consequently output per acre remained low and foodgrain production leveled off at about 80 million tons annually. In 1963, much of the 200,000 tons of fertilizer (nitrogen) produced in India backed up in the warehouses because of the lack of demand.

Then came an unexpected breakthrough. In 1964 even with an 89 million ton bumper crop, prices rose sharply due to two poor harvests in the preceding years and an increase in deficit financing. Consequently, for the first time since independence Indian cultivators began to receive a significant increase in their incomes. The two severe droughts in 1965 and 1966 raised prices still further.

Although experience the world over has demonstrated that increased prices to farmers invariably leads to increased production, few foresaw the vigor with which Indian farmers would respond. Traditionally cautious, conservative, seemingly indifferent to new methods and techniques, millions of cultivators suddenly came to life.

Demand for fertilizer and pesticides rose by leaps and bounds. New seeds were eagerly sought after. Measures to improve storage facilities and cut down on the rat population were welcomed.

Although the immediate explanation of this revolution in attitudes lies in increased income opportunities for the cultivators, other and less dramatic factors were also involved.

One was the technical assistance rendered by USAID and the Ford and Rockefeller Foundations. Another is the community development program which now extends throughout India.

The latter program, which was launched in 1952, divided rural India into 5,000 "blocks" with roughly 100 villages in each block. Each Block Development Officer has a staff consisting of experts in agriculture, public health (including malaria control), family planning, education and the like.

Although this program was designed as a broad effort to help introduce modern ways into the rural areas, inevitably its major focus was on increased agricultural production. There is no doubt that this nationwide network of extension workers, under the guidance of dedicated young District and Block Development officials, helped lay the basis for the present revolution in rural India.



### III. THE GOVERNMENT OF INDIA COMMITS ITSELF

In December 1965 a major decision was made by the Indian Government. With the support of the Cabinet the then Food and Agriculture Minister, Mr. C. Subramaniam, announced that India was determined to become "self-sufficient" in agriculture by 1971, and pledged the Government to provide the resources required to achieve this goal. Following the formation of a new Cabinet in March 1967 the present Minister, Mr. Jagjivan Ram, reaffirmed this commitment.

In keeping with this decision the Union Government of India allocated Rs. 293 crores (\$390 million) in 1966-67 for agriculture programs as against Rs. 219 crores (\$292 million) allocated in 1965-66. In addition the State Governments allocated Rs. 200 crores (\$267 million). With the Rs. 80 crores (\$105.26 million) carried over from projects initiated the previous year the increase in agricultural investment by the Central and State Governments is well over 50 per cent.

This increase in agricultural investment is especially noteworthy since it occurred at a time when total Government investment was being scaled down as a result of the general economic slump following the war with Pakistan, the temporary cut-off of U.S. aid, and the severe droughts of 1965 and 1966. In the next fiscal year a further substantial increase in investment has been indicated.

### IV. THE SUBSTANCE OF THE NEW PROGRAM

A. Education. For several years India's 24 agricultural degree colleges and a number of specialized institutes sponsored by the Indian Council of Agricultural Research have been conducting extensive programs of research and experimentation. These programs which are based less and less on theory and more and more on the practical realities faced by cultivators, are now providing India with the tools which are required to make India self-sufficient in food grains.

In the last ten years, 30,000 young Indians have graduated from Indian agricultural schools including the eight new agriculture universities set up with U.S. assistance. These graduates include soil biologists,

agronomists, chemists, botanists, veterinarians and the like.

B. Fertilizer. The new Government program announced in 1965, called for a massive expansion of the Indian fertilizer industry and provided generous incentives for new plant construction. The following steps have been taken:

- (1) Removal of geographic constraints on fertilizer marketing and the abolition of the Government's near-monopoly control over fertilizer distribution.
- (2) Decision to allow fertilizer prices to be set by the market demand.
- (3) Provision of adequate foreign exchange to operate fertilizer plants at full capacity.
- (4) Institution of administrative and procedural changes to ease approval and licensing procedures for foreign private investment in new fertilizer plants.
- (5) Provisions of increased credit to farmers regardless of where they buy their fertilizer.
- (6) Abolition of the requirement of government participation in the ownership of private fertilizer plants.

These steps should make possible a continued fast-growth in fertilizer production. In the present fiscal year 1967-68 (July-June) India expects to produce about 500,000 tons of nitrogen, which is an 80 per cent increase over last year. By 1970-71 plants now actually under construction are expected to raise India's nitrogen production capacity by another one million tons to a total of 1.5 million tons.

Successful conclusion of negotiations now in progress with American, British, Japanese and Italian interests would provide, if a reasonable percentage of these come through, for the construction of additional plants capable of producing another 0.7 million tons of nitrogen. This would assure total capacity of 2.2 million tons by 1972.



Production of phosphate fertilizers ( $P_2O_5$ ) is planned to increase from 260,000 tons in 1967-68 to 550,000 tons in 1971-72.

To fill the fertilizer gap before India's own production can meet its needs, fertilizer imports have been sharply increased. In the current year 960,000 tons of nitrogen, 400,000 tons of phosphates and 300,000 tons of potash are being imported by India at a cost of Rs. 150 crores (US \$200 million). This is compared with 376,000 tons of nitrogen, 22,000 tons of phosphates and 94,000 tons of potash only two years earlier.

Plans for next crop year call for imports of one million tons of nitrogen and 330,000 tons of phosphates. If India's foreign exchange situation should permit imports to be further increased the added tonnage would be quickly absorbed.

C. Seeds. India's traditional grain varieties have been developed over the centuries by natural selection. Most of those varieties provide slow developing crops which usually limit the cultivator to one crop per season.

Moreover, most of the traditional plants were long stemmed and tended to lodge (fall over) when even limited amounts of fertilizer were applied. Consequently these varieties were unsuitable for the new production techniques which have been made possible by fertilizer, improved water supplies and pest control.

In the early 1960's Indian scientists began to realize these shortcomings and in cooperation with other governments and private foundations launched a massive down to earth effort to develop and introduce seed varieties suitable to the requirements. As a result India now has improved seeds for all five major food grains. An important feature of most of these new varieties is their short growing season. This permits double and even triple-cropping and consequently is giving a major boost to Indian agriculture.

In the early 1960's the Indian Government imported 18,000 tons of a Mexican short-stem variety of wheat (Sonora 64). Experimentation in Indian research centers resulted in selections specifically adapted to



Indian soil and weather requirements. These were quickly multiplied and are now providing almost fantastic yields. One farmer near Delhi recently harvested in a single crop nearly 3 tons of wheat per acre from a 2-1/2 acre plot.

Wheat seed of the improved varieties is now available to all Indian wheat cultivators. Indeed India is now exporting wheat seed to Nepal.

The rice program is not far behind. The most successful seeds are ADT 27, a variety developed in South India, Taichung Native I and Tainan III from Taiwan, and more recently IR 8 developed at the International Rice Research Institute in the Philippines. These are all high yielding varieties that mature in 105 to 135 days in contrast to the 180 days often required for traditional varieties; their yield is from two to four times greater.

Equally sensational examples could be cited in the production of corn (maize), milo (jowar), and millets (bajra and ragi). Together these so-called coarse grains represent about 25 per cent of India's total grain and pulse production.

Indian scientists are consistently working, and with good prospects of success, further to extend such improvements. Although there are many problems of taste, disease and insects, the plant breeders are now confident that they can keep ahead of these problems.

Last year India planted a total of 4.8 million acres with these locally produced, high-yielding seeds. For the current year (1967-68) plans call for 15 million acres. This acreage will be more than doubled by 1971.

D. Irrigation. In British India, most of the irrigation was provided by artificial lakes and tanks and by canal systems which drew water from the rivers.

In the early years of Indian independence the major emphasis was switched to multi-purpose dams which provided both electric power and irrigation. One of these, the Bhakra Dam in the Punjab completed in 1963,



is now producing 600,000 kilowatts of electricity and watering some five million acres.

More recently the emphasis has been shifting to tube wells which provide water from depths of up to 300 feet, and dug wells which go down 20 to 40 feet. Most cultivators prefer this well irrigation because it can be locally maintained and managed, while canal irrigation, which is controlled by the government, does not always fit local planting schedules.

The Union and State Governments of India are now embarked on a major effort to expand this system of well irrigation. All States now provide loans to enable the cultivators to dig wells. The cost for a tube well averages Rs. 8000 (U.S. \$1051); for a dug well, Rs. 500 to 1000 (U.S. \$70 to \$130).

In Madras State 265,000 wells are now equipped with electric power. In U.P. more than 100,000 wells were dug in the last two years.

The Gangetic Plain is a particularly fruitful area for such development. Although it has not yet been fully explored, many experts believe that it probably contains the largest underground reservoir in the world.

Major and medium irrigation schemes are also being expanded while efforts are made to utilize existing sources more efficiently. Improved irrigation and drainage practices have the potential of supporting other modern agricultural practices that can double or even triple yields on presently irrigated lands.

Although water supplies are not always reliable, roughly 22 per cent of the arable land in India is now classed as irrigated. The substantial increase now planned will, if realized, be a significant move toward freeing farmers in the better watered and more productive areas from the uncertainties of the monsoon rains.

#### V. IMPACT OF INCREASED FARM PRODUCTION ON INDIA'S ECONOMY

The multiplier effect of increased agricultural production on the economy of India is dramatic. Let us consider, for instance, what the new agri-

cultural technology, with adequate water, can mean to a forwardlooking Indian wheat cultivator.

On his five acres of land he formerly produced an average of 535 pounds of wheat per acre currently valued at Rs. 650 (\$87) or more a ton. By using the new high-yielding seeds, irrigation, chemical fertilizers and pesticides this farmer can now increase his yield five times and his net earnings about six times. From a single crop his comparative budgets will look like this:

	Cost by Traditional Methods	Cost by New Methods
	(in rupees)	
1. Plant Protection	0	30
2. Seeds	50	100
3. Irrigation, capital charges @ 20% a year gross return	0	300
4. Irrigation, operating charges	0	50
5. Fertilizer	0	1000
6. Labor and bullock power	250	350
	300	1830
Yield	1.5 tons	7.5 tons
Total Value	Rs. 810	Rs. 4875
Net Earnings	Rs. 510 (\$67.10)	Rs. 3045 (\$400.65)

His new tube well enables him to secure a second crop. This will double his annual net profit to more than Rs. 6100. If there are five in this cultivator's family their per capita income will be four times the present Indian average. Moreover, the cultivator using the new technology has not only increased the yield for one growing season; he has also sharply increased the future productivity of his land.

With this increase in income he begins to purchase consumer items which his family had never been able to afford, -- a sewing machine, bricks and roofing tiles, a transistor radio, a bicycle, lanterns, shoes,



cloth, other consumer goods and ultimately a small tractor — many of them may be produced by new factories in the nearby rural towns. As the rural consumer markets are further stimulated by increased demand the impact begins to be felt in far away urban centers and more money is thus invested in additional industrial production.

This agriculture-small rural industry approach to national economic growth is already responsible for spectacular economic gains in Japan, Taiwan and South Korea. Now there is reason to hope that the same dynamic process is beginning to work in India with its crucially important one-seventh of the world's population.

## VII. PROSPECTS AND PROBLEMS

Although prospects for Indian agriculture are enormously improved in the last few years with the likelihood of still further improvement, several important questions remain unanswered:

1. Will a procurement system be maintained which continues to offer the cultivators the incentives for increased production which have sparked the current surge of new production?

Although consumer food prices are now undoubtedly too high, it is agreed that a sharp drop would reduce production and slow down the present process of growth. The problem is to find a proper balance between prices the non-farm families pay for food and the income the farmers received for growing it. This will require a determination, planning, and bold experimentation.

2. Can a reasonably orderly national foodgrain market be developed and maintained?

At present food distribution in India is based on a system of State zones, with shipment of food across State lines permitted only on a Government account. This program is designed to enable the Government to procure grains more easily from surplus States. However, inevitably it has created sharp differences in price between areas only a few miles apart.

There is now general agreement that with increased production, the zoning system will at some point become not only unnecessary but an impediment to full production. However, the Indian Government will be reluctant to eliminate the zones until it has built up adequate reserve stocks which will enable it to ship supplies to deficit areas and to stabilize prices.

3. Will the present pace of research be maintained?

The development of new seeds is a sensitive and intricate process. New varieties must be developed regularly which are pest-resistant, productive and palatable to the consumers. As new blights develop, these seeds must be replaced at regular intervals with still newer varieties. Consequently any letdown in the present agricultural research program would be dangerous.

4. Will storage facilities be adequate?

At present, the Central Government has storage facilities for 3 million tons of foodgrains with the storage for 2 million additional tons under the control of cooperatives. Eventually India will require a system of pest-proof storage go-downs (warehouses) located in all the 315 districts of India which will cut down transportation problems at harvest time, allow farmers to maintain reasonable prices and prevent losses by rodents.

5. Will the rate of construction of fertilizer plants be maintained and expanded?

The demand for fertilizer in India now greatly exceeds the sharply increased supply. In the next few years, the Indian Government will be hardpressed to meet this growing demand as massive imports cut deeply into India's scarce foreign exchange.

If Indian fertilizer needs are to be met at prices the farmer can pay, present capacity must be expanded. This will require large amounts of foreign exchange which can most easily come from the private sector. To induce this private investment, India must continue to encourage the investors.



6. How will increased farm income affect the political stability of rural areas?

This is a particularly critical problem which is bound to grow in importance in coming years.

At the time of Indian independence, many landholders under the old Zamindari system owned thousands of acres each. India's leaders deserve credit for eliminating this system and establishing land ownership ceilings, terms of tenancy, limits on land rents, etc.

Although the results have been impressive, there are still serious dislocations in many areas. For instance, 38 per cent of the farm land in India is owned by 7 per cent of the farmers; 92 per cent of the farmers who own land own less than 2 acres, and 33 per cent of all the rural people own no land whatsoever.

At this point a word in regard to the optimum size of agricultural landholdings may be in order: Most Americans think of agricultural efficiency in terms of tractors and similar mechanization. However, the largest outputs of foodgrains per acre are achieved not in the United States but in Japan and Taiwan where the size of farms is limited by law to 7 1/2 and 10 acres respectively.

The main role of mechanization is to save labor by reducing the number of men required to operate a single farm. It has been said that an Indian village could live for a week on the wheat that an American or Canadian harvesting machine leaves behind.

In most Indian States the ceiling on land owned by a single family is now about 30 acres with a provision for permanent occupancy for tenants and a limitation of 25 per cent of the crop to be paid by the tenant farmer.

In actual practice, however, it is possible for several members of one family to pool landholdings under the management of a single family member. Because records may be outdated or non-existent the rights of tenants to farm the land at a reasonable rent are often circumscribed.

In this politically explosive framework, a substantial number of the Indian farm families are already participants in a rural revolution which is creating brand new social and political pressures, particularly in those villages where the progress is most pronounced.

Landless laborers may accept their wage of two or three rupees a day without much complaint as long as they know that everyone else in their village is poor. However, when they see the landowners' incomes rising rapidly while their own rises much more slowly if at all, they become restless and resentful.

In other words, the dramatic increases in food output which are occurring -- and which should continue to grow in the years ahead -- may lead to sharp disparities in income which in turn may create an expanding sense of economic and social injustice.

We might add, however, that this phenomenon is not peculiar to India. In America as well as in India the solution or partial solution of old problems inevitably creates new ones; this is an inevitable part of the developmental process.

#### VIII. IN CONCLUSION

India has embarked on an agricultural revolution which would have been difficult to visualize only a few years ago. Throughout much of rural India, there is now a brand new confidence, a new sense of opportunity and of hope.

However, a balanced perspective is essential. Progress in the last three years has no doubt been dramatic; yet the challenge to the Indian Government and cultivators to provide the Indian people not only with an adequate diet but also with a balanced one remains formidable.

Thus far the rural breakthrough which we have described has directly affected between 10 and 20 per cent of the village areas of India. Many of the remaining Indian villages are still relatively untouched by modern technology.



Nevertheless a critically important and impressive beginning has been made which may be expected steadily to spread. With a comparable program of family planning (the subject of another paper), there is now a reasonable prospect that India may succeed in striking a balance between population growth and food production which will enable the great majority of citizens to expand steadily both their living standards and their sense of dignity.





THE AUSTRALIAN NATIONAL UNIVERSITY

Box 4, P.O., Canberra, A.C.T.

Telephone: 49 5111.

Telegrams and cables: "Nativiv" Canberra

IN REPLY PLEASE QUOTE:

1st May, 1968

Mr. R. Picciotto,  
International Bank  
for Reconstruction and Development,  
1818 H Street, N.W.,  
WASHINGTON, D.C., 20433, U.S.A.

Dear Robert,

Thank you for your letter of April 12 and all the items you have been sending me. I sent the following cable to Gilmartin:-

"Re drafts forwarded by Picciotto April 12 STOP  
Am well satisfied their fairness STOP am certainly  
not discouraged but still believe seed industry  
key element together with vigorous research rice  
STOP letter following regards".

Your drafts are indeed interesting and fair. I myself believe the crop to be understated. Just as we did not know how much came out of private stocks in the drought, I doubt if we know how much is going back. Even though crop measures are supposed to be done before harvest, I have my doubts about their reliability especially for covering new varieties and old. On increased nitrogen consumption alone and old yardsticks production should be up on 1964-65 by 6 M. tonnes. Add other fertilisers, new varieties (which have had measurable result, especially in wheat), more water, I find it difficult to believe 95 M. tonnes is the total if 87-89 was the figure for 1964-65 which was a good year. However, one's emotions may be involved.

One thing that disturbs me, at least if the Economic Times data mean anything. Wheat prices have receded but rice is really stubborn. Does this mean simply that rice is still tight (or being stocked) and wheat is freer to move?

I remain convinced that the seed industry is vital. (I seem to have read paragraph 9 of the main draft too often - it is too soothing). Equal to it I would put continuous adaptive research. I think it high time some dynamism appeared in I.C.A.R. Is there anything I can do to assist?

The wording of paragraphs 16-17 seems confusing. Paragraph 16 reads as though supply is outstripping demand while 17 says a buyer's market is unlikely. I hope supply is reaching present demand: this will increase the urge by private enterprise to be given their head in mounting sales programs.

All the rest of my markings amount to agreement and gratitude that someone is watching the situation closely, as you clearly are.

.../2

Atk May 10

(Luds)  
by



To: Mr. R. Picciotto

Shortly I hope my Research Fellow - Mr. B.A. Lockwood - will make his first visit on my behalf. Please give him all the help you can. My own next visit, I hope, will be in December or January. I may be in Washington in September, but the University keeps me pretty busy.

Warm regards.

Yours sincerely,

*J.G. Crawford*  
(J.G. Crawford)  
Vice-Chancellor

Copy of this letter sent  
to Mr. W.M. Gilmartin.



CROSS REFERENCE SHEET

✓ Agri  
Pop  
Imports  
Future Bank  
Econ. Worl

COMMUNICATION: ECONOMIC COMMITTEE MEMORANDUM #EC/M/68 - 18

DATED: April 26, 1968

TO:

FROM:

FILED UNDER: INDIA p - CONSORTIUM

SUMMARY:

INDIA - Minutes of Special Meeting called by the Chairman of the Economic Committee to consider updating the memorandum "Note on India's Current Economic Situation and Foreign Aid Requirements." prepared by Mr. Gilmartin and the staff of the Resident mission in New Delhi.

It was agreed that the memorandum should be revised to reflect the following substantive comments, and various drafting points. The revised version would be cleared with Mr. Friedman and distributed to members of the Special Meeting.

Agriculture

EXCERPT

11. Mr. Cargill agreed that the Bank should not appear to be in the position of condoning and rationalizing the "food zones" (controls on food grain trade between the states). The Bank had long criticized such controls.
12. The shift in the allocation of resources to agriculture, reflecting the Government's new policies, coupled with the use of the new high-yielding seed varieties, constituted important new elements in India's economic position and prospects. However, at this point optimism about future production possibilities had to be tempered with caution, because it was not yet possible to ascertain to what extent increased production had resulted from improved climatic conditions. Also, further increases in the volume of inputs would be required.
13. Significant inconsistencies in information (from different sources) on the prospects for fertilizer production had to be clarified.
14. The Bank's recommendations on the additional measures necessary for further implementation of the new policies should be brought out more clearly (mainly relating to power transmission, irrigation facilities and ground water surveys).
15. It was agreed that the Government should undertake appropriate action to ensure that in the future, lack of agricultural credit would not become a bottleneck to further increases in agricultural production.



Apollon

Back to Office Report

INTERNATIONAL BANK FOR RECONSTRUCTION AND DEVELOPMENT

INTERNATIONAL DEVELOPMENT ASSOCIATION

OFFICE MEMORANDUM

TO: Mr. L.J.C. Evans

FROM: P. Kirpich, K. Myint and P. Naylor

SUBJECT: INDIA - Punjab and Haryana Drainage Project  
and Agricultural Study  
Back-to-Office Report

DATE: April 25, 1968

1. Previous missions, in 1965 and 1966, did not result in a completed appraisal report because of non availability of IDA funds. In the interim, execution of drainage works has proceeded in both States; the project as appraised in 1966 needs therefore to be changed accordingly. The mission discussed in detail with the authorities of the two States the scope and the order of magnitude of a tranche of the drainage works that would form a suitable project for IDA financing. Both States are preparing "project submissions" for submittal to the Central Government Authorities by May 10. The latter have promised to send this material to IDA by the end of May. In the meantime, with the information collected by the mission, the preparation of the appraisal report can proceed and provided that the additional material is received as scheduled, a draft appraisal report should be available for circulation to Working Party by the end of June.
2. At present a rough estimate of the cost of the drainage works is Rs 140 million. Of this, about Rs 20 million would be the foreign exchange requirement for imported items of equipment. Not included in the foreign exchange requirement are items of construction equipment including bulldozers and some draglines that are now manufactured in India. Working Party will need to consider whether international bidding procedures should be extended to all equipment to be used on the project.
3. With reference to the agricultural study, the mission found in the two States and the Central Government keen interest to proceed as quickly as possible. The installation of tubewells-- private rather than public -- has expanded rapidly during the past few years. The prospect that the study team will be able to identify and prepare two tubewell projects, one in each State, seems highly favorable.
4. The latest version of a draft contract between the Government of India and the U.S. Bureau of Reclamation was discussed. Only minor points remain for further discussion and negotiation between the two parties. The foreign exchange cost of the study to be financed in conjunction with the project is estimated at about \$2.2 million.
5. The preparation of the tubewell projects mentioned in para 3 would be expedited if drilling rigs for exploration were available. So as to gain about six months' time, consideration should be given to the sending



April 25, 1968

to India of two USBR experts of the study team for about a month each prior to the signing of the credit. These experts would assist in preparation of specifications and tender documents for the rigs. Thus bids could be invited internationally and tenders received while actual award of contract could await signing of the IDA credit.

Cleared with and c.c. Mr. Wapenhans

c.c. Messrs. Chadenet  
Bell  
Sadove  
Lipkowitz  
Piccagli  
Lind  
Votaw (Area)  
P. Reid (Rome)(2)  
Veraart  
Operational Files

PKirpich:ceo  
IBRD

Progress of the New Agricultural Strategy

1. The new agricultural strategy was launched in 1965/66 on the premise that the major bottleneck to agricultural development in India is the lack of modern inputs rather than a restrictive social framework - or the backwardness of the farmer. The main feature of the strategy is a considerable step-up in input availability - mainly high yielding seed and fertilizer under the High Yielding Varieties Program (HYVP). The strategy is also characterized by more groundwater use under private management, more intensive land use through multiple cropping and more diversified institutions at the service of agriculture, notably in the credit field.

2. The two first years of the new agricultural strategy were affected by exceptional drought. Thus, 1967/68 is the first year when adverse weather cannot be said to have annulled the effect of new strategy programs. As always in a country the size of India, the weather picture in 1967/68 has not been good everywhere. Cyclone and drought affected kharif rice production in Orissa and poor October-November rains affected rabi irrigation supplies in Mysore, Andhra Pradesh and Madras. Yet, pre-monsoon and monsoon rains were on the whole good, and winter rains were timely and plentiful. Barring exceptionally poor weather during the rest of the rabi season, the weather factor should have exerted a beneficial influence (or at worst a neutral influence) on production.

3. Advance estimates for 1967-68 put the foodgrains at 95 million tonnes. This is an all-time high for India. It is almost 27 per cent above last year's output. However, output in that year was abnormally depressed on account of the drought. A more sober perspective emerges if this year's production is compared to production in 1964-65 (a good weather year): the implied annual increase is only 2.3 per cent. A still longer view of production trends indicates that a 95 million tonnes crop would merely put production back on the same growth trend about which it has been oscillating since the early fifties. The question therefore arises as to whether a 95 million tonnes crop adequately reflects the efforts which have accompanied the introduction of the new technology.

4. A calculation comparing estimated performance with the expected response of the foodgrains sector to Government programs appears in Appendix A. Given the weaknesses of the data reporting system, this is hardly more than informed guesswork. There is also room for doubt with regard to: (a) base level for calculation - ; (b) extent of new strategy program coverage; (c) net weather impact on production; (d) importance of area expansion; (e) usefulness of the individual yardstick approach (implying no complementarity in input use and constant returns to scale).

---

1/ Some long-time observers of the Indian agricultural scene have discerned a declining growth trend for foodgrains production in the early sixties. From their standpoint, even a 95 million tonnes crop represents a notable achievement - being above the trend of a declining growth trend line fitted to historical data.



5. On balance, the conclusion emerges that a 95 m. tonnes crop would leave a substantial gap between expected production response and actual agricultural performance. But considering the sad state of production statistics <sup>1/</sup> and the obviously encouraging response of farmers to Government programs, one is tempted to attribute the bulk of the gap to an understatement of the crop. Indeed, many skilled observers of Indian agriculture are talking about a crop around 100 million tonnes this year. An optimistic view is undoubtedly supported by the eagerness with which an upper layer of progressive farmers is taking to the new technology. But a lag between the very high yields achieved by a few farmers and significant increases in yields by a majority of farmers is bound to exist. Whatever the exact levels of production so far, a major task of public policy in the next few years will be to keep this lag to a minimum by attending both to the qualitative and to the quantitative aspects of input use by an increasing number of farmers.

#### HYVP

6. 1967/68 is the second year of the high yielding varieties program. The official advance estimate of coverage for the year is about 15 million acres but this is based on compilation of State estimates of varying accuracy and may overstate actual coverage by 2-4 million acres <sup>2/</sup>. Of course even a coverage of 12-13 million acres would be an impressive achievement over a two-year period.

7. The most successful aspect of the program has been the large-scale introduction of dwarf wheat cultivation in Punjab, Haryana, Uttar Pradesh and Rajasthan. Under favorable conditions (i.e. in well irrigated and drained fields, with adequate fertilizer and improved practices) the new varieties can yield twice or three times as much as the traditional varieties. Some new varieties can be sown late thus opening up profitable opportunities for multiple cropping. <sup>3/</sup> Furthermore, consumer resistance to <sup>4/</sup> the dwarf wheats is being broken by the recent release of amber-seeded lines <sup>5/</sup> and

- 
- <sup>1/</sup> The Government has initiated improved statistical coverage in two States and two more States may come under this program next year. It will take several seasons for the new statistical apparatus to throw up reliable output data for the country as a whole.
  - <sup>2/</sup> Individual States tend to press for high targets (and to report high achievement) in an attempt to increase their share of scarce supplies - particularly nitrogenous fertilizer. An independent estimate of coverage and better follow-up information on problems of implementation (e.g. through sample survey) is essential for improved management of the new strategy.
  - <sup>3/</sup> Late sowing of Sonora 64 has helped to popularize the following rotations: sugarcane - wheat, potato - wheat, rice - wheat.
  - <sup>4/</sup> Sharbati Sonora released in May 1967 was obtained from Sonora 64 red-wheat Mexican variety by mutation breeding. It is dwarf variety with amber and lustrous grain and good chapati-making characteristics. It has 15-25 per cent more protein than its parent. Other available amber-seeded dwarfs include S308, S227, Sona 227, Kalyan 227 and Safed Lerma.



rust disease problems have not proven serious so far. Already dwarf wheat cultivation could have covered 4-5 million acres during the 1968 rabi season.<sup>1/</sup> It could well spread over 10-11 million acres next year, representing the bulk of the irrigated wheat acreage. Uniformly high yields over this acreage will, of course, await qualitative improvements in input use including more widespread use of the seed drill, land levelling, and timely irrigation.

8. India's rice economy has also received a significant boost following the introduction of new, fertilizer responsive, dwarf varieties of paddy, which, under favorable conditions, also yield two to three times more than traditional paddy varieties. However, it is apparent that a breakthrough of the same magnitude as for wheat has yet to materialize even though with the traditional improved varieties there is scope for considerable progress through double cropping, increased fertilizer use and better practices. Dwarf rice cultivation in 1967/68 may have covered 4-5 million acres, i.e. 15-18 per cent of the irrigated rice acreage. However, further expansion may prove more difficult than for wheat as the imported exotic varieties of paddy have proven less adapted to the Indian environment. In several areas of the Center and South, the severe incidence of blight disease and gall midge attack under high moisture condition has discouraged kharif cultivation of TN1 and IR8. Another stumbling block (aggravated by the food zones) has been the absence of high yielding lines with grain shape and cooking characteristics prized by the Indian consumer. Fortunately, research already underway is likely to break this bottleneck within a few seasons.

9. High yielding (hybrid) varieties of maize, jowar and bajra may have been cultivated over 3-4 million acres in 1967/68. This represents only 4-5 per cent of the aggregate area under these crops. As in the case of paddy, the genetic base of the hybrid program is relatively narrow as a result of inadequate public support of research activity.<sup>2/</sup> Expansion of the area under hybrid jowar has been set back by the high susceptibility of the released hybrids to attack by the shoot fly. Similarly, released varieties of bajra have provided insufficient protection from bird attack. More significantly, progress of the hybrid program has been set back by poor seed quality<sup>3/</sup> partly the result of an inadequate policy framework

---

1/ The Government's advance estimate for wheat under HYVP coverage is 6 million acres but this includes some improved non-dwarf varieties.

2/ Coordinated research projects for the wheat, maize, sorghum and millet programs have been under official consideration for almost two years. It seems that red tape and issues of State - Center financing (rather than the amounts involved: Rs. 22 million till 1970) have delayed approval. It is noteworthy that in 1965/66 tobacco received more financial support from the Center than all the foodgrains combined.

3/ There is likely to be enough certified seed output to double (or perhaps treble) the area under hybrids next year (1968/69). However, problems of processing, distribution, storage, and quality control have if anything increased with the rapid expansion of the program.



for private hybrid seed production. However, with the enactment of a Seed Act, better quality controls, an expanded processing industry and a new seed policy under active consideration by the Government, the basis for sound private seed activity is likely to be laid soon.

#### Water

10. The new agricultural strategy emphasizes the full utilization of available water supplies. Under HYVP, scarce inputs are channelled to areas which (at least in theory) enjoy assured water supply. However, in practice, even districts listed in this category are very much dependent on favorable rainfall for satisfactory production performance. Environmental limitations are compounded by the reluctance of most States to focus staff and resources in limited areas, leading to a thin spread of HYVP - over some 250 districts. The inadequacy of irrigation systems within most of these districts may have been a limiting factor to the penetration and spread of the new technology.

11. With the exception of jowar and bajra, assured water is indispensable to the expansion of the new agricultural strategy. Unfortunately, more than half of India's irrigated area of about 90 million acres is fed by minor tanks, shallow wells and minor diversion works with insufficient water reserves for long dry spells - when water is most needed. A substantial proportion of the remainder is served by extensive canal structures designed for drought protection rather than for intensive year-round cultivation and operated in such a way that farmers at the tail-end of the system can never be sure that they will receive sufficient water at the right times to raise good crops. Against this background, it is not surprising that with the advent of the new technology, a great number of farmers have been eager to relax the constraint of inadequate water systems through investment in minor irrigation - often within the command areas of major irrigation schemes.

12. Reliable figures on the progress of minor irrigation under the new strategy are hard to come by. Yet, available statistics as well as field observations point to an impressive private irrigation boom. Before the new strategy was initiated, a total of about 400,000 wells were energized. In 1965/66, the annual rate of electric pumpset connections rose to 105,000. For the past two years, it has levelled off at about 140,000. But demand is still running ahead of supply. The waiting list is now about 250,000 and only lack of finance for transmission and connection is said to prevent the State Electricity Boards from raising the annual connection rate to 180,000. Private demand for tubewells in the Indo-Gangetic and coastal plains also exceeds public and private capacity to provide the necessary materials, supplies and supporting services.<sup>1/</sup> A major task of public policy in coming years will be to step up the level of these services

---

<sup>1/</sup> In broad orders of magnitude there may now be about 150,000 private tubewells in India irrigating about 3 million acres and 13,000 State tubewells commanding about two million acres.



several times over present levels. This will involve the design and operation of expanded credit services to farmers and contractors, the implementations of comprehensive groundwater surveys <sup>1/</sup> as well as a step-up in power transmission and connection programs. <sup>2/</sup>

13. Another unfinished task in the water field is the rational utilization of past investments in major and medium-sized irrigation projects. <sup>3/</sup> The ultimate irrigation potential of the schemes initiated to date is estimated by the Central Water & Power Commission at about 44 million acres, of which about 18 million acres may be utilized. One obstacle to a fuller utilization of the country's water potential is the lack of trained personnel for soil and water management programs. In order to meet this need and develop field-tested standards for irrigation, drainage and land shaping designs, the Government has initiated pilot projects in three representative areas of the country: Mysore (black cotton soils); Punjab (drainage problems); UP (groundwater management). The Government is also considering implementation of more projects of this kind, particularly in delta areas. The use of credit by ARC (Agricultural Refinance Corporation) as a means of accelerating land development operations within the command area of major irrigation schemes (Nagarjunasagar, Tungabadra) as well as the improved coordination in these areas of the numerous public and private actions aimed at watershed development illustrates a new approach to irrigation policy. Already water utilization in the past two years is reported to have increased by 2 million acres per annum as compared to an average of one million acres a year during the early sixties. <sup>4/</sup> Yet, as things stand now, clearly not enough resources are being provided to ensure a steady expansion of the area in which water supplies and water control are adequate to realize the potential benefits of other agricultural inputs. An urgent need is for investment-oriented basin-wide studies.

#### Fertilizer

14. The new agricultural strategy is heavily dependent on a stepped-up fertilizer program. This is largely because the dwarf and hybrid varieties

- 
- <sup>1/</sup> In most areas, lowering of the water table has not proved a serious problem so far. However, the risk of proceeding without adequate hydrological data will increase as the program expands.
  - <sup>2/</sup> A useful financing device used by some State Electricity Boards is to sell debentures directly to farmers who can use the debentures as security for borrowing from the Land Mortgage Banks and are ensured priority in the electrification program of the Boards. This device may have financed 5,000 connections last year. Methods to involve the commercial banks in similar financial devices are being looked into.
  - <sup>3/</sup> Only about half of the 500 medium and major irrigation schemes undertaken since 1951 have been completed. However, nine major schemes account for a substantial proportion of the unused potential (Annex 3).
  - <sup>4/</sup> These figures should be viewed as broad orders of magnitude based on water releases rather than on accurate area surveys.



require two to three times the fertilizer dosage recommended for ordinary varieties. At low levels of fertility, India's traditional improved varieties yield almost as well as the dwarfs and hybrids. Furthermore, they require less care and water, fetch a better price and produce relatively more fodder than the HYVP varieties. The incentive to use high yielding seed is therefore intimately linked to the ease with which fertilizer can be obtained.

15. Since the beginning of the new strategy, nitrogenous fertilizer availability has risen by more than 40 per cent a year (compared to an average of 22 per cent in the early sixties.) Despite this, demand pressures have remained high because of the sharply increased fertilizer absorption of the new technology. To illustrate, the official HYVP targets have implied nitrogenous fertilizer requirements which account for the bulk of increased supplies of N (Annex 6). As a result, pressures to expand the area and crop coverage of HYVP have arisen and rationing of supplies by the public distribution system (still the dominant factor in nitrogenous fertilizer allocation) has continued to be a thankless task.

16. The fertilizer supply situation will considerably ease next year. In fact, nitrogen availability already improved in rabi 1968 following late arrivals and slow unloading of 1967 imports contracted for kharif 1967 (Suez, port congestion). The carry-over into 1968-69 may be of the order of 300,000 tonnes. Since import contracts for approximately 800,000 tonnes have already been passed and indigenous production is likely to exceed 600,000 tonnes, the situation could well arise when, for the first time, limitation in fertilizer demand rather than supply would stand in the way of reaching the Government's nitrogen consumption target (1.7 million tonnes). Phosphate and potash supplies are also easing considerably following improved arrangements for imports of sulphur, phosphate rock and potash.

17. Given the abysmal average level of fertilizer consumption in India, and the new attitude of the Indian cultivator towards chemical fertilizers, a buyer's market for fertilizers seems to be an unlikely prospect for the next few years provided arrangements for credit, distribution and sales promotion receive adequate attention. Reliance on public, mixed as well as strictly private manufacture and sales should help ensure that sales consideration are given sufficient weight in the fertilizer program. But to this end, the Government's liberal fertilizer distribution policies should be implemented by all major States.

18. Long term prospects for fertilizer consumption will depend on whether the momentum of the agricultural revolution can be maintained into the seventies i.e. essentially on whether adequate water development programs are implemented and better supporting services become available to the commercial farming community.

#### Credit

19. The cooperatives are the main source of short-term credit to farmers. They now handle about 3,500 million worth of lending a year - of which about Rs. 1,000 million is for fertilizer. But on the basis of the Government's fertilizer consumption targets, the magnitude of farmers' short-term credit needs for fertilizers alone has been estimated at Rs. 5,200 million by 1970-71,



representing an increase of more than 30 per cent a year over present levels.<sup>1/</sup> In order to help meet the increasing demand, far-reaching steps must be taken to equip the co-operative credit institutions to improve their operations. New institutional devices (including the commercial banks) must be found to supplement the cooperatives, particularly in areas where they are weak. In this connection, it would undoubtedly be expedient to make use of private input dealers and perhaps the traditional money-lending channels, to support the rapidly expanding use of modern inputs.

20. In the term lending field, substantially stepped-up financial services to the progressive farming sector are emerging through more flexible procedures and additional branch facilities by Agro-Industries Corporations, Land Mortgage Banks and commercial banks. The loan advances made by the Land Mortgage Banks for medium and long term credit needs of owner cultivators have risen from about Rs. 120 million in the early sixties of Rs. 560 million in 1965-66 and Rs. 830 million in 1967-68. The 1968-69 credit target is Rs. 1,040 million. Perhaps as important as the increase in the scale of Land Mortgage Bank credit has been the gradual re-orientation of its lending towards productive purposes. However, there are many States where Land Mortgage Banks are weak. In order to meet the growing term lending needs of farmers, policies are being designed to encourage increased agricultural activity by the commercial banks. Already, expanded rediscounting facilities (through the Agricultural Refinance Corporation) and lower reserve requirements for agricultural loans have been instituted by the Reserve Bank. Hire-purchase credit for tractors, sprayers, pumpsets is expanding. As tractor production moves up to substantially higher levels (from 3,000 in 1964 to an estimated 18,000 in 1968) and, generally speaking, as the manufacturing sector begins to respond more and more to the demands of the progressive farmers, credit could become a bottleneck to the modernization of Indian agriculture.

#### Prices

21 For the farmers which are the main focus of the new agricultural strategy (those in water secure areas) recent economic circumstances have been propitious. The surge in food prices following two drought years has rapidly reversed the gradual drift against the cereal farmer's terms of trade of the late fifties and early sixties. But with the return of the good weather, the cereal price index is <sup>again</sup> declining. It dropped 11 per cent from October 1967 to February 1968 (as compared with a 17 per cent rise for the corresponding period last year).

---

<sup>1/</sup> See the excellent Report of the Fertilizer Credit Committee of the Fertilizer Association of India, 1968. (p. 221). Early implementation of this report's recommendations to handle the increased credit demand is essential to the progress of the new strategy. Another official report sponsored by the Reserve Bank on the total rural credit picture is expected soon.



22. The need to revive the industrial economy and to curb inflation militates for food prices substantially lower than prevailing in mid-1967. On the other hand, the Government realizes that a foodgrains price slump below incentive levels must be avoided to maintain the momentum of technical progress in rural areas. This is translated in a readiness to purchase any amount of grain offered at the procurement price (thus making the procurement price a guaranteed floor price). The procurement price announced for common white wheat for rabi 1968 (Rs. 76 a quintal) compares with pre-harvest (February) prices around Rs. 76 - 80 per quintal in Punjab and Haryana and around Rs. 105 - 115 in Uttar Pradesh. Of course, the policy test will consist in making <sup>the</sup> guarantee hold despite heavy market arrivals expected in the Punjab during April, May and June. The removal of most central subsidies on public distribution of cereals was designed not only as an additional step towards normalcy in foodgrains trade (and as a budget-saving measure) but also as a step to avoid excessive price declines. <sup>1/</sup>

23. Because of the large demand to replenish farmers and traders stocks in the Center and South, the total removal of food zoning would have facilitated the fulfillment of the Government's incentive price policy. In addition, such a course would have eliminated the irksome and wasteful price disparities (over and above transfer costs) which have narrowed since last year, but remain significant. For example, the price for coarse rice in Orissa is Rs. 15-30 per quintal below the Bihar price - as compared to a differential of Rs. 65-85 at the same time last year. Similarly, the Uttar Pradesh - Punjab wheat price differential is about Rs. 10-12, compared to Rs. 20-35 last year.

24. The Government recognizes the imperfections of the food zone system. But it views the bumper rabi crop as an opportunity to gain a stronger position on the foodgrains market through expanded procurement and buffer stock build-up. Procurement of kharif foodgrains was disappointing: it is unlikely to yield more than 3.5 - 4.0 million tonnes (as against an original target of 7 million tonnes). By bottling up wheat supplies in an enlarged Northern zone comprising Punjab, Haryana, Himachal Pradesh, Jammu and Kashmir and Delhi, the Government hopes to be able to procure 1.5 - 2.0 million tonnes of rabi foodgrains (as against an original target of 1 million tonnes). Without a monopoly position over long haul transfers of grain it feels that such procurement is unlikely to be reached at official prices. However, further dezoning may be considered if the 1968 monsoon proves favorable and a substantial buffer stock has been set aside.

---

<sup>1/</sup> Since January 1968, the issue price for coarse rice went up from Rs. 80 to Rs. 96 a quintal while the issue price for imported wheat went up from Rs. 55 to Rs. 67 a quintal.



25. A foodgrains crop of 95 - 97 m tonnes unless supplemented by imports would mean a per capita availability of only 152 - 156 Kg per capita (taking account of probable private stocks variations). This would only be marginally higher than availability during the past two years of acute scarcity and might imply continued pressures on food prices & a risk which the Government is reluctant to take. Foodgrains imports are therefore needed this year - quite apart from the requirements of Government stocking. With the maintenance of food zones, the public distribution system would need 8-10 m. tonnes for routine transfers and Government welfare objectives. Given the requirements of its buffer stock policy (3 m. tonnes by the end of the year), and a domestic procurement level which may reach 5-6 million tonnes, the Government estimates the year's import demand at 6-8 m. tonnes. All in all, skillful management will be required to strike a favorable economic balance between the varied objectives of the Government's food policy.

26. Implementation of the Government's price stabilization objectives requires additional storage. Total storage space available to the food agencies is now estimated at 5.2 million tonnes. A crash program initiated in the Punjab will only make a marginal addition to these facilities. In addition to expansion and modernization of facilities, there is need for a gradual shift of focus of the storage program from the ports to the interior. However, regional storage needs will depend on the future foodgrains movement policy of the Government.

#### Prospects

27. A projection of foodgrains production appears in Annex 12. It is based on Draft Fourth Plan Outline input targets for 1970-71 and on currently used yardsticks (which would be consistent with an output of 97-98 million tonnes this year). It assumes that multiple cropping benefits are already counted under the heading of minor irrigation and it takes no account of potential benefits from large scale irrigation projects. It yields a foodgrains output level of about 114 million tonnes in 1970-71 (6 million tonnes below the Government's official target). While not much should be made of this kind of rough arithmetic, the exercise does emphasize a view prevalent in many policy-making circles that existing fertilizer availability targets should be viewed as minimum requirements and that increased emphasis on water should characterize agricultural programs during the next few years.

28. There is no conclusive evidence yet that agriculture has embarked on a higher growth path as a result of the Government's new agricultural strategy. On the other hand, the trends in public and private agricultural activity described in this paper suggest that the agricultural economy is indeed picking up speed. In order to maintain the momentum generated by the growing acceptance of high yielding seed by Indian farmers, the Government will need to: (a) strengthen its support for research; (b) devote additional resources to water development; (c) maintain the priority of the fertilizer production and import programs; (d) build up stronger and more effective supporting services for the progressive farming sector; (e) remove the burden of archaic foodgrains marketing practices.



INDIA - 1968Estimated Production Impact of  
the New Strategy

1. In order to assess the impact of the new agricultural strategy against the Government's targets, one needs a production base from which to start. It seems natural to pick 1964-65 as the base: this is the last agricultural year preceding the introduction of the new technology on a substantial scale. It is also the most recent year with production statistics relatively free from political bias. Foodgrains production during that year reached 89 million tonnes. However, this was, in part, a reflection of relatively good weather. A statistical analysis of production trends suggests that India's foodgrains potential for that year is nearer 87 million tonnes: this is the computed value obtained by fitting a constant growth curve to 1950/51 - 1963-64 production data. It falls midway between estimates computed on the basis of 3-year and 5-year moving averages and it is consistent with earlier official estimates of the 1965-66 production potential base (90 million tonnes).
2. Agricultural development schemes can generally be described in terms of physical units of works or supplies or (for a given input-mix) in terms of area coverage. The planning "yardsticks" in use in India measure, for the country as a whole, the average output expected from each physical or area unit involved in major works or supply schemes.<sup>1/</sup> Some important yardsticks at present in use at all-India level are listed below. They refer to the three main components of the new agricultural strategy.<sup>2/</sup>

Table I : MAJOR PRODUCTION YARDSTICKS <sup>3/</sup>  
(in terms of incremental  
foodgrains production)

High Yielding Varieties Program	:	0.6
Fertilizer		
N	:	10.0 MT per MT (nutrient)
P <sub>2</sub> O <sub>5</sub>	:	6.0 MT per MT (nutrient)
Minor Irrigation	:	0.2 MT per acre

- <sup>1/</sup> The use of individual yardsticks assumes that benefits from each individual measure are additive. In fact, there is a close interdependence between all production factors so that the resultant benefits of a combination of measures may be either more or less than the sum of individual yardsticks.
- <sup>2/</sup> Yardsticks also exist for land improvement schemes, application of manure and improved seeds distribution. But, in order to lean on the side of caution, these yardsticks have not been taken into account in the assessment which follows.
- <sup>3/</sup> The HYVP yardstick is derived from Table A.1 attached. The other yardsticks are derived from Report on Estimation and Assessment of Production Potential of Crops, Ministry of Food and Agriculture, 1966.



3. As already noted, much of the impetus behind the new strategy results from the introduction of fertilizer responsive cereal grain varieties and their growing acceptance by farmers. The current agricultural year is the second of the High Yielding Varieties Program (HYVP). The official advance estimate of 1967/68 coverage is about 15 million acres. However, spot checks indicate that this may be an overestimate and that 13 million acres could be a better approximation of coverage. On the basis of the HYVP yardstick, this implies an addition of 7.8 million tonnes of foodgrains over the 1964/65 base (Annex 3).

4. The full impact of increased fertilizer supplies on foodgrains production is difficult to assess given the lack of reliable data on consumption. According to rough estimates which appear below, the response of traditional foodgrains varieties to increased 1967/68 fertilizer supplies might be in the neighborhood of 1.6 million tonnes.

Table II : PRODUCTION RESPONSE OF TRADITIONAL  
VARIETIES TO : N AND P<sub>2</sub>O<sub>5</sub>  
( 000 MT )

	N	P <sub>2</sub> O <sub>5</sub>
Increment 1967/68 over 1964/65	610	330
Less HYVP Requirements	460	210
Residual	150	120
Of which, applied on traditional varieties <sup>1/</sup>	105	85
Response	1,050	510

5. Minor irrigation under private management has received official encouragement under the new strategy. The official projection of minor irrigation expansion between 1964-65 and 1967-68 is in the neighborhood of 9-10 million acres. It is estimated that about 80 percent of the irrigated area is under foodgrains so that, using the relevant yardstick of Table I, the expected contribution of the minor irrigation programs to India's foodgrains production potential works out to about 1.4 - 1.6 million tonnes.

6. Other components of the new agricultural strategy include:

- (a) multiple cropping: the promotion of multiple cropping in areas having adequate irrigation may have covered 7.5 million acres in 1967/68. This program is linked to the availability of new short-duration cereal varieties but it is not clear how much of the expanded acreage has actually gone into foodgrains and how much into groundnut, cotton and other commercial crops;

<sup>1/</sup> Arbitrarily taken as 70 percent of the residual.



- (b) expanded plant protection measures: the acreage treated against pests and diseases is estimated to have tripled over the past two years reaching an estimated 126 million acres during 1967/68;
- (c) mechanization: domestic production and imports of wheel tractors and power tillers has also tripled over the past three years. Total tractor requirements for the year are estimated at 25 thousand units.

To a large extent, those programs are complementary to those geared to the distribution of high yielding seeds and chemical fertilizers: no additional productive response has therefore been assumed on their account.

7. The minimum aggregate 1967/68 production response to the new strategy as it emerges both from official yardsticks and reasonable expectations of program coverage appears below. It conservatively assumes no increase in the area under foodgrains. It suggests that a 95.0 million tonnes crop in 1967/68, if confirmed, would leave little room for complacency as it would imply a gap of nearly 3 million tonnes (or about 25 percent) in relation to the expected impact of the new technology. There is, of course, room for reasonable doubt with regard to the appropriate base level for the calculation, to the net influence of the weather factor this year and (from a methodological standpoint) to the usefulness of the individual yardstick approach. On balance, given the obviously encouraging reaction of farmers to Government programs and taking account of the sad state of agricultural statistics in India, one would be tempted to attribute the bulk of the calculated gap to an understatement of the crop.

Table III : EXPECTED 1967/68 PRODUCTION COMPARED  
TO ESTIMATED PERFORMANCE

Expected HYVP Response	7.8 m. tonnes
Expected Fertilizer Response of Traditional Varieties	1.5 m. tonnes
Expected Minor Irrigation Response	1.4 m. tonnes
Other Programs	no allowance
Total Expected Response	10.7 m. tonnes
Base for 1964-65	87.0 m. tonnes
Total Expected Production	97.7 m. tonnes
Actual Estimated Production	95.0 m. tonnes
Gap	2.7 m. tonnes



Table A. 1

Estimated HYVP Production Response  
Compared to Actual Production

	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>
	1964/65 Production Base	1967/68 HYVP Estimated	Original <sup>1/</sup> Yardstick	HYVP Incre- ment	1967/68 Production Base <sup>2/</sup>	Actual 1967/68 Estimated
	(Million MT)	(Million acres)	(MT/acre)	(Million MT)	(Million MT)	(Million MT)
Rice	38.0	5.3	0.66	3.50	41.50	40.50
Maize	4.5	0.9	0.50	0.45	4.95	5.00
Jowar	9.5	1.8	0.50	0.90	10.40	10.50
Bajra	4.5	1.0	0.25	0.25	4.75	5.00
Wheat	12.0	6.0	0.66	3.96	15.96	15.00
Other	18.5	-	-	-	18.50	19.00
	<hr/>	<hr/>	<hr/>	<hr/>	<hr/>	<hr/>
	87.0	15.0	0.60	9.06	96.06	95.00
	<hr/>	<hr/>	<hr/>	<hr/>	<hr/>	<hr/>

<sup>1/</sup> The maize, jowar and bajra yardsticks are those set forth in Indian Economic Policy and the Fourth Five Year Plan, Volume 11 - Agricultural Policy in India, IBRD Report, May 23, 1967 on the basis of official statements, the wheat and paddy official yardsticks which stood at 1.00 MT/acre have since been reduced to 0.66 according to information furnished by the Directorate of Economics and Statistics.

<sup>2/</sup> On account of HYVP alone.



PRODUCTION OF FOODGRAINS

	1964/65 (Partially revised)	1965/66 (Partially revised)	1966/67 (final)	1967/68 <sup>1/</sup> (Est.)
<u>Kharif Cereals</u>				
Rice	39.03	30.66	30.44	40.50
Jowar	9.75	7.53	8.94	10.50
Bajra	4.45	3.66	4.50	5.00
Maize	4.66	4.76	4.99	5.00
Ragi	1.90	1.18	1.60	2.00
Small Millets	1.95	1.66	1.67	2.00
	<u>61.75</u>	<u>49.43</u>	<u>52.15</u>	<u>65.00</u>
<u>Rabi Cereals</u>				
Wheat	12.29	10.42	11.53	15.00
Barley	2.52	2.38	2.45	2.50
	<u>14.81</u>	<u>12.80</u>	<u>13.98</u>	<u>17.50</u>
<u>Total Cereals</u>	76.56	62.23	66.13	82.50
<u>Pulses</u>				
Gram	5.79	4.21	3.61	5.50
Tur	1.89	1.74	1.73	2.00
Other	4.77	3.85	3.58	5.00
	<u>12.44</u>	<u>9.80</u>	<u>8.92</u>	<u>12.50</u>
Total Foodgrains	<u>89.00</u>	<u>72.03</u> <sub>7</sub>	<u>75.05</u>	<u>95.00</u>
Trend Line Projection <sup>2/</sup>	<u>87.30</u>	<u>89.70</u>	<u>92.20</u>	<u>94.80</u>

Source: Ministry of Food &amp; Agriculture

<sup>1/</sup> This is only an informal guess as the detailed State returns for the Kharif season were not available.

<sup>2/</sup> Extrapolation of a constant annual growth curve fitted to 1950-1964 data. The exercise yields an annual growth rate of 2.8 per cent.



High Yielding Varieties Program

(000 acres)

	1966/67		1967/68		1968/69	1970/71
	Target	Estimated	Target	Estimated	Target	Target
<u>Kharif</u>						
Paddy	1,540	1,258	4,137	3,583	7,561	Not available
Maize	488	342	1,183	606	1,459	
Jowar	342	117	1,461	780	2,720	
Bajra	283	101	1,077	929	2,777	
Total (%)	2,653 (100.0)	1,818 (68.5)	7,858 (100.0)	5,898 (75.1)	14,522 <sup>2/</sup>	
<u>Rabi</u>						
Paddy	1,715	937	2,022	1,650 <sup>1/</sup>	Not available	
Maize	422	171	483	250 <sup>1/</sup>		
Jowar	585	354	1,159	1,000 <sup>1/</sup>		
Bajra	93	44	150	100 <sup>1/</sup>		
Wheat	1,593	1,337	4,562	6,000 <sup>1/</sup>		
Total (%)	4,428 (100.0)	2,848 (64.3)	8,376 (100.0)	9,000 (107.4)	6,478 <sup>3/</sup>	
Total for year (%)	7,081 (100.0)	4,661 (65.8)	16,234 (100.0)	14,898 (91.8)	21,000 <sup>3/</sup>	32,500

Source: Ministry of Food &amp; Agriculture

- <sup>1/</sup> An informed guess based on a conversation with the Extension Commissioner.
- <sup>2/</sup> The source for this figure and the kharif breakdown is a Ministry of Agriculture booklet entitled "Breakthrough in Agriculture through Better Seeds" (1968).
- <sup>3/</sup> This target is preliminary. If the kharif target is kept at 14.5 million acres, the rabi and total targets may well be raised.



Information on Important Irrigation Projects  
Included in the 1967-68 Plan.

	Estimated Cost	Spent Up to March '68	Ultimate Irrigation Potential (000 acres gross)	Potential created (March '67) (000 acres gross)	Potential Utilized (March '67) (000 acres gross)
Nagarjunasagar Gandak <sup>1/</sup> (AP) (Bihar & UP)	1,600 <sup>1/</sup> 1,417	1,327 498	2,200 3,560	650 -	15 -
Kangabati (West Bengal)	360	204	950	130	72
Mahanadi Delta (Orissa)	343	263	1,610	720	610
Rajasthan Canal (Rajasthan)	747	505	1,300	273	137
Tungabadra (AP and Mysore)	500	193	820	780	670
Kosi (E) (Bihar)	450	406	140	67	50
Chambal (MP and Rajasthan)	743	641	140	89	31
Parambi Kulam Ahyar	379	360	240	75	18
	<u>6,539</u>	<u>4,397</u>	<u>10,960</u>	<u>2,784</u>	<u>1,585</u>

<sup>1/</sup> Includes power

<sup>2/</sup> Nepal also deserves benefits from this project



Rural Electrification.

<u>S t a t e s</u>	<u>Approved programme 1967-68</u>		<u>States capacity for energising pump sets 1967-68</u>		<u>No. of application pending (March 31, 1967)</u>
	<u>Outlay</u>	<u>Target</u>	<u>Outlay</u>	<u>Target</u>	
	(Rs 000000)		(Rs.000000)		
1. Andhra Pradesh	384	15000	534	19,000	79,897
2. Assam	60	100	60	1,000	nil
3. Bihar	650	15000	800	19,000	24,532
4. Gujarat	350	7620	550	11,820	14,000
5. Haryana	150	3000	250	5,000	13,000
6. Jammu & Kashmir	45	100	45	100	Nil
7. Kerala	40	1000	100	2,500	900
8. Madhya Pradesh	217	5000	350	9,000	6,800
9. Madras	600	30000	700	35,000	27,800
10. Maharashtra	720	10300	800	11,800	not available
11. Mysore	600	20000	600	20,000	14,178
12. Orissa	88	1600	100	1,800	330
13. Punjab	350	7000	450	9,000	24,634
14. Rajasthan	175	4000	250	5,800	10,757
15. Uttar Pradesh	750	17000	1350	30,000	27,126
16. West Bengal	200	2500	300	4,000	547
17. Nagaland	06	-	46	Nil	-
Total (States)	5385	1,40,120	7,283	1,84,820	2,44,521

Source: Planning Commission.



Minor Irrigation

	Status at End of Third Plan 1965/66	Estimated construction during 1966/67	Estimated construction during 1967/68	Target for 1968/69
<u>Nos. Wells</u> (000)				
Boring and deepening of Dug Wells	205.00	130.00	140.00	150.00
Construction of Shallow Tubewells <sup>1/</sup> - Private	90.00	32.00	42.00	52.00
Construction of Deep Tubewells - State	11.90	1.00	1.00	1.50
<u>Nos. Pumpsets</u> (000)				
Electric	498.80	137.00	140.00	
Diesel	535.20	78.00	75.00	250.00

Source: Ministry of Food and Agriculture

<sup>1/</sup> Including "filter points", a name for shallow tubewells sunk in sandy soils in Madras State.



A. Fertilizer Consumption  
(million MT)

	<u>N</u>	<u>P<sub>2</sub>O<sub>5</sub></u>	<u>K<sub>2</sub>O</u>
1964-65	0.49	0.15	0.08
1965-66	0.58	0.13	0.09
1966-67	0.83	0.28	0.13
1967-68 (est.)	1.15	0.50	0.20
1968-69 (proj.)	1.70	0.65	0.45
1970-71 (proj.)	2.40	1.00	0.70

B. Nitrogen Availability  
(000 MT)

	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	
	<u>Production</u>	<u>Imports</u>	<u>Total</u>	<u>Increase</u>	<u>HYVP Demand</u>	<u>%</u>
1965-66	238	376	614	-		
1966-67	309	575	884	270	250	93
1967-68 (est.)	360	900	1,260	646	570	88
1968-69 (proj)	600	1,100	1,700	1,086	740	68
1970-71 (proj)	1,300	1,100	2,400	1,786	1,140	64

Source: Ministry of Food and Agriculture  
Fertilizer Association of India.



Index Numbers of wholesale prices

(1952-53 = 100)

	<u>Agricultural Commodities</u>	<u>Total</u>	<u>Foodgrains</u>	<u>Rice</u>	<u>Wheat</u>	<u>All Commodities</u>
March 1956	96	95	86	88	83	99.2
March 1957	106	102	96	98	94	105.1
March 1958	102	103	91	102	84	106.1
March 1959	113	113	102	92	110	112.1
March 1960	117	116	100	106	92	118.7
March 1961	126	118	99	101	92	127.5
March 1962	119	118	100	103	92	122.9
March 1963	121	124	102	111	86	127.4
March 1964	138	141	124	122	113	138.9
March 1965	154	154	142	128	144	151.0
March 1966	178	175	156	158	136	174.0
March 1967	214	218	201	183	190	202.9
January 1968		238	221	200	212	210.0



Inter-State Price Relationships

x (Coar@es milled rice)

Rs. per quintal  
January 1968

Madras (Kumbakonam)	67.25	
Kerala (Trivandrum)	96.00	
Ratio		143
Andhra (Vijayawada)	73.72	
Mysore (Shimoga)	118.00	
Ratio		161
Orissa (Sambalpur)	85.00	
Orissa (Cuttack)	96.00	
Average Surplus	90.50	
Bihar (Dumka)	136.64	
West Bengal (Contai)	171.20	
West Bengal (Sainthia)	122.00	
Average Deficit	143.00	
Ratio		158
Madhya Pradesh (Raipur)	95.00	
Maharashtra (Nagur)	101.82	
Ratio		107



Ratio Price Index to Total Commodities Index

	<u>Agricultural Commodities</u>	<u>Food</u>	<u>Foodgrains</u>	<u>Rice</u>	<u>Wheat</u>
<u>1965</u>					
March	102.0	102.0	94.0	85.0	95.5
June	101.0	101.5	87.5	81.0	83.5
September	102.5	103.0	92.5	86.0	84.0
December	104.0	102.0	91.0	87.0	83.0
Average	<u>102.4</u>	<u>102.1</u>	<u>91.0</u>	<u>85.0</u>	<u>87.0</u>
<u>1966</u>					
March	102.0	100.5	89.5	91.0	78.0
June	102.5	103.0	90.0	89.5	76.5
September	103.5	104.5	91.5	91.3	78.2
December	103.5	105.0	97.0	89.5	88.0
Average	<u>103.0</u>	<u>103.4</u>	<u>92.0</u>	<u>90.0</u>	<u>80.0</u>
<u>1967</u>					
March	104.0	107.5	99.0	90.0	93.5
June	102.5	114.0	106.0	98.0	96.0
September	103.0	118.0	109.0	100.5	98.0
December	<u>105.0</u>	<u>112.5</u>	<u>102.0</u>	<u>91.5</u>	<u>93.0</u>
	<u>103.6</u>	<u>114.0</u>	<u>104.0</u>	<u>97.0</u>	<u>95.0</u>



Ratio of wholesale prices of selected items  
of wholesale cereal price index

	<u>All Manuf- acturers</u>	<u>Iron &amp; Steel</u>	<u>Fertilizer</u>	<u>Cement</u>	<u>Cotton Mfg.</u>	<u>Kerosene</u>
1960	108	140	91	128	121	89
1961	125	148	94	136	125	97
1962	121	149	87	140	122	94
1963	117	145	83	137	120	117
1964	101	126	69	117	102	101
1965	101	125	63	116	96	99
1966	97	n.a.	n.a.	n.a.	90	n.a.
Dec.30,1967	83	108	62	97	79	79



Indices of Food Policy 1963-1967, and  
Projection for 1968

	<u>1963</u> (est.)	<u>1964</u> (est.)	<u>1965</u> (est.)	<u>1966</u> (est.)	<u>1967</u> (est.)	<u>1968</u> <sup>1/</sup> (proj.)
1. Gross Production (m. tonnes)	80.2	80.6	89.0	72.0	75.1	95.0
2. Net Production (m. tonnes)	70.1	70.6	77.9	63.0	65.7	83.1
3. Imports (m. tonnes)	4.6	6.3	7.5	10.3	8.7	7.0
4. Public stock increase (m. tonnes)	-	-1.2	1.1	0.1	-0.4	3.0
5. Net availability (m. tonnes)	74.7	78.1	84.3	73.2	74.8	87.1
6. Population (m.)	464	476	487	499	511	524
7. Per capita availability <sup>2/</sup> (Kg/ year)	162	164	173	147	146	166
8. Per capita availability <sup>2/</sup> (Oz/day)	15.6	15.8	16.7	14.2	14.1	16.0
9. Marketable surplus <sup>3/</sup> (m. tonnes)	21.0	21.2	23.3	18.9	19.6	24.9
10. Procurement (m. tonnes)	0.8	1.4	4.0	4.0	4.3	5.5
11. Public Distribution (m. tonnes)	5.2	8.7	10.1	14.1	13.0	9.5
12. Foodgrains Price Index (June)	111.5	134.2	140.0	168.0	231.0	n.a.
13. All Commodities Index (June)	134.0	146.8	158.3	186.2	217.0	n.a.
14. Relative Foodgrains Price (12/13)	83	92	89	91	106	n.a.

1/ This is the policy alternative which emerges from official Government statements. It assumes the maintenance of the food zone system.

2/ Excluding private stock variations on which no reliable data are available.

3/ Arbitrariness taken as 30 per cent of net production.



Projection for 1970/71 <sup>1/</sup>

	<u>Base</u> <u>1964/65</u>	<u>Assumed</u> <u>1967/68</u>	<u>Projected</u> <u>1970/71</u>
HYVP (Million acres)	-	13.00	32.50
N requirement (million MT)	-	0.53	1.14
P <sub>2</sub> O <sub>5</sub> requirements (million MT)	-	0.22	0.46
Total N. Supplies (million MT)	0.50	1.10	2.40
(On Traditional FG Varieties)	0.38	0.49	0.53
Total P <sub>2</sub> O <sub>5</sub> Supplies (million MT)	0.15	0.50	1.00
(On Traditional FG Varieties)	0.11	0.20	0.28
Increase in Minor Irrigation (million acres)	-	9.0	21.00
Production (million MT)	89.00	97.80	113.9
Net Production (million MT)	77.87	85.6	99.7
Imports (million MT)	7.45	7.0	-
Government Stock Increase (million MT)	1.06	3.0	
Consumption per capita (Kg./year)	173	171	177
Population (million)	487	524	563

INCREMENTS OVER BASE (87 m. tonnes in 64-65)

HYVP	7.80	19.5
N/P <sub>2</sub> O <sub>5</sub> on Trad. Var.	1.56	3.2
Minor Irrigation	1.45	4.2
	<u>10.81</u>	<u>26.9</u>

<sup>1/</sup> The assumed yardsticks are: HYVP - 0.60 MT/acre; N on trad.varieties - 10.0 MT/MT;  
P<sub>2</sub>O<sub>5</sub> - on trade varieties - 6.0 MT/MT;  
Minor Irrigation - 0.2 MT/acre.



*Agriculture*

Mr. Gregory Votaw

April 11, 1968

R. Picciotto *RT*

INDIA - Agriculture

*Doc. 4*

1. The economic memorandum drafted in New Delhi for the May meeting of the India consortium includes a few paragraphs on food and agriculture. The attached note is a slight amplification of the same themes. It is only a background document prepared for our own reference and use and is not intended for distribution to the consortium. It was circulated for information and comments to GOI officials in New Delhi on April 4. It supersedes earlier drafts on agricultural policy and food policy previously discussed with officials of the Ministries of Finance and Agriculture in New Delhi.

2. At Mr. Oilmartin's request, I am sending a copy of the paper to Sir John Crawford in Australia.

Attachments

cc: Messrs. Cargill (on arrival)  
Goodman/Street  
Wapenhans  
B. King  
Oilmartin (Delhi Office)

*L. Takahashi*  
*Waide*  
*c + f*

RP/pop

Messrs. Raymond J. Goodman/Gordon M. Street

April 5, 1968

Gregory B. Votaw

INDIA - Lending for Agriculture

1. ✓ I believe you will be interested in Mr. Wapenhans' memorandum of March 25. Much of what he says is consistent with a policy long advocated by this Department. It is still not clear that Projects Department is in a position to allocate the man-months required to follow up his recommendations effectively.

2. I believe it would be useful to have further discussion on this memorandum after Mr. Cargill returns.

cc: with attachments: Mr. Cargill (on return)  
Mr. Picciotto (on arrival)  
Delhi office (Attn: Mr. Gilmartin)

GVotaw:sao  
IBRD/IDA



*Consolidum  
de Agriculture*

OUTGOING WIRE

TO: INTABFRAD  
NEW DELHI

DATE: APRIL 2, 1968

CLASS OF  
SERVICE: LT

COUNTRY: (INDIA)

TEXT: ✓  
Cable No.: 69 FOR GILMARTIN

DUNN DEPARTS WASHINGTON APRIL FIVE ARRIVES NEW DELHI 0815 AM APRIL EIGHT  
ON FLIGHT BA 944 FOR MISSION OF ABOUT SIX WEEKS IN CONNECTION EXTERNAL  
DEBT MANAGEMENT COMMA SUPPLIER CREDIT REPORTING COMMA AGRICULTURAL  
REPORTING COMMA TARAI AND PUNJAB APPRAISALS STOP HELPFUL IF DEALBA  
COULD POSTPONE SCHEDULING SALANDI SUPERVISORY VISIT UNTIL POSSIBLE  
JOINT VISIT DISCUSSED WITH DUNN REGARDS

VOTAW

NOT TO BE TRANSMITTED

MESSAGE AUTHORIZED BY:

NAME

DEPT.

SIGNATURE \_\_\_\_\_  
(SIGNATURE OF INDIVIDUAL AUTHORIZED TO APPROVE)

ORIGINAL (File Copy)

(IMPORTANT: See guide for preparing form)

CLEARANCES AND COPY DISTRIBUTION:

For Use by Archives Division

Checked for Dispatch: \_\_\_\_\_

*Agriculture*

CROSS REFERENCE SHEET

COMMUNICATION: Memorandum

DATED: April 2, 1968

TO: ~~Walter~~ David Dunn

FROM: George Votaw

FILED UNDER: Terms of Reference

SUMMARY:

7. To the extent time permits you should also assist the office of the Resident Representative in work related to the agricultural sector. In particular, you should join Mr. Gilman in discussions with appropriate Indian officials about agricultural reporting. You should arrange to visit at least one irrigation project financed by the Association--if possible in cooperation with Mr. de Alba's regular supervisory work.



April 18, 1968

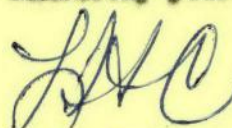
Shri R. K. Rath  
Deputy Secretary  
Government of India  
Ministry of Food, Agriculture, C.D. and Co-Operation  
Department of Agriculture  
New Delhi, India

Dear Shri Rath:

✓ March, 1968  
Thank you for your recent letter giving the crop-wise acreages of aerial spraying in India which I had requested during my recent meeting with Secretary Sivaraman.

This will be very helpful to us in our studies and we appreciate very much the thoroughness with which the note and the accompanying statistics have been prepared.

Sincerely yours,



L. Hartsell Cash  
Investment Officer

LHC:aes

1968 APR 18 PM 5:53

COMMUNICATIONS  
RECEIVED  
RECEIVED

RECEIVED  
GENERAL FILES  
COMMUNICATIONS

1968 APR 19 PM 2:23

THQ:1000

THQ:1000  
F. H. H. H. H. H.



THQ:1000

THQ:1000  
THQ:1000  
THQ:1000

THQ:1000  
THQ:1000  
THQ:1000

THQ:1000

THQ:1000  
THQ:1000  
THQ:1000  
THQ:1000  
THQ:1000  
THQ:1000

THQ:1000

THQ:1000



From:

Shri R.K. Rath,  
Deputy Secretary



D.O. No. 1257/68-PPS

भारत सरकार

खाद्य, कृषि, सामुदायिक विकास तथा सहकारिता मन्त्रालय  
(कृषि विभाग)

GOVERNMENT OF INDIA  
MINISTRY OF FOOD, AGRICULTURE,  
C. D. & CO-OPERATION  
(DEPARTMENT OF AGRICULTURE)

New Delhi, the March, 1968

Dear Mr. Cash,

Kindly recall your discussions with  
Shri B. Sivaraman, Secretary (Agriculture) on the  
24th February, 1968, during which you expressed a desire  
to have figures of crop-wise acreages of aerial  
spraying in this country. A brief note alongwith the  
statistical data compiled by the Directorate of  
Plant Protection, Quarantine & Storage, New Delhi,  
is enclosed.

Yours sincerely,

( R.K. Rath )

Mr. L. Hartsell Cash,  
C/O

Mr. William Gilmartin,  
International Bank for Reconstruction and Development,  
7, Sardar Patel Marg,  
New Delhi-11.

ach April 18



### BRIEF NOTE

Aerial spraying of pesticides against crop pests and diseases has steadily been gaining in popularity. Aerial spraying has certain advantages over ground spraying as large tracts can be covered quickly. This method, however, can be used over large fields without natural and artificial obstructions. In spite of this, there is a considerable potential for aerial spraying and as such it was decided to expand these facilities. During the last 3-4 years, many private operators have established themselves in this field and expansion is going on. At present, the combined strength in the private sector is 14 helicopters and 11 fixed-wing aircraft. Likewise, expansion has taken place in the public sector and it has now a fleet of 7 fixed-wing aircraft.

The aerial spraying of pesticides is, however, comparatively of recent origin in this country and as such the Government of India has been actively assisting in popularising it. The aerial spraying charges in case of foodgrains, cotton and oilseeds crops are heavily subsidised so that the farmers are encouraged to take to this method of application of pesticides. The Government efforts have met with success as is evident from the increasing coverage from year to year. The coverage by Government aircraft rose from 45,648 acres in 1964-65 to 2,02,170 acres in 1967-68 (upto February, 1968). In case of private operators, the coverage has increased from 79,163 acres in 1964-65 to 7,33,121 acres in 1967-68 (upto February, 1968). The detailed crop-wise coverage for the years 1964 to 1968 is given in the enclosed statement. There are plans to expand these facilities in the public sector. Every encouragement is also being given to the private operators to acquire more aircraft for agricultural aerial spraying.

.....



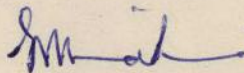
DIRECTORATE OF PLANT PROTECTION, QUARANTINE AND STORAGE  
AERIAL UNIT

STATEMENT SHOWING ACREAGE TREATED  
(CROPWISE) BY GOVT. AND PVT. OPERATORS.

	S.No.	Year	Crop	Area treated in Acres		Total
				Govt. Aircraft	Pvt. Operator	
	1	2	3	4	5	6
A.	1.	1964-65	Paddy	17,273	-	17,273
	2.	"	Groundnut	19,525	-	19,525
	3.	"	Cotton	1,100	46,163	47,263
	4.	"	Sugarcane	7,750	-	7,750
	5.	"	Rubber	-	33,000	33,000
			Total:	45,648	79,163	1,24,811
B.	1.	1965-66	Cotton	69,909	-	69,909
	2.	"	Groundnut	22,420	-	22,420
	3.	"	Sugarcane	1,200	4,909	6,109
	4.	"	Gram & Lentil	16,730	-	16,730
	5.	"	Mustard	300	-	300
	6.	"	Cotton & Jowar	-	1,08,282	1,08,282
	7.	"	Jowar	-	3,838	3,838
	8.	"	Jowar & Sugarcane	-	84,472	84,472
	9.	"	Pulses	-	9,752	9,752
	10.	"	Gram & Tur	-	20,460	20,460
	11.	"	Rubber	-	38,244	38,244
	12.	"	Teak	-	190	190
			Total:	1,10,559	2,70,147	3,80,706
C.	1.	1966-67	Paddy	16,645	1,18,117	1,34,762
	2.	"	Groundnut	7,240	-	7,240
	3.	"	Cotton & Jowar	1,67,165	-	1,67,165
	4.	"	Wheat	16,350	22,910	39,260
	5.	"	Sugarcane	1,730	3,290	5,020
	6.	"	Mango	200	-	200
	7.	"	Cotton	-	75,089	75,089



1.	2	3	4	5	6
8.	1966-67	Jowar	-	3,199	3,199
9.	"	Potato	-	17,890	17,890
10.	"	Tur & Dal	-	6,000	6,000
11.	"	Rubber	-	39,882	39,882
Total:			<u>2,09,330</u>	<u>2,86,377</u>	<u>4,95,707</u>
D. 1.	1967-68	Paddy	28,000	1,56,734	1,84,734
	(upto February, 1968)				
2.	"	Cotton	-	1,99,796	1,99,796
3.	"	Cotton & Jowar	51,600	-	51,600
4.	"	Jowar	11,250	3,939	15,189
5.	"	Gram	52,400	-	52,400
6.	"	Gram & Mustard	57,840	18,598	76,438
7.	"	Jute	680	3,209	3,889
8.	"	Coconut	400	-	400
9.	"	Groundnut	-	91,729	91,729
10.	"	Rabi jowar & Wheat	-	5,590	5,590
11.	"	Gram & Wheat	-	2,07,099	2,07,099
12.	"	Urd	-	9,282	9,282
13.	"	Rubber	-	37,145	37,145
Total:			<u>2,02,170</u>	<u>7,33,121</u>	<u>9,35,291</u>



(G.N. Bhatia)  
Assistant Director(Plant Protection)  
4.3.1968.



Agriculture

Mr. S. Aldewereld and Mr. I.P.M. Cargill

March 28, 1968

B. Chadenet B. Chadenet

Recommendations of Mr. Wapenhans on lending for Agriculture in India

I am sending you a copy of the memorandum which Mr. Wapenhans has prepared, at my request, on lending for Agriculture in India. March 25

I think this memorandum and its conclusions are of great importance, particularly points (ii), (iv) and (vi).

Could I have your views.

BChadenet:mb

cc: Mr. Bell  
Mr. Wapenhans

orig Seels  
Aqueduct

OUTGOING WIRE

TO: GILMARTIN  
INTBAFRAD  
NEW DELHI

DATE: MARCH 28, 1968

CLASS OF  
SERVICE: LT

(INDIA)  
COUNTRY:  
TEXT 64 ✓  
Cable No.:

EXCERPT:

SEIMCOLON DISSUSSION AGRICULTURAL REPORTING PROCEDURES INCLUDING POSSIBLE  
VISIT ONE IRRIGATION PROJECT SITE STOP

KIRK

COPY

NOT TO BE TRANSMITTED

MESSAGE AUTHORIZED BY:  
  
NAME  
  
DEPT.  
  
SIGNATURE \_\_\_\_\_  
(SIGNATURE OF INDIVIDUAL AUTHORIZED TO APPROVE)

CLEARANCES AND COPY DISTRIBUTION:

For Use by Archives Division

ORIGINAL (File Copy)  
(IMPORTANT: See guide for preparing form)

Checked for Dispatch: \_\_\_\_\_



Agriculture  
→ Seeds  
→ Punjab  
→ Madras/Tangne  
→ Food Grain Storage

March 26, 1968

Mr. B. Sivaraman  
Secretary  
Department of Agriculture  
Ministry of Food, Agriculture, Community  
Development and Cooperation  
Government of India  
New Delhi  
INDIA

Dear Mr. Sivaraman:

Since my return to Washington I have had occasion to reflect on the very useful and frank exchange of views we have had during my recent visit to India. First I would like to express my appreciation for the opportunities you have afforded my colleagues and me to discuss with you and other officials of your department the various aspects of mutual interest.

You will by now have been informed that we are in the process of mounting appraisal missions for both the Terai Seeds Project and the Punjab Drainage Project including the Agricultural Study. We hope that both missions will be in the field in the course of the month of April. Prior to that we expect to receive in Washington from your Ministry the information requested on Terai, so that the proposed mission can consider it prior to its departure for India. I trust that when this letter reaches you we will have received the additional information requested.

Regarding future activities, you will recall that we discussed briefly with you and in somewhat greater detail with Mr. Vohra the proposed extension of the UNDP groundwater survey in the Cauvery delta. I am particularly concerned that the proposal as presently conceived would not adequately cover the following aspects:

- a) rehabilitation and maintenance of the existing surface irrigation system, including review of required design capacities in view of supplementary groundwater exploitation;
- b) drainage requirements especially in the tail ends of the canal system, including possible vertical drainage effects of groundwater pumping;
- c) on-farm development including rehabilitation and realignment of water courses and field channels, land leveling and rebunding of individual fields;

↓



March 26, 1968

- d) integrated use of surface and groundwater (including recharge and drainage effects) and review of existing operational procedures of the surface system with a view to developing an integrated surface-cum-groundwater supply schedule which would meet the needs of double crop farming;
- e) preparation of an electrification program designed to support the most efficient form of groundwater exploitation as well as vertical drainage.

One would hope that the above aspects could be considered simultaneously with the extended groundwater survey. This should serve to develop a scheme which would indeed be an integrated and comprehensive project suitable to serve as the basis for the long-deferred increase in the rate of investments in irrigation and drainage works in the delta. We have already commented along these lines to the UNDP in response to their request. We are informed, however, that it would not be possible at present to enlarge the scope of the groundwater survey to cover these aspects without endangering its submission to the Governing Council in June. There is, however, a possibility of enlarging upon it once the basic groundwater resources survey has been approved. I would very much urge you to give such a further extension serious consideration in the interest of making the best use of the results of the presently envisaged survey and find an early opportunity to make appropriate amendments as soon as the new UNDP financing is approved.

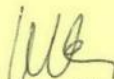
We understand that consideration is being given to a similar development project in Andhra Pradesh on which we might usefully exchange views later this year. As you know, we also had some discussions on grain storage requirements with your colleague on the Food side, Mr. Dias, who explained current efforts to review Government plans for building additional storage facilities. We hope that we can be kept informed of developments in this field.

In the context of our discussions on integrated river basin development planning you mentioned the Narmada basin as one where you would like to see some further systematic development planning done. We would be interested to know whether you have been able to give this any further thought and whether there is some way in which the Bank Group might assist in this.

In concluding, I would like to express the hope that our joint efforts in bringing to fruition the Terai and Punjab/Haryana Projects will be successful. At the same time I hope that this would be the beginning of a more intensive dialogue between us and that by the time these appraisals have led to formal negotiations it will be possible to identify additional agricultural and irrigation projects suitable for IDA financing.

With kind regards,

Sincerely yours,



W. A. Wapenhans

Deputy to the Assistant Director - Projects Department  
In Charge of Agriculture



Cleared with & cc: Messrs. Chadenet  
Evans  
Votaw (3)

cc: Messrs. V. Riley  
Goffin  
Darnell  
Gilmartin/Picciotto, New Delhi

WAWapenhans:at  
Bank/IDA

*Laguaitan*  
*ck for Super*  
*de quary*

## OFFICE MEMORANDUM

TO: Files

DATE: March 25, 1968

FROM: W. A. Wapenhans *W.A.*SUBJECT: INDIA - Lending for Agriculture*Mark (had)*  
*Punjab*  
*V.P.*

1. Further to my notes to Files on specific projects and activities, I am setting out below a few more general observations regarding future Bank/IDA lending for agriculture to India. These were developed during a mission to India from January 30 to February 15, 1968.

2. To introduce the theme of this memo I will repeat a few of the pertinent statistics. India has a population of over 510 million people. Its cropped area is about 400 million acres of which nearly two-thirds are under foodgrains. The agricultural sector produces roughly 50 percent of the national income. In spite of these enormous magnitudes, their problems and opportunities, our involvement and acquaintance with Indian agriculture has been less intimate than that with many other countries of less than one-tenth its size.

Past Experience and Present Relations

3. Bank and IDA lending for Indian agriculture in the past has been predominantly for capital intensive major irrigation works, because it has been projects of this type that India proposed to the Bank. IDA financing since 1961 supported five irrigation projects and one drainage project. These involved relations with the respective Ministries of Irrigation at the Center and State levels, but very little with the Ministries of Agriculture and other agencies directly concerned with production. Practically no experience has been gained in lending for Indian agriculture proper and hence our relations with the agricultural authorities have been only slight. This is unfortunate especially because of the rather rigid compartmentalization within the Indian administration, which at times results in the setting of priorities for development not necessarily complementary to each other. The comprehensive approach long advocated by the Bank is now being given increasing emphasis by agricultural authorities. However, more could be done to ensure adequate integration of the various activities at the grass-roots level especially in the case of major irrigation schemes with divided responsibilities.

4. For the Bank to be of assistance in this area, the dialogue on project concepts and designs would need to start at a very early stage, i.e. perhaps two to three years before a project ready for financing would emerge. It would also require close and continuing contacts between the Indian authorities responsible for such project preparation at the Center and State levels and the Bank's technical staff. A frank and constructive dialogue depends on mutual understanding and confidence which can only be built up by better acquaintance with the system, its problems, and the personalities who operate it, and by the Indian officials learning more about our intentions, procedures and concepts.

5. The Terai Seeds project and the Punjab Drainage Project and Agricultural Study already offer an opportunity to intensify our relations with

*Ref June 13*



Indian agricultural authorities. However, this should be regarded only as a first step. A continuous exchange on future projects and programs should follow, which in turn would increase the prospects of a pipeline of soundly conceived projects.

6. The latter in turn requires that the agricultural authorities (State and Federal) are given some incentives to take an active part in such project preparation. Repeatedly I was given to understand that IDA finance for agricultural projects would not necessarily increase the total allocation of resources to agriculture either at the Center or at the State level. This results from an intricate planning mechanism under which external financing is anticipated and possibly allocated in accordance with criteria for priorities inherent in the system. Since most projects in the field of agriculture require little foreign exchange IDA finance may thus be in substitution of budget allocations rather than incremental. Rejection of a project for external support on technical grounds can thus have serious budgetary consequences for a particular State budget. Since this is recognized, there is in the mind of the Indian agricultural administrator little purpose in going through the rigors of project preparation for IDA financing when the same amount of resources can be obtained with less effort and uncertainty. I suspect this applies generally especially if non-project financing can be had in the absence of suitable projects ready for financing.

7. Consideration might therefore be given to the introduction of a system by which a given sum of IDA finance would be made available only for soundly conceived projects in the field of agriculture and irrigation. It would need to be made clear that these resources would otherwise not be available and would thus not substitute those allocated at any rate in the States' annual development budgets. The allocation of these funds should then be strictly in accordance with project criteria and irrespective of the concept of equality amongst States. This might lead to a constructive competition amongst States for incremental resources for the development of agriculture. Since these funds would not otherwise be available and since they could simultaneously provide free foreign exchange for the Central Government this should result in a rather powerful incentive to prepare acceptable projects and to seek help in such preparation. Such an approach would not necessarily improve the quality of project preparation across the board and might initially even lead to a concentration on a few promising prospects. There should be, nevertheless, a considerable demonstration effect in the long run.

#### Current Input Financing

8. Foreign exchange requirements in agriculture proper, as distinct from irrigation works, occur at present mainly in regard to current inputs. Our unwillingness to finance a rather large fertilizer import program in conjunction with the UP Tubewell project has caused some consternation and resentment with the Central Ministry of Agriculture. Their argument is that a much better utilization of already developed land and water resources can be obtained at low costs through the incremental provision of current inputs, especially fertilizer. In view of the absolute scarcity of fertilizers this argument is not without merit. The counter-argument that the economy ought to devise mechanisms for priority allocations of such scarce current inputs does not appear very persuasive to the Indian administrator who is charged with the responsibility for immediate increases in food production.



9. The case could be made that the provisions for fertilizer imports closely resembles commodity imports for better utilization of industrial capacities. Where adequate irrigation supplies are available the provision of extra current inputs would undoubtedly improve the efficiency of such resource use. The resulting output is bound to relieve import requirements in value terms perhaps many times that of the foreign exchange spent on fertilizers. Increasingly the provision of such inputs should come from local manufacture and any interim financing of fertilizer imports should probably be made contingent upon the establishment of such production facilities.

10. The criteria for the financing of fertilizer imports would thus appear to be:

- i) that it be in anticipation of local manufacture for which it would prepare the market;
- ii) that appropriate priority distribution in accordance with the concept of efficient resource utilization would be ensured;
- iii) that such support would be made available only on the evidence that the country is making adequate provision for fertilizer supplies from its own as well as third party resources.

Such input financing should preferably be done in the context of agricultural projects suitable for external assistance and then only on the basis of an acceptable fertilizer supply program for the entire sector.

#### Future Lending Prospects

11. An attempt was made to discuss future projects and programs with the Central Ministry of Agriculture. However, the Secretary of Agriculture and his deputy were initially not willing to discuss any of their future plans beyond Terai Seeds and the Agricultural Study in connection with the Punjab Drainage project. In my opinion this attitude was mainly conditioned by inadequate preparation on the Indian side, a desire to ration information and, in their minds, our lack of understanding for current input financing. The atmosphere improved somewhat at the end of my stay in India. Arising out of their interest in work done by the Bank elsewhere, it was possible to develop a preliminary exchange on river basin development programming and the need for integrated development and use of surface and groundwater. The desirability of a more intensive dialogue between the Indian agricultural authorities and their counterparts in the Bank became apparent in the course of these discussions.

12. The contacts at the State level (Mysore and Madras) were less inhibited. There is, nevertheless, a lack of understanding for our emphasis on the project approach, mainly because of the reasons given in para. 6 above. In vogue are the so-called "Intensive Agricultural District Programs" (IADP) and more recently the "Intensive Agricultural Area Programs" (IAP). These consist mainly of the provision of current inputs such as fertilizers and quality seeds at rations higher than usual. The programs are frequently formulated around some previous irrigation development and once accepted by the Central Government receive Center support. The results are not always convincing and the reason may well be the lack

*Document  
and Optel  
listed  
in  
Agri-gan*



of coordination between such activities as double cropping, irrigation operations, water management, on-farm development, drainage provision, etc., all required in addition to current inputs but several controlled by departments other than agriculture.

13. In their present form these programs would not appear to provide a suitable basis for lending to agriculture. They would need to be enlarged to encompass the aspects mentioned above. In particular the irrigation operations would need to be revised to meet the needs of the cultivators for increasing double cropping and more intensive current input applications. Unless this is done there is the danger that such intensive area programs just substitute for the deterioration of such basic resources as irrigation supplies. In this context it may be worth mentioning that there appear to be substantial opportunities for groundwater development within existing surface irrigation systems. This in turn would require careful planning with regard to the rural electrification programs and the integrated operation of such combined resource development (see also my note to Files on the groundwater study in Tanjore, Madras).

Par. 1.  
(Madras  
Jung)

14. Discussions were also held with the Secretary of Food, Central Ministry of Agriculture. His staff is presently thinking of a gradual relaxation of the food zoning policy. This may result in substantial changes in inter-State grain flow patterns. In turn, this is likely to result in increased storage requirements with future capacities so located as to enable the maintenance of strategic reserves mainly from local production and their use for price stabilization. The Secretary of Food in conjunction with the Food Corporation of India is presently revising his plans for the increase and location of grain storage capacities. He promised to make his revised plans available to our Resident Mission as soon as they become available.

15. The future program of major irrigation development was discussed with the Secretary of Irrigation, Central Government. The present plan includes some 63 major irrigation projects of which 17 are nearing completion. Because of shortage of rupee funds it became necessary to concentrate on 8 of these 17 projects on which preliminary discussions had taken place on previous occasion. Most of these are more than 70 percent complete and offer very little prospect for a useful contribution from IDA.

16. In the past the divergence of views between Indian irrigation officials and the Bank was mainly in relation to design aspects, such as intensive vs. extensive cropping patterns. While there appears to be a less rigid attitude on this aspect on the Indian side, there is the danger that the traditional concept of extensive irrigation system designs will perpetuate itself unless continuous influence is brought to bear on those responsible. We have already commented on the need to employ consultants for project preparation and implementation on previous occasions (see Mr. Evans' memo to Mr. Chadenet of September 20, 1967). To make this acceptable is, in my opinion, again not only a question of insistence but also of our continued presence. The new element of possible integrated surface and groundwater use in the case of irrigation projects might make the Indian engineers more accessible to outside expert advice. I see a considerable opportunity here to help in the planning and preparation of

major irrigation projects which are still in their infant stages. Because of the groundwater element the acceptability of outside consultants should no longer be excluded; but steady persistence will be required to bring this about. Again this would require a continuous dialogue between the Indian irrigation authorities and the Bank's technical staff. A first step in this exchange should be a reconnaissance mission to India which would concentrate on those major irrigation projects where the design is yet preliminary and where there is a good chance of integrated exploitation of surface and groundwater. Such a mission could usefully visit India in early fall of this year. It should not be expected that there would be immediate lending prospects. However, this could be the beginning of building up a continuous pipeline of soundly conceived projects. A conducive working atmosphere at the State level should not be overlooked in the selection of such projects, especially if the approach set out in para. 6 above is found to be acceptable. If in the long run, the level of disbursements for projects is expected to substitute also largely for those of import financing the early concentration on such a pipeline would seem of high priority.

### Conclusions

17. In summary the above leads to the following conclusions:

- i) Our dialogue with Indian authorities responsible for agriculture and irrigation should be intensified and additional emphasis should be given to our contacts at State levels; -
- ✓ ii) A system should be conceived which would make it attractive for Indian officials to engage actively in and seek help for project preparation which would eventually lead to an acceptable balance of non-project and project financing; -
- iii) Financing of current inputs especially fertilizers should be given consideration, provided this would be in support of the country's own efforts in this field and adequate priority allocations can be assured;
- ✓ iv) In future project preparation in agriculture emphasis should be given to the comprehensive planning and execution of such projects including review and, if necessary, revision of traditional patterns of irrigation systems operations, maintenance, drainage and groundwater development;
- v) The development of changes in food zoning policies and the possibilities of revisions and increases in grain storage capacities should continue to be watched; -
- ✓ vi) Possibilities for improved planning and preparation of major irrigation projects with the possible help of outside consultants should be followed up with an early irrigation reconnaissance mission. -

Unless these steps are taken I see little prospects for expanded lending for agriculture to India.



18. The agricultural staff of the Resident Mission in Delhi has made a very encouraging start in familiarizing themselves with project prospects in various States. It would be unrealistic, however, to expect a contingent of two staff to devote, in addition to their other duties, sufficient time to project identification and help in preparation. Substantially more headquarters support is required. More frequent missions of agricultural staff to India would strengthen their efforts as well as support those in the Indian administration who are prepared to work with us. The FAO/IBRD Cooperative Program could also play a useful role in this effort. There are, however, some tendencies to play FAO against the Bank and vice versa. It is, therefore, essential that the Bank retain the lead in the dialogue and ask FAO help for the specific follow-up activities in the sphere of project preparation.

WAW:at  
Bank/IDA

cc: Messrs. Chadenet, Bell, Evans, B. King, Votaw



INTERNATIONAL BANK FOR RECONSTRUCTION AND DEVELOPMENT

RESIDENT REPRESENTATIVE IN INDIA

7 Sardar Patel Marg · New Delhi

Telephone 30152, 30153 · Cable Address - INTBAFRAD NEW DELHI · Postal Address - P.O. Box 416

Letter no. 103

March 21, 1968

Mr. I.P.M. Cargill  
Director, Asia Department  
International Bank for Reconstruction  
and Development  
1818 H Street, N.W.  
Washington D.C. 20433

Dear Peter,

We have had some flak here from the Ministry of Agriculture in the course of trying to put the Consortium paper together. Picciotto put up a first draft of a piece about the progress of the high-yielding varieties program. It was not meant to be a polished job, but rather one to provoke some discussion. It raised questions which have been bothering us and concluded that something was wrong someplace - either in the progress of the program, or in the grain production estimates, or in the input-output relations on which the program is based.

The draft did produce some material which Picciotto had been seeking for some time without much luck. But it also produced an outburst from the agricultural people who attended the discussion, supported by Swaminathan. Later, according to I.G. Patel, it brought a protest from the Minister of Agriculture to the Minister of Finance.

The nature of the protest as described by I.G. is interesting because it ran mostly in terms of a bitter complaint about the Bank in connection with the ill-starred U.P. Tubewells project. It was said that in the light of that experience and India's inability to get a cent out of the Bank after so much trouble and effort on their part, why should they have to bother with the local office and its half-baked assessments of their agricultural programs.

I expect this will blow over and I think we should continue to assume that in conversations, and notes for discussion, between us and the Government we can put forward our reservations and doubts, even though preliminary, without too much delicacy and concern for sensibilities. In fact we are doing so and have sent them some notes on food distribution which may raise some more hackles. I mention this to indicate the prevailing climate in relations between Agriculture and the Bank.

Our relations with Finance continue, I think, to be cordial enough, although the Finance crew has been badly shaken by Wiehen's news about IDA disbursements. This comes on top of an already grim situation due to this



Mr. I.P.M. Cargill

- 2 -

March 21, 1968

year's IDA hiatus and some very substantial hiati in U.S. aid. I will be writing further about this, but it does make one pause and wonder sometimes if we really do have all that influence you read about in the briefing papers. I would hate to try and package any policies right now.

Yours,



William M. Gilmartin

c.c. Mr. Votaw

WAW:at  
IBRD





9-3 Agri 9-  
March 1, 1968

✓  
Letter No. 98

Mr. Robert Picciotto  
International Bank for  
Reconstruction and Development  
P.O. Box 416  
New Delhi, India

Dear Bob:

✓  
Your letter No. 51 of February 13, 1968 to Jim has been given to me to answer. You requested assistance concerning data on ground water studies in India.

In the United States, the U.S. Geological Survey has primary responsibility for making studies of ground water. In general, their studies are oriented towards locating sources of ground water, determining potential sustained yield and the physical factors concerning the aquifer such as quality of water, depth to water, drawdowns, size of wells, etc. Normally the G.S. does not go deeply into the economics of development of a ground water potential. This is usually done by an agency such as the Bureau of Reclamation which takes the facts developed by the U.S.G.S. and translates them into a project plan for utilizing the ground water.

The U.S.G.S. has done some work in India. The most recent report that we know of is dated May 1967 and is entitled "Water Resources Investigation Program for Upper Gangetic Plain." This report discusses the nature of a ground water investigation, the interrelationship of ground water and surface water and proposes a specific investigation program with staffing and costs. It is our understanding that the program proposed is still the subject of negotiation between the Government of India and USAID.

If you do not already have a copy of the May 1967 report, I suggest that you obtain one either from G.O.I. sources or AID sources. In our opinion, this report represents a rather good presentation of elements involved in a ground water study and it has the further advantage of being oriented to a particular Indian situation.

In the event you should have specific questions on ground water studies, the U.S.G.S. has a man detailed to a UNDP study on the Chambal River and you may find it useful to discuss your points with him. His name and address are:

Richard H. Johnston  
UNDP (S.F., Chambal Project)  
Mangal Bhawan  
Kota-2, Rajasthan  
India



Mr. Picciotto

- 2 -

March 1, 1968

The Geological Survey of India with headquarters in Calcutta has done considerable work on ground water. Mr. G.C. Chatterjee is Director and you may wish to contact him.

The Exploratory Tube Well Organization has its headquarters in New Delhi and should have much useful information on studies of ground water and its exploitation in India.

It is our general feeling that while all ground water studies have the collection of basic data as a common factor, the economic studies necessary to support development financing must be carefully worked out for the particular situation in mind.

Regards,

Sincerely yours,

L. W. Bartsch  
Agriculture Division  
Projects Department

cc: Messrs. Evans/Wapenhans  
Creyke

JCDouglass/vjb

Back to Office Report  
Jan.-Feb. 1968



Agri  
UP  
Payable  
had  
Seeds

INTERNATIONAL BANK FOR RECONSTRUCTION AND DEVELOPMENT

INTERNATIONAL DEVELOPMENT ASSOCIATION

OFFICE MEMORANDUM

To : Mr. L. J. C. Evans

Date: February 21, 1968

From : W. A. Wapenhans

Subject: INDIA - Discussions with Indian Authorities on Potential  
Agriculture Projects  
THAILAND - Discussions on Agricultural Credit  
Back-to-Office Report

---

1. Following brief discussions in Rome on January 29, 1968, I visited India from January 30 to February 15. Discussions on agricultural development prospects were held with Government officials, farmer representatives, banks and private interests concerned with agriculture. More specific discussions were held regarding our position on the UP Tubewell Project, the present status of the Terai Seeds Project, the possibilities of reviving the Punjab Drainage Project, and the UNDP proposal for an extended ground-water survey in the Tanjore District. Separate memoranda are being prepared on each of these projects.

2. In Thailand I worked with Mr. Thor and the supervision mission (Messrs. Chang and Davies) from February 15-18. Mr. Thor was introduced to the Minister of Agriculture, the Deputy Minister of National Development and the principal officers concerned with agricultural credit, including those of banks. Discussions were also held with Mr. Gaitskell and the Under Secretary for Agriculture regarding the UNDP study of the Chao Phya plains presently in progress.

cc: Messrs. Chadenet, Bell, Sadove, Lipkowitz, Piccagli, Lind,  
Miss Van Gasse, Op. Files

No. 2

DECLASSIFIED

New Delhi

FEB 25 2014

WBG ARCHIVES

February 14, 1968

Personal

Dear Jim:

Your cable No. 1 awaited our return to Delhi together with some other news which made it desirable to change travel plans slightly. During our field trips Mr. Sivaraman asked Peter Cargill to arrange for a further meeting with him on 14th p.m. We are therefore leaving India tomorrow morning - one day behind schedule\* (\*However, this does not alter my return target date). However, we will be in Bangkok by 11 a.m. on the 15th. Meanwhile, your No. 2 has also arrived and I shall hasten to explain to Gaitskell the logistics of the mission's timing. (Rosemarie, of course, is thrilled to have the opportunity to see Bangkok).

Yesterday we had a final working session on Terai Seeds with center, state, NSC and the University. The outcome was rather satisfactory. We left a list of further information to be provided with them and agreed that we would endeavour to mount an appraisal mission as soon as this information has been received in Washington. They are very eager to get going and my hunch is that the information will have reached us by the middle of March. Provided I am right in this an appraisal mission could be in the field by end March/early April. Considering the difficulties encountered in getting something going round here I think we should be careful not to lose momentum and considering the sensitivity of the hierarchy also in the staffing of the mission. Unfortunately Bob Picciotto will not be available at that time. A consultant\* (\*Garrison (Beltsville) did not join the Rockefeller mission. Maybe he would be interested to do a job for us), would be required especially on the seed processing side. The mission should also be strong on the credit side and in particular be able to sort out the channeling of funds to the various entities involved as well as the Center : advancing bank(s) relationships. Peter Cargill is in agreement with the approach we suggested.

On Tanjum we had a series of very useful discussions with the UNDP people, state officials and some at the Center. The report as prepared has not found endorsement at the state level. It is felt that further information is required on groundwater, surface system rehabilitation needs, and drainage aspects. I suggest that we try to adjust the proposed UNDP study in such a way as to cover appropriately these areas. Ramanathan in Madras is all for it but resistance seems to be encountered in PWD which is also in charge of irrigation. We will discuss this further this afternoon with Sivaraman and Valera.

A minute possibility is also emerging in the grain storage field. Dias, Food Secretary (Center), promised to let Bob Picciotto have some sort of plans and/or report in about two months. Dias is thinking in terms of about 1.5 million tons additional capacity but wants to review it in the light of possible liberalization of food saving. So much for today. I hope all is well at home. Rosemarie joins me in sending you and Eulalia our warmest greetings.

Yours ever,

Bill

(W. A. Wapenhans)



INTERNATIONAL BANK FOR  
RECONSTRUCTION AND DEVELOPMENT

INTERNATIONAL DEVELOPMENT  
ASSOCIATION

INTERNATIONAL FINANCE  
CORPORATION

Mrs. Bartsch

Lishi - I am on leave  
until Monday - Could you  
consider appropriate action  
on this & have a word on  
Monday.

LL

4088  
Geo Edelen

343 5450

Geo Taylor -  
Supt. of  
230 Arlington Terrace.

05615.

183 4088

Headquarters:  
Washington, D.C., U.S.A.



INTERNATIONAL BANK FOR RECONSTRUCTION AND DEVELOPMENT

RESIDENT REPRESENTATIVE IN INDIA

7 Sardar Patel Marg · New Delhi

Telephone 30152, 30153 · Cable Address - INTBAFRAD NEW DELHI · Postal Address - P.O. Box 416

Letter No. 51 ✓

February 13, 1968

Mr. L.J.C. Evans  
Project Department  
International Bank for Reconstruction  
and Development

1818 H Street, N.W.  
Washington D.C.

Projects Dept. Correspondence

ANS'D BY Wang

DATE March 1, 1968

Dear Jim,

In the course of a conversation with Mr. Gilmartin, Mr. Pant of the Planning Commission said that he was dissatisfied with current Government efforts to investigate India's groundwater potential for agricultural purposes. The causes for his dissatisfaction were not made explicit but they are not too difficult to guess. You know that the need for comprehensive water studies in India has been a recurrent theme of Bank reports.

Mr. Pant exhibited a rather refreshing curiosity on the subject and asked whether we had any useful material on the general subject of groundwater research for investment planning i.e. typical terms of reference, examples of useful groundwater studies, usual staffing requirements and the like.

The assistance of the Division in getting something together on the subject would be very much appreciated. We have told Mr. Pant that the U.S. Bureau of Reclamation (which will hopefully become a partner of India in the Punjab study) is a good source of information on the subject. We have also shown him terms of reference for the Indus Study, which go beyond strict groundwater investigation - as such studies must if they are to be of any use in investment programming. But we would like to be more helpful, if possible, as we believe that this is a very important subject in current Indian circumstances.

Best regards,

Yours sincerely,

Bob  
Picciotto  
Robert Picciotto.

RECEIVED 13 MAR 1968

Ack Paul

AD/U.S. Geological Survey  
W.P.  
E.P.

Mr. Croyke  
Would you handle this please.  
It seems to be only a request for information.  
14.11.68



for you

RECEIVED 13 2710:35

Robert Piccioroffo

*Bob Piccioroffo*

Yours sincerely,

Dear friends,

Indira circumstances.  
 as we realize that this is a very important subject in current  
 biotechnology. But we must take to be more serious, it is important,  
 as such studies must be they are to be of any use in investment  
 the Indira study, must be beyond strict biotechnology investigation -  
 ion on the subject. We have also shown him terms of reference for  
 a further of Indira in the further study) is a good source of informat-  
 that the U.S. Bureau of Investigation (which will probably be become  
 on the subject must be very much appreciated. We have told Mr. Bant  
 the assistance of the Division in getting something together

*WFO/12 M. 6.5*

many existing requirements and the like.  
 subject terms of reference, examples of useful biotechnology studies,  
 subject of biotechnology research for investment planning etc.  
 subject and asked whether we had any useful material on the General  
 Mr. Bant exhibited a rather refreshing curiosity on the

in Indira has been a recurrent theme of Bank reports.  
 to Glass. You know that the need for comprehensive water studies  
 satisfaction were not made explicit but they are not too difficult  
 potential for agricultural purposes. The changes for the dis-  
 with current Government efforts to investigate Indira's biotechnology  
 Mr. Bant of the Planning Commission said that he was dissatisfied  
 in the course of a conversation with Mr. Gilmartin.

Dear Jim,

DATE *March 11/1988*  
 VMS: D BY *Don*  
 Projects Dept. Correspondence

Washington D.C.  
 1818 H Street, N.W.  
 and Development  
 International Bank for Reconstruction  
 Project Department  
 Mr. G.I.C. Evans

*WFO/12*

Letter No. 27

February 13, 1988

Telephone 30125, 30123. Cable Address - INTBANKAD NEW DELHI. Postal Address - P.O. Box 416  
 1 Sarai Patel Marg. New Delhi



RESIDENT REPRESENTATIVE IN INDIA  
 INTERNATIONAL BANK FOR RECONSTRUCTION AND DEVELOPMENT

Washington, D.C. 20540  
 Headquarters

*Ind. Agri. by  
cc. to  
UNDP*

## OFFICE MEMORANDUM

TO: Files

DATE: February 13, 1968

FROM: David A. Dunn *ADD*SUBJECT: INDIA - Agriculture: GOI Request to UNDP for Assistance in a  
Farmer Training and Functional Literacy Project

1. On Friday, February 8, 1968 Messrs. von Gontard and Dumoulin of the Projects Department, and Mr. Dunn of the Asia Department, met with Dr. Lawrence I. Hewes, consultant to the UNDP, and Mr. David Hartzog of the UNDP staff, to discuss a request from the Government of India to the UNDP for assistance in a project of farmer training and functional literacy. Messrs. Hewes and Hartzog are to be members of a UNDP evaluation mission to visit India in February and March.
2. The project as described in the Indian request is an ambitious scheme involving short, medium, and long term instruction for farmers, including teaching of functional literacy, and use of radio stations and village transistor radios for the dissemination of agricultural extension material, in the 100 districts of the high yielding varieties program.
3. The UNDP representatives asked if the proposed project might conflict with or overlap any of the Bank's activities in the field of Indian agriculture. The representatives of the Bank indicated that, on the contrary, the proposed project would probably reinforce certain Bank interests - in particular, with regard to the proposed Tarai seeds project, expanded and improved extension methods could only help in encouraging use of quality seeds as well as assisting in development of the Tarai area itself. Mr. von Gontard and Mr. Dumoulin explained the broad outlines and purpose of the Tarai scheme. They stated that it was hoped that use of the Tarai area as a seed production center could provide about 30 percent of the requirement of seeds for the high yielding varieties program. Marketing of these seeds might be greatly assisted by the proposed UNDP project since the project area was the same as the seeds reception area suggested for the Tarai scheme.
4. Messrs. Hewes and Hartzog stressed that the UNDP would desire to coordinate any project which grew out of the request with existing activities of other international agencies active in Indian agriculture; thus they expressed an interest in other Bank efforts in the Indian agriculture field and were given some details of the sorts of projects the Bank had financed in the past and might finance in the future.



5. Both the UNDP and the Bank groups expressed some concern about the success of a possible project as presented in the request. In its present form it was felt that the envisaged scale of activities exceeded the capacities of existing organizations, in India in particular the village level workers, although Mr. von Gontard noted that the basic concept of the project request, that is dissemination of agriculture extension material through use of modern communications media, was a good one with much potential in India. In any case it was not entirely clear how management of the project would be related to existing government extension organizations, or where ultimate responsibility would be amongst the three ministries which would be involved in the project.

6. The UNDP officials said that their tentative plan was to reduce the project request to manageable proportions, perhaps on a model scheme basis, in areas with assured water supply and good management which could guarantee inputs necessary to a successful extension effort. In practice this seemed to mean that they were anxious to attach or at least relate their project to a project or projects of another international organization.

7. It was agreed that the UNDP team would remain in contact with Bank officials both in Washington and New Delhi.

Cleared with and cc: Messrs. von Gontard and Dumoulin  
cc: Mr. Gilmartin  
New Delhi Office

Ind agi by.

✓  
Letter No. 81

February 15, 1968

Mr. Robert Picciotto  
P. O. Box 416  
New Delhi  
India

Dear Bob,

✓  
I read your note (February 5) on Andhra with special interest, as I have been talking up the iniquities of the development of Nagarjunasagar for years, whenever anyone would listen, which was seldom. But I raise a question about your very last sentence on Center support and direction.

I think I am not the only one to wonder whether the answer to everything that's wrong in the States can be found at the Center. Not so long ago, we had an Asia-Projects meeting on India. One of the subjects which came up was the need for the Bank to have a much closer liaison with the State Government than in the past, whenever it makes a credit. I think there was general agreement on this.

Perhaps this is a case in point. I'm not sure whether any foreign currency is needed for the increments of investment you speak of in paragraph 4, but it shouldn't matter. What we need to do is to put some money on one side for agricultural development in Andhra, specifically linked to irrigation, if you like, but also conditional on movement along the lines you indicate in various places. The money would not be transferred to another project, if we got no satisfaction, but would sit there, at least for long enough to convince us that the task was hopeless. That should get the Center into the act, if all those Reddy's made life difficult.

In any case, I'm not sure that the difficulties can always be laid at the State's door. When I was in Hyderabad (I suppose one inevitably falls into this deplorable reminiscing), I got the impression that it was not wholly the State's fault that Nagarjunasagar went so slowly, though they did put on something of a confidence trick in getting it started.

I'd be glad to have your reactions and anyone else's. As a footnote, let me say that, until today, IR8 might, to me, just as well

.../



- 2 -

have been a code-name for one of James Bond's girl-friends. Coincidentally, Nick Gibbs, just back from the Philippines, mentioned this morning that the Filipinos don't like the taste of it either.

Yours,

BENJAMIN B. KING

Benjamin B. King

BBKing:gg

cc. Messrs. Cargill  
Gilmartin  
Evans  
Votaw  
Waide

INCOMING CABLE

DATE AND TIME  
OF CABLE: FEBRUARY 13, 1968 1930

LOG NO.: WU 8/14

TO: INTBAFRAD

FROM: NEW DELHI

TEXT:

ROUTING	
ACTION COPY:	PROJECTS-AGRICULTURE
INFORMATION COPY:	PROJECTS-342
DECODED BY:	

*Douglas*  
*Mr. B. B. B.*  
*1 don't know who*  
*Bob cabled. Well*  
*wait the letter*  
*ISC*  
*1/4/68*

33 FOR EVANS

PLANNING COMMISSION REQUESTING INFORMATION ON BANK EXPERIENCE IN  
FIELD OF GROUNDWATER INVESTIGATIONS INCLUDING TYPICAL TERMS OF  
REFERENCE STAFFING PATTERN COPIES OF CONSULTANT REPORTS AND AVAIL-  
ABLE MATERIAL ON US BUREAU RECLAMATION EXPERIENCE. LETTER FOLLOWS  
REGARDS

PICCIOTTO

MT





Ind Agri

February 9, 1968

✓  
Letter No.3

Mr. Gregory B. Votaw  
International Bank for Reconstruction  
and Development  
P.O. Box 416  
New Delhi  
INDIA

Dear Greg:

I enclose Reutlinger's comments on the proposal to devise some scheme for "reporting on agricultural projects". As you see, we are very much interested, especially as this might provide a good basis for doing an economic end use study on some irrigation projects. We would like to talk about this with you (and Bill Wapenhans) when you get back. In the meanwhile I hope you will keep us informed about this.

With best wishes for friends and colleagues, and, of course, yourself,

Sincerely yours,

Herman G. van der Tak

mf  
Enclosure

HGvdT:gmc

cc: Mr. Wapenhans (on return)  
Mr. Schmedtje  
Mr. Reutlinger

ref March 31, 1968



DECLASSIFIED

New Delhi

FEB 25 2014

February 7, 1968

WBG ARCHIVES

PERSONAL

Dear Jim:

A week has passed since my arrival in India and it seems appropriate to give you a short interim report at this stage, but all the news are entirely good as you can well imagine.

My first encounter with the Min. of Food and Agriculture, chaired by Mr. Mabhur, was almost abortive. The Ministry knows unofficially that U.P. tubewells has been dropped but does not want to talk openly about it until finance has come clean. Nevertheless, this overshadows every contact and appears to be rather embarrassing for both Mabhur and Sivaraman. Their present position is that they do not want to talk about any new projects until definitive decisions have been taken on Terai, Punjab and U.P. tubewells. At a further small meeting with Sivaraman things loosened up a little bit over inability to finance current inputs on a large scale remains as a stumbling block in their new Bank-fostered (?) approach of special area projects. They are, however, now willing to let us talk about the Chauverj Delta.

Regarding the Chauverj Delta a new development has occurred. McDiarmid (Res. Rep. of UNQ) is about to send a new request for an enlarged comprehensive groundwater survey to New York. The study is to be finished by 1970. They are, however, quite willing to turn this into a pre-investment survey if we should wish to indicate the need for it. Buchanan is their project manager (he was our consultant in Taiwan) and I want to get his views on it. Unofficially we were given a copy of the UNDP report and we might want to follow this up with New York once the report has been submitted. Informally I understand that the Tanjore district project is withheld also because of the pending discussions on the aforementioned projects. Nevertheless we at least talk about it. Gujarat is off - mainly because of State - Center relationships which need more space for explanation than I can give it here.

More encouraging are the news on Punjab Drainage and Terai Seeds. It appears that the Punjab Drainage project has remained dormant since they still hoped for funding from us and have therefore withheld budget funds. It thus seems that we could continue where we left it some 18 months ago. I still feel, however, that a small re-appraisal mission is needed to up-date the report and to ascertain in more detail the present arrangements for the study. Mr. Vohra, Jt. Secretary Special Area Projects, has been appointed Project Director. If it could be arranged I think there might be an advantage in sending Phil Kirpich and Steve Eccles. Could Phil possibly do it on his way back from East Pakistan?

We just returned from a most interesting but also exhaustive visit to the Terai project area. My feeling is that things have advanced far enough to think seriously about an appraisal mission. The corporation is now to be registered before the end of March. The capital structure was thoroughly debated by the farmers in a meeting with Govt. and University representatives. They are now convinced that the NSC and UP Agroindustries participation may be to their advantage. In practice the University is at present running a similar show on a smaller scale with their Seeds Department. Considering the circumstances the work they do is quite impressive. The Vice Chancellor of the University is willing to transfer his Seed Dept. staff to the Corporation to

*Agri. govt.  
Seeds  
Punjab  
UP.*

*not until  
after NG Popun*

?

provide continuity and initially experience and some competence in the business. The farmers feel this is the best deal they can get. While many policy questions remain to be answered I don't think that we would gain anything by waiting much longer. Further, I feel that Sivaraman is at the moment rather flexible but if he is pushed into moving now before we come into the picture he may find it more difficult to retain this flexibility. There is a meeting this afternoon with Peter Cargill on Terai and I think he will now appreciate that the time is ripe for appraisal - provided Mr. Woods has not brought any bad news when he arrived this morning. If this checks with your impression we will have to think about staffing a mission. I think the composition is rather important. X  
yes

Rosemarie has weathered the trip rather well so far. She enjoys every moment though I have to leave her to her own devices most of the time. We are staying with the Gilmartins. The hotels are full with UNCTAD people and transport is also hard to get.

Please give our best regards to Eulalia. Rosemarie will be writing separately.

Yours ever,

Bill

(W. A. Wapenhans)





# INTERNATIONAL BANK FOR RECONSTRUCTION AND DEVELOPMENT

Cable Address - INTBAFRAD

## INTERNATIONAL DEVELOPMENT ASSOCIATION

Cable Address - INDEVAS

1818 H Street, N.W., Washington, D. C. 20433, U.S.A.

Area Code 202 • Telephone - EXecutive 3-6360



Personal

**DECLASSIFIED**

**FEB 25 2014**

**WBG ARCHIVES**

7. II. 1968

Dear Jim,

As you can well imagine, the first indication of food security in India and progress seems appropriate to give you a short interim report at this stage. All the news and estimates are good.

My first encounter with the Ministry of Food and Agriculture, which is headed by Mr. Subbarao, was about a month ago. The Ministry has been officially that U.P. has been dropped but does not want to talk openly about it until finance has been cleared. Nevertheless, this means every one is rather embarrassed for health Subbarao and Sridharan. Their present position is that they do not want to talk about any new projects until definite decisions have been taken on Tera, Punjab and U.P. Subbarao. At a further small meeting with Sridharan things were set up a little but our inability to finance current inputs on a large scale remains as a stumbling block in their new - Bank-backed approach of special area projects. They are, however, now willing to let us talk about the Chinnai Delta.

Regarding the Chinnai Delta a new development has occurred. ~~It~~ to Marumid (Res. Rep. of UN) is about to





send a new request for an enlarged comprehensive  
groundwater survey to New York. The study is to be  
finished by 1970. They are, however, quite willing to

8281. II. turn this into a pre-investment survey if we should  
wish to indicate the need for it. Buchanan is their project  
manager (he was our consultant in Taiwan) and I want  
to get his views on it. Informally we were given a  
copy of the UNDP report and we might want to follow  
this up with New York since the report has been  
submitted. Informally I understood that the Tange  
district project is withheld also because of the pending  
decisions on the aforementioned projects. Nevertheless  
we at least talk about it. Further info is mainly because  
of State - local relationships which need more space for  
explanation than I can give it here. I have not  
been successful in indicating the need for Punjab Drainage  
and Fertilizer. It appears that the Punjab Drainage  
project has been cancelled and that this still leaves  
for funding fertilizer and hence the need for fertilizer  
has not been funded. It thus seems that the fertilizer continues to  
be left out and I still feel, however, that  
a small appraisal mission is needed to update the  
report and to ascertain in more detail the present  
arrangements for the study. Mr. Mohra, Sr. Secretary  
Special Area Projects, has been appointed Project Director.  
If it could be arranged I think there might be an  
advantage in sending Phil Kirpich and Steve Ecker.  
Could Phil possibly do it on his way back from  
East Pakistan?



We just returned from a most interesting but also  
exhaustive visit to the Terai project area. My feeling is that  
things have advanced far enough to think seriously  
about an appraisal mission. The corporation is due to  
be registered before the end of March. The capital structure  
was thoroughly debated by the farmers, a meeting with  
Govt. and University representatives. They are now convinced  
that the NSC and ~~the~~ agro-industries participation may be  
to their advantage. In practice the University is at present  
running a similar show on a smaller scale with their  
Seed Department. Considering the circumstances the work  
they do is quite impressive. The Vice Chancellor of the  
University is willing to transfer his Seed Dept. Staff to  
the Corporation to provide continuity and initially  
experience and some competence in the business. The farmers  
feel this is the best deal they can get. While many policy  
questions remain to be answered I don't think that we  
would gain anything by waiting much longer. Further, I  
feel that Sivaraman is at the moment rather flexible  
but if he is pushed into moving now before we come into  
the picture he may find it more difficult to retain this  
flexibility. There is a meeting this afternoon with Peter  
Cargill in Terai and I think he will now appreciate that  
the time is ripe for appraisal - provided Mr. Woods has  
not brought any bad news when he arrived this morning.  
If this checks with your impression we will have to think  
about stopping a mission. I think the composition is rather  
important.



Rosemarie has weathered the trip rather well so far. She enjoys every moment though I have to leave her to her own devices most of the time. Her car stays with the Librarian's. The hotels are full with UNCTAD people and transport is also hard to get.

Please, you can't get my car. Entail. Rosemarie will be working separately.

John, your

Bill



Notes on ANDHRA PRADESH  
Irrigation & Agri.

Mr. Votaw  
Agriculture  
cc Agri. C.  
en also Jan. 30

Files

February 5th, 1968

R. Picciotto

Andhra Pradesh - Agriculture

1- This informal note about agriculture in Andhra Pradesh is based on information gathered in the course of a three day visit (January 15 - 18, 1968) to Hyderabad and neighbouring districts.

General

2- Andhra Pradesh is one of the few States of India which produces more foodgrains than it can consume. It owes its surplus position to three main factors:

- (a) it has relatively more arable land than other states (about 0.75 acre sown per capita, compared to an All-India average of 0.65 acre);
- (b) it is better endowed with irrigation facilities (27 per cent of the cultivated area received irrigated water compared to an All-India average of 19 percent);
- (c) industrialisation in the State has been moderate and, as a result, the growth of urban foodgrain demand has been relatively slow. (The 1961 census takes the urban sector to be 17 percent of the total population, a far cry from the 25-30 percent of such States as Madras and Maharashtra).

3- Of these three factors, the second is probably the most significant: Andhra Pradesh, commonly called the River State, is drained by two major Indian rivers (the Krishna and the Godavari) and a large number of coastal rivers and streams. It has a long tradition of irrigated agriculture and, although a substantial proportion of the irrigated area is dependent on satisfactory monsoon rainfall (due to lack of storage and to the drought protection orientation of much of the existing system) Andhra can claim that the bulk of its rice cropped area is, in some sense, irrigated - in contrast with an All-India average of only 37 percent. This is reflected in rice yields some 40 percent above the All-India average. A corollary of these relatively high yields (incidentally still quite low by international comparison - 1.5 tons per ha compared to a Taiwan average of 3.6 tons per ha) is the relatively diversified character of Andhra's agriculture. With a local demand for foodgrains satiated, it has been able to put some 1.6 million ha under such cash crops as groundnut (950,000 ha), cotton (370,000 ha), tobacco (190,000 ha) and sugar cane (130,000 ha). The State is also a leading producer of cashew nuts and castor oil much of which finds its way to the export market. Finally, there is

Ref Feb 15 - B. King & P. Smith  
/over



a substantial and growing investment in vineyards particularly around Hyderabad.

Irrigation (Annex 1)

4- As already noted, total irrigated area in Andhra Pradesh varies with the level and distribution of annual rainfall. In 1964-65, a year of good rainfall, it stood at 7.8 million acres compared to 7.3 million in 1965/66, a year of drought and these figures probably underestimate the impact of rainfall on the irrigation system. Irrigation policy over the past several years has been singularly unsuccessful in increasing the area under irrigation or improving its reliability. More than Rs.2,000 million has been spent on major irrigation over three (Five-Year) plan periods and the resulting net increase in irrigated area may not have exceeded 700,000 acres. While there may be unused irrigation potential in some of the major projects undertaken during this period (particularly at Nagarjunasagar), substantial increments of investment are required to bring these projects to fruition and detailed feasibility studies in this connection seem to be lacking. In the minor irrigation field, largely dependent on private resources and initiative, progress has been more striking. Tubewells and tanks have sprung up both inside and outside areas commanded by rivers and canals. In the delta particularly, tubewell water is used during kharif to ensure timely paddy planting and transplanting and, during rabi, to grow a second crop of paddy or cotton. For upland areas, tubewell irrigation is leading to a shift from dry farming (e.g. jowar/castor) to wet paddy cultivation, sometimes double cropped with rabi groundnut. Similar developments have started to occur in Nagarjunasagar with the release of irrigation water to some 500,000 acres of land during 1967/68.

Fertiliser (Annex 2)

5- Growth of fertiliser use over the past few years has been substantial but annual variations strongly reflect the vagaries of the weather. It appears that even with available water supply, fertiliser use could have been significantly higher had there been a more efficient distribution set-up. Delays in Center provision of supplies has been one cause of inefficiency. A recent policy of retrenchment by the Center with regard to the quantum and duration of credit assistance for fertiliser distribution, the inauguration of Coromandel and the prospects for increased credit assistance through private dealers, the situation may be expected to improve.

HYVP (Annex 3)

6- Performance under HYVP has fallen woefully short of targets, particularly with respect to paddy. There is no consensus about



the major cause for the shortfall. On the other hand, scientists argue that, even under unfavorable conditions, TNI and IR8 yield considerably more than local varieties. On the other hand, the agricultural administration retorts that in delta areas where TNI was "ruthlessly pushed" during kharif, a large number of farmers have suffered losses as a result of blight. Similarly, hybrid jowar grown during kharif is very susceptible to attack by the shoot fly. But the weak system of distribution for seeds, fertilisers and other chemicals is certainly responsible for a good part of HYVP's disappointing performance. In addition, at yields actually obtained under farm conditions, less fodder is produced by the dwarf varieties, and TNI or IR8 paddy fetches a price at least 15-20 percent below the price of traditional varieties because of unfavorable cooking characteristics. And given the restrictions on foodgrain movement (paras 8 and 9) the physical disposal of these varieties is something difficult as the Andhra consumer is more finicky than his deficit counterpart. Reorientation of the program to the rabi season should allow for more rapid progress in the future. However, a genuine take-off will probably have to await the release of new high-yielding paddy varieties endowed with characteristics of grain shape and consistency more acceptable to the consumer, hopefully by 1969-70. In the hybrid field, the bottlenecks are in the fields of seed production and plant protection. The release of an insect resistant variety of jowar would, of course, give a powerful fillip to the program but, here, the Center has been dragging its feet on local finance for hybrid jowar research and as a result, valuable time has been wasted. What is clear, is that short-term credit resources have not been very limiting since only a small proportion of financing available under the program was used last year. But the registration process under which access to HYVP inputs (including credit) was ensured, may have discouraged some farmers, particularly in view of the increased availability of fertilisers from private sources. On the whole, given the rather uncertain performance of HYVP in Andhra to-date, it is debatable whether the top priority HYVP enjoys in fertiliser allocation is warranted.

#### Tractors

7- According to private dealers, the tractor market has grown from 100 per year in 1963 to about 300 per year in 1967. More competition in the tractor field together with availability of long-term credit (Land Mortgage Bank) and better prices, explain this growth of demand. The main problem here is spare parts and repairs. Most tractor owners sell their services to neighbours, and those who use their machines 20 hours a day during ploughing season (and there are many) make good money.

#### Foodgrains Marketing

8- In Andhra, as in many other States, food zoning is being enforced not only for inter-State foodgrains transactions, but also within the State to facilitate procurement. There are



6 paddy sub-zones within the State and transfer between these sub-zones is a monopoly of the State government. Price variation among these sub-zones is substantial (15-20 percent) and the gap as compared with open market prices in neighbouring States such as Maharashtra may reach 100 percent or more. As a result, smuggling is substantial. A conservative Government estimate of the illegal outflow from the State is 200,000 tons per annum, one fourth of the State procurement target.

9- The cities of Hyderabad and Secunderabad are statutory rationed areas. There is nevertheless an active black market where rice sells at Rs.125 to 140 per quintal in relation to the Rs.105 of the official market. Mills able to process 10 quintals of paddy per day (or more) must surrender the equivalent of 60 days capacity to the State at procurement prices. The result is that they work way below capacity (at least officially) while small-scale inefficient millers work at full capacity. Producers operating 5 acres of land or more must surrender at procurement prices, 2 quintals per acre operated within the 5-10 acres and 3 quintals per acre operated above 10 acres, a substantial, if hidden, tax burden. Procurement prices for paddy have of course been raised since last year from about Rs.45 to Rs.55 (middle quality) and the number of zones within the State is only half of what it was last year. Yet, the Andhra paddy farmer currently gets a much lower price (at the official exchange rate) than his counterpart in similarly situated countries (including Pakistan) and there is a long way to go before Government foodgrains marketing policy becomes genuinely geared to support rather than control foodgrain prices. It is noteworthy that procurement prices for coarse grains have not been raised for the past three years.

#### Conclusion

10- With relatively favorable natural conditions and a substantial commercial farming community, Andhra Pradesh enjoys great scope for further agricultural progress. In order to exploit this potential, there is need for a realistic program to improve the irrigation system, coupled with a more liberal foodgrains marketing policy. This is not likely to happen without Center support and direction.

Attachments: Annexes 1 - 4.

cc: Messrs. W.M. Gilmartin  
B. King - Washington  
L.J.C. Evans - Washington  
Sir John Crawford - Australia

RP:YD

Annex 1

Andhra Pradesh

Area Irrigated

(000 acres)

	Year	By Govt: Canals	By Pvt: canals	By Tanks	By Wells	By other sources	Total area irrigated
First Five Year Plan	1950-51	2915	59	1860	749	206	5789
	1951-52	2926	65	2073	806	145	6014
	1952-53	2956	53	1855	707	157	5729
	1953-54	2966	73	2655	694	243	6631
	1954-55	3008	70	2490	748	207	6522
	1955-56	3129	63	2639	701	254	6788
Second Five Year Plan	1956-57	3131	35	2920	791	211	7088
	1957-58	3019	38	2746	744	213	6761
	1958-59	3087	22	2944	728	265	7046
	1959-60	3136	32	3101	735	284	7287
	1960-61	3260	30	2844	810	244	7189
Third Five Year Plan	1961-62	3080	47	3108	994	256	7485
	1962-63	3100	72	3288	1020	331	7863
	1963-64	3172	69	3031	912	401	7653
	1964-65	3087	64	3313	999	340	7803
	1965-66	2987	42	2939	1123	266	7357

Source: The Deccan Chronicle - January 14, 1968



Andhra Pradesh

Fertiliser Use

(000 MT)

	<u>N</u>	<u>P<sub>2</sub>O<sub>5</sub></u>
1961-62	38.0	17.9
1962-63	59.1	22.4
1963-64	79.5	24.8
1964-65	102.5	32.8
1965-66	71.5	28.0
1966-67	108.0	36.4
1967-68	115.0 <sup>1/2</sup>	n.a.

1/ Up to December 31, 1967

Source: A P Secretariat

Andhra PradeshHigh Yielding Varieties Program

(000 acres)

	<u>1966/67</u>		<u>1967/68</u>	
	<u>Khariff</u>	<u>Rabi</u>	<u>Khariff</u>	<u>Rabi</u>
<u>Paddy</u>				
Target	195.0	605.0	700.0	720.0
Achievement	101.0	456.6	147.4	n.a.
<u>Jowar</u>				
Target	40.0	65.0	70.0	70.0
Achievement	40.0	50.5	10.1	n.a.
<u>Bajra</u>				
Target	30.0	6.0	70.0	40.0
Achievement	2.0	1.6	23.1	n.a.
<u>Maize</u>				
Target	15.0	3.0	65.0	30.0
Achievement	10.0	3.0	19.5	n.a.

Source: A P Secretariat



Andhra PradeshFoodgrains Production

(000 MT)

	<u>1960/61</u>	<u>1964/65</u>	<u>1965/66</u>	<u>1966/67</u>
Rice	3660	5010	3960	4060
Jowar	1360	1140	1020	1030
Other cereals & millets	<u>1120</u>	<u>1210</u>	<u>650</u>	<u>911</u>
Subtotal:	6140	7360	5830	6001
Pulses	<u>280</u>	<u>340</u>	<u>270</u>	<u>241</u>
	6420	7700	6100	6242

Prospects for 1967/68

Partial Kharif crop cutting surveys indicate a 7 percent increase in rice area and a 2% increase in yield. (This may mean an additional 300,000 MT of rice). The jowar crop during Kharif may also have fared better, perhaps 15-20 percent better (giving an additional 100,000 MT of jowar). On the other hand, September-October rains have failed and this may have seriously affected rabi sowings of jowar and to some extent, (through inadequate tank irrigation) summer paddy. On the whole, the total foodgrain crop is likely to be 200,000 MT better than last year.

*J. V. Law*  
*Agriculture*

Mr. William M. Gilmartin

January 30, 1968

R. Picciotto

ANDHRA PRADESH -- Groundwater Development Project

1. This short note is about a project possibility I spotted in the course of my recent stay in Hyderabad. The project is currently being prepared by several State agencies under the leadership of the Planning Department. This work is being done at the request at the Center "for posing it (sic) to the World Bank". We have not heard about this from Sivareman and should therefore tread lightly if and when the subject comes up for discussion in the Ministry this week.

2. The project aims at expanding rice, cotton and groundnut production in four districts of Andhra Pradesh: Guntur, Krishna, East Godavari and West Godavari (one of Ford's "package" district). It makes provision for construction of 7,500 tubewells, associated groundwater surveys and exploratory drilling, related electrification works, and provision of inputs for land development and improved cultural practices. Total cost, including recurrent items, is estimated at about Rs. 700 million (US \$93 million).

3. A rough breakdown of project cost follows. Expenditures would be phased over 6 years:

	Total	Credit to Farmers	Other
Surveys and Exploratory work	11.3	-	11.3
Tubewells Construction	250.2 <sup>3/</sup>	170.0	80.2 <sup>1/</sup>
Power Supply	115.3	-	115.3
On-Farm Development	325.2	308.6 <sup>2/</sup>	16.6
Total	702.0	478.6	223.4

<sup>1/</sup> Subsidy to farmers by Government.

<sup>2/</sup> Of which 195.6 would be short-term credit.

<sup>3/</sup> Average estimated cost per tubewell is Rs. 20,000 in the deltas (150 ft deep, 5 HP) and Rs. 50,000 upland (425 ft deep, 15 HP). Actual costs incurred by the Exploratory Tubewell Organization are much higher (around Rs. 70,000).



4. Five thousand tubewells would be constructed on delta land and 2,500 tubewells, upland. Groundwater utilization under the project would lead to an expansion in cropped area of 630,000 acres and would provide supplementary irrigation to 295,000 acres, as follows:

		000 acres					
		Kharif		Rabi		Total	
		Suppl.	New	Suppl.	New	Suppl.	New
10,000,000	Krishna Delta	120	-	15	165	135	165
	Godavari Delta	120	-	40	125	160	125
	Subtotal	240	-	55	290	295	290
125,000,000 =	Upland 2,500 @ 50,000	-	140	-	280	-	420
225 = 570	Total	240	140	55	570	295	710

5. Expected agricultural production resulting from the project (after fruition) is shown below. The projection is based on a cropping pattern which is prevalent in the area but little evidence is offered to buttress the estimate of the particular land use mix implied:

	Production 000 MT	Gross Value Rs. million	Rs. quintal
Paddy	265	130	50
Groundnut	225	280	125
Cotton	155	235	150
		645	

6. Gross value of production reflects the increase in paddy yields which would result from supplementary irrigation as well as the total value of production expected from newly cropped area. It therefore does not account for the alternative use of land on non-irrigated area and therefore exaggerates the benefits to be expected from the project. The priority of investment in upland areas, where land development as well as tubewell installation costs are higher (and soils are poorer), requires special attention. A smaller project designed in the light of more stringent investment priorities may need to be prepared if it is to meet usual Bank standards. Another "benefit" requiring additional scrutiny is the presumed increase in yield made possible by early paddy transplanting as this presumed benefit may not make allowance for the availability of new high yielding, short duration, paddy varieties.

7. Tubewell construction under the Project would be the responsibility of the Government. It is proposed that a special unit be set up for this purpose within the State Irrigation Department. The alternative of using private contractors may not have been fully investigated. (It is noteworthy that by 1965/66 there were already 3,100 private tubewells and only 80 state tubewells in the 4 districts of the project area). Coordination between this unit and the Department of Agriculture which would be involved in extension activities and input supply in the four districts is another grey area of the proposal.

*also private channels*

8. The proposed institutional channel for long-term credit under the project would be the AP Cooperative Central Land Mortgage Bank. During the Third Five Year Plan period, this bank processed some 13,000 loans for wells and 6,000 loans for diesel and electric motors for a value of Rs. 52 million. Its repayment record has so far been good.

9. A power supply expansion program is proposed by the State Electricity Board under the project. About 1,200 villages in the project area are already electrified. Included in the cost estimates is a provision of Rs. 42 million for electrification of some 850 villages which are not now electrified and have not been included in the Board's normal expansion program during the Fourth Plan (300 villages). About 48,000 KVA would be required for the project and while existing and proposed power generation is said to be ample for the increased demand, the project would require strengthening of the secondary transmission system (construction of sub-stations and 33 KV lines; erection of transformers; and new 11 KV lines). No priority for the electrification program (i.e. which villages should come first) seems to have been worked out.

10. The project proposal, as it now stands, leaves many questions unanswered. But there is little doubt that a project of this kind (if not of this size) and with suitable modifications could be of benefit to the Indian economy. The substantial reliance of the project on credit to individual farmers is an attractive feature of the proposal in the light of our Etah/Varanasi experience. The inclusion of groundwater surveys within the proposal is a sound feature. While the need for expatriate technical expertise in this connection has probably received insufficient consideration, I was privately assured that AP was likely to adopt a pragmatic outlook in this connection. The Andhra Pradesh Land Mortgage Bank which would handle term lending to farmers under the project is widely regarded as being one of the soundest agricultural credit institutions in the country. And, as argued in another memorandum, AP is a State with favorable natural conditions, a substantial commercial farming sector and a pressing need for more sensible irrigation and marketing policies. For a project substantially based on paddy production, in a surplus area, analysis of farmers incentives would undoubtedly have to face squarely the issue of zoning and of compulsory procurement by the Government.

cc: Messrs. Votaw ✓  
Wapenhans  
Ladejinsky

RP:mb



✓  
Letter No. 36

Jan 17, 1968  
x *Agw' qm*

Mr. William Gilmartin  
Resident Representative  
International Bank for Reconstruction  
and Development  
P. O. Box 416  
New Delhi, India

Dear Gil:

1. I am writing with regard to Bill Wapenhans' forthcoming visit to India. While there might be some advantage if his departure could be delayed for a few weeks, it would not be possible to fit a later date into the time schedules of the Agriculture Division. At any rate I would hope that he will find an opportunity even at this overcrowded time to discuss a number of projects of potential interest to us.
2. I attach Bill's terms of reference which will give you some further indication of the subjects he will want to discuss. As regards the Terai project we have now received the project submission from Sundara Rajan and I expect to cable you and Sivaraman later this week with a list of points requiring further clarification. It seems to us, however, that the most immediate problem is that of the establishment of a corporation capable of implementing and running the project. Bill would like to get a first hand appreciation of the position on this point and see what has actually been done or is intended to be done by Government to enlist active private participation. In this context it seems to us especially important that the corporation should have sufficient autonomy. Equally important would be the policy frame within which such a corporation has to function. We are not quite sure what Sivaraman means when he takes the position that the capital structure of the corporation should reflect the appraisal mission's findings. Obviously, the corporation is the hard core of the project and must have taken shape before an appraisal can be satisfactorily completed. This cannot be expected to take place during Bill's visit, but we feel that an exchange of views at this point should prove rather useful in hastening decisions on the project within India. In addition Bill will wish to ascertain the status of the six points set out in paragraph 4 of the FAO/IBRD report and which were touched on during the conversations Kirk and Picciotto had with Mathur.
3. Bill will want to make a number of field trips including the Terai project area, Chandigarh and also perhaps appropriate places in Gujarat and/or Madras. I would very much hope that Bob Picciotto could be available to participate in his discussions in Delhi as well as to accompany him on his field trips. I am also intending to join in those visits if at all possible.

4. Could you or Bob put together a tentative schedule for Wapenhans, including travels indicated and/or those you would advise. Could you also fix appointments in Delhi for his first days there? I would hope that after some discussion with you, he could meet more or less privately with Sivaraman to explain the purpose of his mission as well as our specific concerns regarding Terai Seeds. Inevitably - but hopefully later - the Ministry of Agriculture will organize one of their mass meetings on Terai. Sivaraman may also suggest meetings with his other officers on Punjab, Gujarat, Madras and additional project possibilities. Talks with Rockefeller technicians, Hopper and others, should also be fixed for the January 31 to February 2 period.

Yours sincerely,

Gregory Votaw

WAWapenhans/AKirk/Gy/bj

cc: Mr. Wapenhans  
Mr. Kirk





INTERNATIONAL BANK FOR RECONSTRUCTION AND DEVELOPMENT

RESIDENT REPRESENTATIVE IN INDIA

7 Sardar Patel Marg · New Delhi

Telephone 30152, 30153 · Cable Address - INTBAFRAD NEW DELHI · Postal Address - P.O. Box 416

Letter No. 23

January 15, 1968

Mr. Gregory B. Votaw  
Asia Department  
International Bank for Reconstruction  
and Development  
1818 H Street, N.W.  
Washington, D.C. 20433

Dear Greg:

I saw Sivaraman on January 12 and asked him whether new agricultural project possibilities could be developed for preliminary discussion in February.

He said that India's agricultural sector was on the move and would require considerable inputs of capital over the next several years - there was, therefore no dearth of project possibilities. However, to identify them and work them up to Bank standards would take up the precious time of top-level staff, which he was reluctant to commit until convinced that "the Bank means business". In his opinion, talk about further projects would be rather futile until the Punjab study was launched and India knew where the Bank stood on Etah/Varanasi and Terai.

The remainder of the talk was not more helpful. As I pointed out that it was in India's interest to have a full project pipeline at the pre-identification as well as at the appraisal stage, Sivaraman said that a cooperative fertilizer production along Kandla lines could perhaps be worked out ("If Bank of America can finance cooperative fertilizer production, why not the World Bank?"). Credit? Not an immediate need given PL 480 funds availability. Intensive irrigation development? Not until the World Bank accepts fertilizer financing which would make the investments in canals, land shaping and the like pay rapidly. And if the Bank wants more projects, how about further groundwater schemes outside of UP, along Etah/Varanasi lines. (Any meaningful project discussion with Sivaraman will obviously have to start with a full explanation of our position on this project). At that point, it struck me that Sivaraman himself would not mean business until he got a successful appraisal underway. Why? Because in his words "I am being watched as far as these projects are concerned and, if you must know, my own credit is falling down".

I am painfully aware that this letter reads more like a gossip column than a project identification communication. But I wanted you to have Sivaraman's current mood in mind as you prepare for the next move. Despite this mood, Wolf and I are keeping our ears and eyes open for project possibilities.

With best regards,

Sincerely yours,

Bob

Robert Picciotto

cc: Mr. Votaw

*DP Files*

*No answer required  
Wofurhans/Votaw will  
discuss this in Delhi  
in Feb w/ Sivaraman*

*Copy to  
Sivaraman*

1200 70113 04 2:00

cc: Mr. Dorfman

Kopetsky Pictoroff

Bog

Disciplinary Action

With best regards,

1968 JAN 19 PM 9:46

Project Bogartoff.

Despite this mood, most and I are keeping our ears and eyes open for  
some development, a sufficient mood in mind as you believe for the next move.  
Continue this a project identification communication. But I wanted you to  
I am beginning to realize that this letter reads more like a Bogart

jects are concerned and, if you want know, my own credit is falling down.  
may. Why? Because in its words "I am being matched as far as these pro-  
mises, most of them are business and I am not a successful entrepreneur under-  
standing on this project." At that point, if I think we that development  
development will eventually have to start with a full explanation of our  
strong financial position. (And mentioning project discussion with  
many more projects, from about further development schemes outside of us,  
ments in cases, and answering and the like by letter. And if the bank  
the world bank accepts letter, then we will make the invest-  
ment in the development. Intensive investigation development; not just  
question, my not the world bank. Credit; not an immediate need given  
worked out (the bank of America and finance cooperative letter, pro-  
a cooperative letter, development strong financial times could perhaps be  
pre-identification as well as at the development stage, development and that  
that it was in India, a interest to have a full project before at the  
the remainder of the task was not more difficult. As I pointed out

where the bank stood on financial position and letter.  
would be further letter until the bank stood was finished and India knew  
"the bank means business." In its opinion, task about further projects  
of job-level staff, which we was reluctant to commit until convinced that  
them and work them up to bank standards would take up the business time  
was, therefore no desire of project development. However, to identify  
redirection considerations in the of capital over the next several years - there  
He said that India, a significant sector was on the move and would

perhaps.

Project Bogartoff could be developed for development discussion in

I am development on January 15 and asked him whether he significant

Dear Greg:

Washington, D.C. 20533

1818 H Street, N.W.

and Development

International Bank for Reconstruction

and Development

Mr. Gregory B. Dorfman

Letter No. 53

January 12, 1968

Telephone 30125, 30123. Cable Address - INDBANK NEW DELHI. Postal Address - P.O. Box 410  
1 Gandhi Park Marg. New Delhi

RESIDENT REPRESENTATIVE IN INDIA

INTERNATIONAL BANK FOR RECONSTRUCTION AND DEVELOPMENT



Washington, D.C. 20541  
Headquarters:

20 Jan 1968



Ind Agr

Messrs. I.P.M. Cargill/R.J. Goodman, Prof. Mason/ January 12, 1968  
Mr. Stevenson, Messrs. Wapenhans/Takahashi/Sonley, Messrs. B.King/B. Waide  
Gregory Votaw

INDIA - Proposed Agricultural Study by Mrs. Kusum Niar

Attached please find Mr. Gilmartin's letter of December 26.

I would very much appreciate your comments.

Attachment

GVotaw:sao  
IBRD

Ind Agri Proj.  
X OP  
Kedro  
J. S. S. S.

January 5, 1968

✓  
Letter No. 9

Mr. Robert Picciotto  
International Bank for  
Reconstruction and Development  
P. O. Box 416  
New Delhi, India

Dear Bob:

- Dec. 22 ✓
1. Let me answer your No. 331 very quickly. The U. P. mission never produced a report; Wapenhans has told me that the December 11 memo is all there is. I have recommended, and Peter and Projects have agreed, that we will stop trying to find a groundwater/agricultural scheme in Uttar Pradesh. I still believe very strongly that there is tremendous potential in the area, but the Bank's ways of doing business are so different from Luchnow's that I no longer have any hope of reaching agreement on a viable project in U. P.
  2. I am assured that credit aspects will receive full attention during appraisal of the Terai scheme. However, I am not sure what this will mean in terms of additional financing from IDA; at this stage I doubt that it would mean much, but the idea seems well worth further consideration.
  3. The "integrated regional development approach" seems a good idea but so far has not produced a project IDA could finance. Is the Cauvery Delta scheme (Tanjore District, Madras) ever going to come to us? It might be a starter. Is there anything in Gujarat? Can you identify a new drainage and/or tubewell scheme in the Punjab, to which the long-delayed USBR study could be attached?
  4. I have been unable to find much support for groundwater studies in Washington. I had expected to finance studies in U.P.--in a wider region than the "tubewell" project in order both to assess the aquifer and also to help identify next-stage projects--but this was vetoed upstairs before Evans' last visit to India (November 1966). I would support a second try.
  5. The prospects for IDA replenishment have now reached the point where we are under instructions to find and appraise projects for negotiation prior to June 30 of this year. Both in this connection and to prepare for later years, we would very much like to find some strong candidates in the agricultural sector. This will be very much on Bill Wapenhans' mind if he visits Delhi in February, as now planned. I hope you and Sivaraman will have some well developed proposals for Bill to look at. That is largely what I had in mind when I listed two or three old "ideas" in paragraph 3. Have any of Damry's credit schemes (with or without



Agricultural Refinance Corporation participation) reached a point that would interest IDA? Is anything happening in the foodgrain procurement-storage-distribution field that involves investment projects suitable for IDA financing?

6. Any ideas you have for Peter, Bill or myself--we will all probably be seeing you next month--would be welcome.

Best regards.

Yours sincerely,

Gregory Votaw

GVotaw:sao  
IBRD