

**THE WORLD BANK GROUP ARCHIVES**

**PUBLIC DISCLOSURE AUTHORIZED**

Folder Title: Drought Prone Areas Project - India - Credit 0526 - P009692 - Correspondence  
- Volume 12

Folder ID: 30305792

Project ID: P009692

Dates: 11/30/1978 - 11/30/1978

Fonds: Records of the South Asia Regional Vice Presidency

ISAD Reference Code: WB IBRD/IDA SAR

Digitized: 11/8/2018

To cite materials from this archival folder, please follow the following format:  
[Descriptive name of item], [Folder Title], Folder ID [Folder ID], 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)

INDIA - Credit 526 IN  
Vol. XII



**Archives**  
30305792  
R1982-052 Other #: 2038-1 11912B  
Drought Prone Areas Project - India - Credit 0526 - P009892 - Correspondence - Volume 12

**DECLASSIFIED**  
**WITH RESTRICTIONS**  
WBG Archives

CLOSE - OUT SHEET

This file is closed as of Nov. 30, 1978

For further correspondence, please see Vol. XIII.

RECORDS MANAGEMENT SECTION

Oct. 1, 1978 — Nov. 30, 1978

India - Credit 526

Nov. 30, 1978

## OFFICE MEMORANDUM

TO: Mr. W. G. Rodger, Acting Chief, ASPAC  
 FROM: N. J. Krafft and J. H. Lindt (ASPAC), and F. Brumby (ASPAD) DATE: November 30, 1978  
 SUBJECT: INDIA -- Drought Prone Areas Project (526-IN)  
October/November, 1978 Supervision

1. In accordance with terms of reference dated September 28, 1978 we visited India to review progress and assist in implementation of the Drought Prone Areas Project. We visited the districts of Jodhpur and Nagaur in Rajasthan, and Anantapur in Andhra Pradesh; and were briefed on progress in the other three districts -- Ahmednagar and Sholapur in Maharashtra, and Bijapur in Karnataka -- by district and State officials in the respective State capitals.
2. The full supervision report is attached.

Supervision Report cleared with and cc: Mr. Tibor

Distribution:

Messrs. van der Tak (2)  
 Yudelman (2)  
 Israel  
 Reif  
 Mrs. Robbin  
 Tan (2)  
 Veraart (2)  
 Greenewold (FAO/CP)

Messrs. Hopper, Saeed, Picciotto, Rowe  
 Bhatia, Dunn, Jansen, Pranich,  
 Lee, Parsons, Slade, Pickering,  
 Ms. Hamilton, Lindt, Thornley  
 Nekby/Rowe (NDO) (3), South  
 Asia Files, Black Book

DEC 04 1978

IBRD AND IDA - SUPERVISION SUMMARY

This summary is  the initial summary  
 part of a mission report  
 a semi annual update  
 the completion summary

Regional Office: <b>South Asia</b>	Project Name: <b>INDIA - Drought Prone Areas</b>	Project Code: <b>8-IND-AI-19</b>	Loan <input type="checkbox"/> Credit <input checked="" type="checkbox"/> No.: <b>526-IN</b>	L/C Amount (\$xx.xm): <b>35</b>
Country: <b>India</b>	Borrower/Beneficiary: <b>Government of India</b>	Board Date: <b>12/5/74</b>	Signing Date: <b>1/24/75</b>	Effective Date: <b>6/9/75</b>
Projects Dept./Div. Name: <b>ASPAC</b>	Org. Code No.: <b>186-14</b>	Projects Officer: <b>N. J. Krafft</b>	Loan Officer: <b>G. Slade</b>	

**SECTION 1: SUMMARY PROJECT DESCRIPTION** A multi-componented pilot project which aims to find replicable technical, economic and organizational means to improve the economic status of the rural population in drought affected areas. The project, administered as part of GOI's drought prone areas program (DPAP), is implemented in six districts of Rajasthan, Maharashtra, Karnataka, and Andhra Pradesh.

**SECTION 2: PERFORMANCE RATING**

STATUS: 1 - Problem-free or Minor Problems; 2 - Moderate Problems; 3 - Major Problems

TREND: 1 - Improving; 2 - Stationary; 3 - Deteriorating

TYPES OF PROBLEMS: F - Financial; M - Managerial; T - Technical; P - Political; O - Other (Explain in Section 5)

If more than one type of problem, enter most critical factor first.

Designated a "problem project" in most recent SVP review? Y - Yes; N - No  N

This Summary	Last Summary
<b>2</b>	<b>2</b>
<b>2</b>	<b>3</b>
<b>O T M</b>	<b>M T</b>

**SECTION 3: PROJECT DATA**

Estimated/Actual:	Project Completion (Mo./Yr.)	Loan/Credit Closing (Mo./Day/Yr.)	Total Project Cost (\$xx.xm)	Foreign Currency (\$xx.xm)	Local Currency (\$xx.xm)	Cumulative Disbursements through most recent Quarter ended (09/30/78) (\$xx.xm)
Appraisal Est.	<u>6.80</u>	<u>6 30 80</u>	<u>102.7</u>	<u>5.0</u>	<u>97.2</u>	<u>26.2</u> (Est.)
Last Summary (09/20/77)	<u>6.81</u>	<u>6 30 81</u>	<u>102.7</u>	<u>5.0</u>	<u>92.2</u>	
Current	<u>6.81</u>	<u>6 30 81</u>	<u>102.7</u>	<u>5.0</u>	<u>97.2</u>	<u>14.6</u> (Actual)

**SECTION 4: MISSION SCHEDULE**

	No. of Staff on Mission	No. of Days in Country	Return to HQ (Mo./Day/Yr.)	Final Report Date (Mo./Day/Yr.)
Latest/Present Mission	<u>3</u>	<u>20</u>	<u>11 20 78 1/</u>	<u>11 30 78 (FS)</u>
Previous Mission	<u>3</u>	<u>18</u>	<u>09 06 77</u>	<u>09 20 77 (FS)</u>
Next Mission Departure (Mo./Yr.)	<u>06 79</u>	Recommended interval between missions (Months) <u>6</u>	End of period covered by latest progress report (Mo./Day/Yr.)	<u>06 31 78</u>

\* Type of Report: FS = Full Supervision; CS = Combined Full/B-T-O; C = Completion; A = Appraisal; O = Other (explain below)

**SECTION 5: COMMENTS (Explain "other" in Section 2 and clarify, if necessary, data in Sections 3 and 4)**

1/ Return to HQ of last member of mission.

Explanation in Section 2: O = Social problems, particularly in pasture and sheep components.

**SECTION 6: SUMMARY OF PROJECT STATUS, TREND, AND MAJOR PROBLEMS:**

Summary

6.01 Credit 526-IN is a multi-componented pilot project designed to clarify the most useful approach to improving the productivity in the drought prone areas of India. If progress is assessed in relation to this objective, overall performance may be regarded as satisfactory. It is now becoming clear which project components have potential for large-scale replication and which have not. Paras 6.02-6.05 summarize the present status of the project; paras 6.06-6.25 provide a more detailed discussion of individual project components.

Status

6.02 In the mission's view, there are only two components of the present project that are likely to affect significantly the lives of large numbers of the population of these drought-prone areas in the next decade: dairying and dryland farming. Of these, dairying has already had a marked impact on rural incomes. While the dryland farming component has yet to make an impact, it has considerable promise for raising production in the longer term. Both components are, in part, also covered by other Bank-supported dairy and extension projects.

6.03 Regarding irrigation, the groundwater resource is limited and the well program, while making satisfactory progress, is also provided for by on-going programs of institutional credit available from ARDC. The cost of irrigation tanks has been much higher than anticipated at appraisal; we believe they are not economic. Similarly, the soil conservation program has been more costly than projected and benefits are unproven. Research findings from ICAR and ICRISAT stations indicate that existing techniques are outdated, if not wrong, and that the traditional and entrenched views of staff of most Soil Conservation Departments throughout India will be slow to change. While considerable progress has been made on techniques for establishment of pastures and trees, work has been confined to government land and there is not much more of this land available. This emphasis on government land means that little has been learnt regarding the organization and incentives required to establish pastures and trees on village communal and private land. Similarly, most lessons learned from the formation of sheep owners' societies are not replicable since their establishment has also been largely based on the provision of government grazing land. The solutions to the largely social problems that these components highlight are not immediately obvious and much experimentation remains to be done. Two of the diversification schemes (sericulture and fisheries) have been successful, but are minor project components. Horticulture has made little impact.

6.04 Disbursements and Expenditures: Project disbursement is well behind appraisal estimates, but is beginning to accelerate. Disbursement is about 56% of the appraisal estimate (Annex 2); project expenditures, about 35% of total project costs, including price contingencies. Although savings in IDA expenditures had been anticipated, GOI now estimates that there are unlikely to be savings. The reason for this is as follows: At appraisal it was estimated that IDA's contribution (US\$35 M) would finance about 50% of public sector investments (estimated at Rs 577 M (US\$72 M)). The major cost increases (tanks, soil conservation, and pasture establishment) are in the civil works category, against which IDA is disbursing 95%. There has thus been a shift from low disbursing categories of the Credit (including categories against which there is no disbursement) to the civil works category with 95% disbursement. The result is that the IDA credit will be drawn down against smaller overall project expenditures than anticipated at appraisal.

6.05 This is brought out clearly in the initial draft of a revised implementation plan drawn up by GOI for the remainder of the project period. Based

on experience to date, appraisal targets were revised, expenditures were estimated to meet revised targets, and expenditures eligible for IDA reimbursement calculated. The implication from the revised plan is that the unallocated portion of the Credit (US\$14.5 M) would be allocated to the civil works category as follows:

	<u>Disbursement %</u>	<u>Original Credit Allocation /a</u> ------(US\$ Million)-----	<u>GOI Revised Targets</u>
Civil Works	95	9.7 (28%)	22.6 (64%)
Equipment and Vehicles	80	2.6 (7%)	3.2 (9%)
Operating Costs	60	6.9 (20%)	8.6 (25%)
TA & research	100	1.3 (4%)	0.6 (2%)
Unallocated		14.5% (41%)	
		<u>35.0 (100%)</u>	<u>35.0 (100%)</u>

/a Schedule 1 of DCA.

If this plan is adopted by GOI and accepted by IDA, the Credit would be fully disbursed against total expenditures of Rs 410 M (US\$52 M) rather than the appraisal estimate of US\$70 M (see para 7.02).

### Project Components

#### Minor Irrigation

6.06 Wells. The project includes components for deep wells in Rajasthan and dug wells in all districts except Karnataka. Implementation of the deep well program is picking up now that provision of electrical connections has been finalized. 1/ The dug well program, as with the deep well program, continues to be constrained by the unwillingness of banks to provide financing. In Anantapur, GOAP circumvent this problem by providing loans for works from budgetary sources out of special development funds. The lack of available institutional finance stems from two major factors: (a) banks are skeptical of the financial viability of dug wells in drought districts, especially where command areas are physically poor, and (b) wells rarely realize their potential because of inadequate extension and farmer training in water management, resulting in inefficient water use. There is an urgent need to assess the actual benefits of the well program. The assessment should be carried out over a number of years so as to include also drought years, when wells are

1/ The mission was informed that the electrification schemes have now been approved by Rural Electrification Commission (REC) and that the schemes conform to criteria agreed between the Bank and REC. The schemes will now be submitted to IDA for refinance (para 6.03 of last supervision report).



likely to be dry (para¶ 6.21 and 6.22). Because the number of wells is small, the impact of the well program on aggregate production is marginal. The well component could adequately be covered through ongoing ARDC schemes. Essential elements of the well component which need strengthening are: (a) agricultural extension, (b) economic evaluation of existing wells, and (c) proper spacing of wells to avoid over-exploitation of groundwater potential.

6.07 Irrigation Tanks: While construction of tanks is about on target, the mission believes that most tanks are uneconomical, even using social criteria to measure viability. Costs are 50%-300% above appraisal estimates. The mission believes benefits have been over estimated by State governments in submitting schemes to GOI. Since no tank is fully operational, the mission was unable to verify the actual benefits from tanks. As with wells, evaluation needs to be initiated as soon as possible. The number of beneficiaries for each of the minor tanks has been small, averaging perhaps 50 beneficiaries per tank with an investment of some Rs 50,000 (US\$6,000) per beneficiary. In the mission's view, alternative investment opportunities, such as dairying, would generate higher returns. The slow pace of CAD works, which has resulted primarily from the unwillingness of banks to lend for CAD, and lack of extension have further reduced the economic rate of return of this component. As with Bank-financed medium irrigation projects, most State governments have now agreed to finance communal works down to farmers' fields from budgetary sources. This will speed up the pace of CAD, but tanks are likely to remain a poor investment.

#### Watershed Management

6.08 Resource Inventory and Watershed Plans: The project provides for intensive development in 8-10 watersheds per district, comprising forest and pasture development on upper catchments, soil and moisture conservation practices where appropriate, and a dryland farming component. Watersheds have been selected on the basis of a resource inventory (the selection has been hampered by lack of large scale aerial photos). Once selected, detailed plans have been drawn up for each watershed. Now that works in several of these watersheds have been implemented, there is a critical need to evaluate benefits and costs of the various programs. Progress with each of these programs is discussed below.

6.09 Forestry development makes reasonable progress and forestry departments are now showing an encouraging flexibility to the multi-purpose use of exotic forest species and to social forestry techniques. The disregard of most villagers for public property is a key constraint to extending plantings to communal land, but planting on private land is being encouraged by the distribution of young seedling trees.

6.10 Rangeland Development: In the Jodhpur and Nagaur districts establishment of Cenchrus ciliaris and C. setigerus is encouraging; Cenchrus planted in furrows five meters apart has started to colonize the inter-row area and is withstanding moderate grazing pressure. In the four other districts, Stylosanthes spp, particularly S. hamata and S. scabra, are the most generally useful introductions. These plants can be established by broadcasting seed

(about 5 kg/ha) on uncultivated and degraded rangeland. The capability of Stylo species to set seed very close to the ground, their relative unpalatability in the early growth phase, and the ease with which seed can be collected, hold promise for a rapid expansion of rangeland improvement. Having largely overcome immediate technical barriers, major problems to be solved before the area of Stylo-improved rangeland can be extended are: (a) to increase the availability of good quality seed and (b) to demonstrate to farmers the benefits of planting poor quality land to pastures. DPAP authorities have agreed to institute a seed multiplication program whereby DPAP farmers would be encouraged to plant Cenchrus and Stylo species on both private and communal land by guaranteeing a firm price for the quality graded seed. It is now quite clear that the present rangeland development techniques, which rely on exclusion of grazing animals from rangeland for extensive periods of time, and on the construction of fences and water points for stock control in enclosed areas, are impractical approaches to large scale rangeland improvement in India.

6.11 Soil Conservation. The project provides for soil conservation measures on some 230,000 ha of arable land. Unfortunately, the Soil Conservation Department (SCD) in much of India tends to regard soil conservation synonymously with contour bunding. The result has been that farmers have been forced to accept and pay for large contour bunds of doubtful economic value and, therefore, with minimal impact. Bunds have frequently been used as boundary bunds and have not been on the contour. The fact that farmers do not maintain or repair old bunds indicates that they find them of only limited value. Contour bunds cost about Rs 200-400/ha, are generally financed from the budget, and are charged as loans to beneficiary farmers. Farmers frequently do not repay the cost of these works, probably because they are not economic. However, by not repaying, they then become ineligible for productive loans from institutional sources.

6.12 Research studies at ICAR and ICRISAT indicate that cheaper and better methods of soil and moisture conservation are available, such as contour ploughing, the use of ridge and furrow cultivation, and small wide-base graded bunds. These methods have the added advantage that they can be constructed by the farmers themselves and incorporated into normal farming operations. However, it will only be possible to introduce these new technologies slowly as the SCD becomes amenable to the newer concepts. In watershed development greater attention needs to be given to: (a) protection of farmers' fields from runoff originating in upper watersheds; (b) stability of water courses; and (c) provision of drainage.

6.13 The project also provides for construction of a number of farm ponds. Progress has been slow and targets drastically reduced by GOI as major technical, economic and organizational problems have yet to be resolved. ICAR and ICRISAT are undertaking additional research on farm ponds.

6.14 Dryland Farming. Progress to identify simple packages of practices for recommendation to farmers in drought prone areas has been considerably better than expected. This component of the project has been confined to farmer demonstrations and to a pilot extension effort using the T&V system.

Though the program has made little impact on aggregate yields and incomes to date, it appears to have great potential for doing so in the future. Farmer risk appears minimal provided (a) care is exercised in the selection of simple, low-cost practices combined with diversified cropping patterns and (b) the recommended package is backed up with an effective extension service. In States where the T & V system is already operating in DPAP districts, it was agreed that the two extension services would be merged. Our only negative reaction to this component is that subsidies on demonstration plots on farmers' fields should be reduced so that farmers do not come to expect subsidies as a prerequisite before adopting any Government sponsored recommendation or scheme. The mission recommends that (a) extension staff should be trained every two weeks with the help of staff from State Agriculture Universities and local research stations, (b) dryland farming should be included in Jodhpur district, (c) applied research at research stations and in farmers' fields should be handled under NARP and State Agricultural Extension Projects, and (d) efforts should be expanded to develop effective farm implements for field cultivation and seedbed preparation.

#### Livestock Development

6.15 Sheep. Functional sheepgrower societies are now operating in all six districts. Experience with these societies indicates they are not likely to be widely replicable because of high investment costs in fencing and water point development, extremely limited land availability and the exclusion of all other livestock from the protected grazing area. In essence, present DPAP sheep societies are exclusive, subsidized, five-star sheep hotels in areas otherwise bereft of livestock feed. An alternative approach to improving the productivity of commercial grazing land is necessary. DPAP authorities are conscious of this need and have agreed to try to develop an alternative approach to sheep and rangeland improvement based upon more broadly based livestock cooperatives. The experience of the dairy cooperative societies of DPAP is likely to provide a useful guide to the manner in which village livestock societies might be organized. Meanwhile, existing sheep societies are to be continued as they provide a useful mechanism for testing the applicability of alternative pasture and livestock improvement technologies.

6.16 Dairy Development is one of the most successful components of the project. This success, and the resulting demand from farmers for dairy support services in DPAP districts, now highlights the organizational weakness associated with having several departments of government in DPAP districts overlap responsibility for dairy development. DPAP and the State Department of Agriculture usually share responsibility for dairying with the State Dairy Development Corporations, and DPAP is usually unable to provide either the overall market and processing facilities, or the input services most DPAP districts now require. Having clearly established that dairying in DPAP districts is a financially attractive operation, it appears desirable that DPAP transfer responsibility for this activity to State Dairy Development Corporations (or Federations).

6.17 Technical improvements in artificial insemination (AI) services leading to the distribution of better quality semen, the improved and expanded

training of inseminators and a more cost-effective AI services are now also essential. Other improvements required include the following: (i) the use of cross-bred, rather than pure-bred bulls in order to hold the gene frequency of exotic cattle at about 50% of the crossbred population; (ii) milk collection and processing facilities in the DPAP districts require greater rationalization, and in some cases, considerable expansion; (iii) spearhead team training at NDDB for all spearhead teams should be mandatory; (iv) milk pricing policy needs to be based on an assessment of the "solids non fat" as well as the fat content of milk, otherwise milk from cattle suffers an undue penalty in relation to buffalo milk; (v) the provision of good quality feed mixes for dairy animals in DPAP dairy societies is frequently inadequate; and (vi) greater supervision and quarterly audits of dairy societies should be provided.

6.18 These problems notwithstanding, milk production in DPAP dairy societies is improving rapidly and cases of a ten-fold increment in milk collection in DPAP villages in a three-year period can be readily observed. This incremental milk originates from a diversion from its traditional and inefficient use for ghee manufacture, by some reduction in family milk consumption, by better feeding and management of existing milk animals and by the purchase of additional milking cows and buffalo. The concurrent increase in availability of cattle manure, plus a daily cash income used partly to buy fertilizer, seeds and irrigation water, is leading to significant increases in agricultural output, labor employment, and family income which DPAP are now planning to quantify.

#### Diversification Components

6.19 The Sericulture program, included in Karnataka and Andhra Pradesh, is proceeding well. It provides a net income of some Rs 6,000/ac, which is considerably above the appraisal estimate; provides on-farm employment, primarily on small-holder farms; and generates employment in the small-scale industrial sector. Good progress has been made in training farmers in mulberry cultivation and silkworm production. Because of the financial attractiveness of this investment, institutional credit has been readily available, indicating that banks are willing and able to lend when viability is proven. The fisheries component provides for expansion of nursery capacity for production of fingerlings. The component is proceeding well, it will have considerable impact on nutrition, and will provide regular employment to fishermen through the formation of cooperative societies. The mission did not visit Bijapur and consequently did not examine the horticulture component. However, we understand that its impact has been marginal; the reasons for this are unclear.

#### Consultant's Reports

6.20 There has still been no action on the report of the agrometeorologist. 1/ The report was examined by concerned parties, including the

1/ To establish a program aimed at identifying location-specific soil moisture probabilities and relating them to crop water requirements. The objective is to assist in determining optional cropping patterns.

Indian Meteorological Department, but opinions differ on the organization of the agrometeorology unit to be set up. GOI assured the mission that this will be resolved shortly. Following the report of the consultant on bagasse treatment (to convert waste from sugar mills into fodder for animals), GOI has decided to establish a dry alkali treatment plant rather than a heat treatment plant. GOI would like to proceed with construction, but GOM has decided to undertake feeding trials. If these trials are satisfactory, GOM will start construction of the plant next year. This would be the first of its kind in India.

### Monitoring and Evaluation

6.21 Monitoring of physical and financial progress is being undertaken on the basis of a system recommended by the Systems Research Institute of Poona. There has, however, been little progress in establishing a system for project evaluation. Previous missions have stressed the need for evaluation, particularly because of the experimental nature of the project and the need to determine which components are economically sound and suitable for replication. However, GOI has felt it premature to start evaluation before now. They have been reluctant to start evaluation partly because of the ambitious statements in the appraisal report; for example: to assess the effect of the project in reducing unemployment and stabilizing agricultural production <sup>1/</sup> (Appraisal Report, para 5.10). With the exception of dairying, DPAP comprises a few scattered investments in each of six districts (on supervision missions we frequently drive 30 to 50 km from one DPAP activity to the next). The impact of this pilot project on unemployment will be insignificant in relation to the district as a whole. Similarly, its impact on aggregate production will be marginal. Only in later phases when both the dairy and dryland farming programs are in full swing, will there be a significant impact on unemployment or production. The mission recommends that evaluation at this stage should focus on analysis of the benefits and cost of individual components and on an assessment of their widespread replicability.

6.22 The project provides for an economist at the Central DPAP Unit and for economists in each of the six districts. Unfortunately, there is a shortage of competent agricultural economists in government service. The result has been that the positions at district level have generally been filled by persons with a background in statistics, who serve primarily as assistants to the Project Directors. The situation at GOI level is only slightly better. Thus, while the appraisal report states that the operating responsibilities for evaluation would be assigned to the economist at the DPAP Unit in GOI, we believe the primary responsibility will have to be farmed out to an outside body, such as the Indian Institute of Management. This matter is raised in the letter to GOI.

---

<sup>1/</sup> The objective should be to make optimal use of rainfall. The result of this would be to increase production more in good years than in drought years, thereby increasing fluctuations in production. However, surpluses would be generated in good years to tide over the bad.

6.23 Audit. We repeat from our last supervision: Section 3.03 of the Project Agreement states that project accounts should be audited by the State Accountant General not later than six months after the end of each fiscal year. Since the Accountant General in most states is three years in arrears, no audited accounts have been received. This occurs so frequently in India that we feel the issue should be raised outside the context of DPAP. A more realistic date should be put in future legal documents.

6.24 Dated covenants have been met (details are in Annex 6) and annual requirements are being complied with, except as follows: Section 2.03(a) of the Project Agreement provides that "the concerned State shall, not later than September 30 of each year, furnish IDA a statement containing information on programs for that fiscal year related to the DPAP and procedures to coordinate them". Most district programs, including the Small and Marginal Farmer Schemes, are related to DPAP. At one extreme, therefore, Governments could submit annual district plans which are available to supervision mission for review; at the other, a note. We do receive annual DPAP plans (Section 2.03(b)) and, in any event, receive more paper on DPAP than we can do justice to. Moreover, the mission has found coordination between DPAP and other districts programs to be good. The mission, therefore, recommends that Section 2.03(a) of the Project Agreement be waived.

#### Credit

6.25 Flow of institutional credit has been a bottleneck to implementation of several components of the project. In accordance with the Credit Agreement, ARDC has drawn up banking plans for each of the six DPAP districts. Some of these plans, however, have had to be revised in an attempt to overcome local constraints, for example, if a particular bank is ineligible for refinance. But the major problem remains: that banks regard many project investments as financially unattractive and are, therefore, unwilling to lend. In Maharashtra, credit flow is further constrained by the heavy overdue position of banks and lack of emphasis by Government on collection of dues. To make project investments "viable" and to encourage banks to participate, States have frequently resorted to subsidies. Alternatively, they have bypassed institutional credit by providing loans from budgetary sources, a practice we do not support (with the exception of the financing of public works in the command area of tanks). However, until evaluation is underway and ARDC and the States are in a position to prove to the banks that investments are financially and economically sound, the situation is unlikely to improve.

#### Section VII. Action Taken and Recommendations

7.01 Staff from the DPAP Unit in GOI accompanied the mission throughout. All issues were discussed with concerned state governments and with Mr. G.L. Bailur, the new Joint Secretary to GOI who is now responsible for DPAP. Mr. M.D. Godbole, Joint Secretary, Department of Economic Affairs, was also present at the windup meeting in Delhi.

7.02 Draft Revised Implementation Plan. As mentioned in para 6.05, GOI has revised project targets in the light of experience to date. The mission

discussed the draft plan with GOI, particularly those targets which differ markedly from those in the appraisal report. GOI will now revise the plan. The mission advised GOI that revised targets should be reviewed in the context of the legal documents, and that a formal application should be submitted to IDA in instances requiring amendments to legal documents. In accordance with Mr. Alisbah's letter of May 23, 1978 to Mr. Saigal (DEA), the mission informed GOI that we did not favor ad hoc adjustments to the legal documents and would review all changes at one time. GOI agreed to this procedure.

7.03 Second Phase. While pointing out that no decision had been made by GOI on the question of Bank involvement in a second phase project, the Joint Secretary, DPAP, asked the mission whether the Bank was likely to be interested. In response, the mission stressed the need to evaluate project components to determine which are economically replicable. The mission also pointed out that both the Bank and GOI would want to review any future Bank involvement in the context of:

- (a) GOI's new rural development policies, and
- (b) the Bank's participation in national and state extension, dairy, and ARDC projects.

If the two components with the greatest potential for success--dairy and dryland farming--were removed, DPAP would be left largely with experimental programs and programs of doubtful economic viability. In the mission's assessment, DEA is unlikely to be interested in a follow-up project as they regard DPAP as too cumbersome a project for Bank involvement and too slow disbursing. However, in the event the Bank is involved in Phase II, the mission recommends that (a) extension, dryland farming and wells be covered through existing projects and (b) DPAP should be restructured as a rural infrastructure project, focussing primarily on construction of rural roads, particularly milk routes, markets, drinking water supplies, etc.

7.04 The next supervision mission should visit Maharashtra and Karnataka in the monsoon season (about July 1979) to evaluate the effects of heavy rains on soil conservation works. We recommend that responsibility for supervision of dairying activities under DPAP (which comprise 30% of project costs) be handled by the New Delhi Office in conjunction with the state and national dairy projects.

7.05 Letters should be sent to GOI and copied to state governments outlining the findings and recommendations of the mission. A draft letter is in Annex 5. We also recommend sending GOI a copy of Section 6 of the Supervision Report.

#### Section VIII: List of Annexes

- Annex 1 - Key Indicators and Summary Findings
- Annex 2 - Table 1 - Schedule of Disbursements  
Table 2 - Latest Disbursement Position
- Annex 3 - Draft Paragraph for President's Report
- Annex 4 - Partial Listing of Officials Met
- Annex 5 - Draft Letter to GOI
- Annex 6 - Performance on Covenants

INDIA

DROUGHT PRONE AREAS PROJECT (526-IN)

October/November, 1978 Supervision

Key Indicators and Summary Findings

	ARMEDNAGAR (Mah)	SOLAPUR (Mah)	BLJAPUR (Karnataka)	ANANTAPUR (A.P.)
Target	-----	-----	-----	-----
Achieved	-----	-----	-----	-----

Minor Irrigation

Groundwater Surveys

Semi-detailed -- Groundwater surveys completed. In parts of Nagaur apparently only small surplus of water which is to be reserved for drinking water

-- Indications that in two watersheds there is over-exploitation. Detailed re-assessment of all watersheds being undertaken

-- Survey financed by DPAP completed. Remainder to be undertaken by Central Groundwater Board, not financed by DPAP

Detailed

-- Recharge of water table aquifers may be over-estimated as evidenced by number of dry wells (potential for 60,000 seems unlikely);

Wells

	JODHPUR (Raj)	NAGOUR (Raj)	ARMEDNAGAR (Mah)	SOLAPUR (Mah)	BLJAPUR (Karnataka)	ANANTAPUR (A.P.)
(a) Tubewells	113	59	46	-	-	-
(b) Air hammer rigs (Purchased)	1	1	1	-	-	-
(c) Dug-cum-Bore Wells	300	125	49	-	-	-
(d) Dug-cum-Blast Wells	-	175	159	220(47)	-	-
(e) Dug Wells	-	-	-	475(157)	-	-
(f) Pumpset Installation (on existing wells)	-	-	-	25	-	-

-- Progress constrained by lack of electrification. REC has appraised and approved electrification schemes. IDA had agreed to refinance electrification schemes if they met REC criterion which they apparently do. Formal request has to be submitted by DEA to IDA which will require change to project description in DCA. Should be agreed (our letter to DEA of June 21, 1977 and to Mr. Bhanot dated December 5, 1977).  
-- Command area of wells poorly developed. Groundwater Board sinks wells, SCS draw up CAD plan but no dept. responsible for implementation. May appoint special staff in areas with high concentration of wells.  
-- Inadequate extension covering water use, etc.

-- Progress on wells has been poor, due primarily to lack of response from financial institutions, who are not convinced that investment is viable. Lack of response also aggravated by overdues (of the cooperative sector). Until Government places emphasis on recovery performance, credit will remain major constraint.  
-- ARDC have drawn up revised banking plan covering both districts but situation unlikely to improve.  
-- Must provide better extension services. Extension staff not trained in water management.

-- Improvement in siting of wells since last mission.  
-- Requires further improvement in CAD of wells, but much better than last mission. GOAP have agreed to send extension staff for training in water use etc.  
-- Good emphasis on selecting beneficiaries from poorest communities.  
-- Wells frequently not financed from institutional credit, but from variety of special funds to help under-privileged groups. Scope for replication, therefore, limited.

-- While a well program is essential to fully exploit resources of drought prone district, it could be financed through ongoing ARDC schemes. Only subsidy portion is provided from DPAP funds  
-- Generally needs to be greater emphasis on CAD and to provide (a) extension staff, and (b) training to extension staff in water use etc.

Surface Irrigation

Tanks (Nos.)

	4	4p	12 (7 tanks + 2 barrage-cum-lift schemes)	2C 2(P)	10 (11)	67%	4(7)	900 (1557)	165	2,470	552	PA 204 (b)	PA 204 (b)	PA 204 (b)	PA 204 (b)	PA 204 (b)	PA 204 (b)	PA 204 (b)
Command Area (ha) First Master Plan to be submitted to IDA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Completion Date	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cost	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CAD Plans	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

1/ Note on Bijapur Surface Irrigation Schemes:  
(1) Jagjivani Tank (Master Plan received by IDA but have requested GOI to review revised data)  
(2) Bijargi Tank  
(3) Mukarthihal Tank  
(4) Gundwan Tank  
(5) Bommalhalli Tank  
(6) Kattal Tank  
(7) Advihulga-Bei Tank  
(8) Barrage (across Chateprabha river near Anagavadi)-cum-lift  
(9) Barrage (across Bhima river near Kadni)-cum-lift

-- Costs of minor tanks much greater than anticipated at appraisal. Available evidence indicates tanks are not economic. However, tanks have frequently been sited on political rather than economic grounds. Possible that with more careful selection some tanks may prove economic.  
-- Critical need for exposte evaluation to assess costs and benefits. Number of beneficiaries per tank low, and, therefore, cost per beneficiary very high. Undoubtedly better investment alternatives. CAD has been slow, frequently (Continued on next page)

Recd., but have requested GOI to review revised data.  
-- For details see below 1/.  
-- 2 barrage-cum-lift irrigation schemes in progress (not included in appraisal). Have requested detailed technical, financial and economic justification (Continued on next page)

PA 204 (b) Approved  
-- AD works should be completed at same time as tank construction. Generally CAD plans only drawn up once tank nearing completion. Coordination between irrigation department (who construct tank) and agriculture department (responsible for CAD) is poor.  
-- Numerous defaulters and general credit situation such that institutional finance has not been available for CAD. Banks may be willing to lend to Land Development Corporation, but ARDC not willing to accept. Works down to farmers' fields likely to be financed from budget (in line with irrigation projects) and could become item for disbursement

PA 204 (b) Approved  
-- AD works should be completed at same time as tank construction. Generally CAD plans only drawn up once tank nearing completion. Coordination between irrigation department (who construct tank) and agriculture department (responsible for CAD) is poor.  
-- Numerous defaulters and general credit situation such that institutional finance has not been available for CAD. Banks may be willing to lend to Land Development Corporation, but ARDC not willing to accept. Works down to farmers' fields likely to be financed from budget (in line with irrigation projects) and could become item for disbursement

PA 204 (b) Approved  
-- AD works should be completed at same time as tank construction. Generally CAD plans only drawn up once tank nearing completion. Coordination between irrigation department (who construct tank) and agriculture department (responsible for CAD) is poor.  
-- Numerous defaulters and general credit situation such that institutional finance has not been available for CAD. Banks may be willing to lend to Land Development Corporation, but ARDC not willing to accept. Works down to farmers' fields likely to be financed from budget (in line with irrigation projects) and could become item for disbursement

PA 204 (b) Approved  
-- AD works should be completed at same time as tank construction. Generally CAD plans only drawn up once tank nearing completion. Coordination between irrigation department (who construct tank) and agriculture department (responsible for CAD) is poor.  
-- Numerous defaulters and general credit situation such that institutional finance has not been available for CAD. Banks may be willing to lend to Land Development Corporation, but ARDC not willing to accept. Works down to farmers' fields likely to be financed from budget (in line with irrigation projects) and could become item for disbursement

PA 204 (b) Approved  
-- AD works should be completed at same time as tank construction. Generally CAD plans only drawn up once tank nearing completion. Coordination between irrigation department (who construct tank) and agriculture department (responsible for CAD) is poor.  
-- Numerous defaulters and general credit situation such that institutional finance has not been available for CAD. Banks may be willing to lend to Land Development Corporation, but ARDC not willing to accept. Works down to farmers' fields likely to be financed from budget (in line with irrigation projects) and could become item for disbursement

PA 204 (b) Approved  
-- AD works should be completed at same time as tank construction. Generally CAD plans only drawn up once tank nearing completion. Coordination between irrigation department (who construct tank) and agriculture department (responsible for CAD) is poor.  
-- Numerous defaulters and general credit situation such that institutional finance has not been available for CAD. Banks may be willing to lend to Land Development Corporation, but ARDC not willing to accept. Works down to farmers' fields likely to be financed from budget (in line with irrigation projects) and could become item for disbursement

Work in progress  
Rs. 4.6 Million \*

Barrage completed  
Rs. 1.2 Million

Work yet to start  
Rs. 3.8 Million \*

Completed  
Rs. 1.8 Million

Completed  
Rs. 0.4 Million

Completed  
Rs. 2.6 Million \*

Under Preparation  
Under Preparation

\*Now fall into "medium" irrigation category.



JODHPUR  
----- (Raj) -----  
Target Achieved

NAGPUR  
----- (Raj) -----  
Target Achieved

AHMEDNAGAR  
----- (Mah) -----  
Target Achieved

SOLAPUR  
----- (Mah) -----  
Target Achieved

BIJAPUR  
----- (Karnataka) -----  
Target Achieved

ANANTAPUR  
----- (A.P.) -----  
Target Achieved

General Comments

because of lack of institutional finance (banks do not think they will be able to recover), which further reduces economic return on investment.  
-- Need to plan and execute works down to farmers' fields at same time as construction of tanks. Frequently no one fully responsible for implementing CAD. Communal works down to farmers' fields should be financed from budget.  
-- As with wells, need for provision of (a) extension staff, and (b) training of extension staff in water management.  
-- Any expansion of tank program from savings would need to be carefully scrutinized to ensure that better selected sites with great chance of being economic.

beneficiary is very high, Rs 25-50,000.  
-- Mission feels cropping intensity is over-estimated.  
-- Urgent need for ex-post evaluation to determine economics of the tanks.  
-- CAD works progressing well and financed from budgetary sources, since institutional finance not available.  
-- GOAP propose two percolation tanks as experimental scheme. If included, costs and benefits will need to be carefully monitored and evaluated.

be submitted thru GOI before schemes can be considered for reimbursement by IDA.  
-- 4 tanks and 1 barrage-cum-lift schemes now fall into category of medium and not minor irrigation schemes (since they are over Rs. 2.5 M). DCA provides for minor schemes only. May require change of legal documents.  
-- No CAD works implemented though plans drawn-up. As with Maharashtra, banks unwilling to lend and have yet to decide what should be done with defaulters and farmers unwilling to borrow.  
-- Communal works down to farmers' fields should be financed from budget and works done by Land Army Corporation. Next mission should review progress under proposed Land Improvements Act.

Watershed Management

(a) Soil Surveys

Reconnaissance ('000 ha) 2,250 325 182 286 1,767 1,702 (542) (400) 1,502 (1,104) 209 103  
Detailed ('000 ha) 182 88  
-- Reconnaissance survey has now stopped, intend to complete detailed surveys in watersheds @40,000 ha/year and would implement about 10% (See soil conservation works).  
-- In Jodhpur detailed survey -- Topographic survey of 70,000 ha completed. Field completed on 57,000 ha. work stopped so that can catch up on report writing.  
-- Shelf or works completed for 15 watersheds, of which 6 approved. Implementation constrained by lack of staff.  
-- Lack of coordination between survey staff and extension service to ensure dissemination of maps and reports.

1,760(362) (362) 2,000 879 2,000 1,716 500 246 300 146  
-- Reconnaissance survey of all 14 watersheds completed (by DPAP and other GOK organizations). Whole district will be completed by year end -- 1,398,000 ha by non-DPAP sources and 362,000 ha thru DPAP. Work seen was excellent.

32 9.2  
-- Reconnaissance survey completed by All-India Soil and Land Use Survey.

-- Reconnaissance soil surveys indicating land use class and soil associations at a scale of approximately 1:60000 should have been completed first. Demarcation of government and communal watersheds would have been useful in locating forest, pasture and intensive watershed development schemes and soil conservation works. Detailed soil surveys, mapping soil series characteristics at a scale of 1:6000 to 15000 would only be necessary in areas of intensive cropping. Aerial photos of appropriate scale are needed for efficient surveys. Interpretive information and training on the use of soil surveys for DPAP and agricultural personnel is required and copies of the maps and descriptions should be readily available to field personnel.

(b) Forestry

(i) In conjunction with pasture development (ha)  
Government lands  
(ii) Woodlots on Social Forestry  
(iii) On village lands (ha)  
-- Windbreaks (Km)  
-- Distribution of free seedlings ('000)

2,000 1,003 2,000 189 500 (346) 300 (406) 800 280  
2,000 (2,500) 1,250 890 288 213  
2,000 (1,500) 890 288 213  
500 (750) 350  
300 (600) 162  
800 280  
-- High cost of forestry/pasture development mainly due to fencing.  
-- Forestry plantations well established

Social forestry appears most promising. In plantation sector key problem concerns the trade off between area planted and follow-up care.

	JODHPUR		NAGPUR		AHMEDNAGAR		SOLAPUR		BIJAPUR		ANANTAPUR	
	Target	Achieved	Target	Achieved	Target	Achieved	Target	Achieved	Target	Achieved	Target	Achieved

(c) Pasture Development

-- On Government land in 100 ha blocks (ha) for sheep program	4,500(3,900)	3,200	4,500	2,700	4,500(2,500)	1,200	4,500	1,200	4,500	1,200	4,500	1,200
-- On private land for sheep (ha)	500	-	500	-	500	40	500	40	500	2,717	500	11,500
-- On government land as soil conservation measure (ha)	11,000 <sup>1/</sup>	1,200	15,000	-	10,000	-	10,000	-	10,000	-	13,000	-
-- Water sources for sheep	45	39(P)	-	-	-	-	-	-	-	-	-	-
-- Seed Multiplication (ha)	-	-	-	-	-	-	-	-	-	-	-	-
-- Can claim for reimbursement on 11,000 ha pasture development outside project districts. <sup>1/</sup>	-	-	-	-	-	-	-	-	-	-	-	-
-- Thinking of considerably expanding pasture program on common and private lands. Most encouraging.	-	-	-	-	-	-	-	-	-	-	-	-
-- Pasture development costs about Rs. 400-600 per ha (major cost is fencing)	-	-	-	-	-	-	-	-	-	-	-	-
-- While establishment of 100 ha plots have served a useful purpose to establish techniques, lessons for future replication are few. Might encourage planting of improved grasses and legumes by (a) distribution of seed and (b) setting a procurement price for seed to encourage farmers to plant. GOM and GOP feel that a crop compensation subsidy required but mission disagrees.	-	-	-	-	-	-	-	-	-	-	-	-
-- Urgent need to increase seed supplies through imports or multiplication.	-	-	-	-	-	-	-	-	-	-	-	-

(d) Soil and Moisture Conservation

-- New bunds ('000) ha	15	-	15	-	40(30)	11	40	14	80	21(35)	30(45)	23
-- Repair bunds ('000)	-	-	-	-	60(84)	50	75(65)	51	-	-	-	-
-- Nalla bunds/checks (No.)	-	-	200(885)	556	200(630)	380	200(630)	380	-	-	-	664
-- Farm ponds (No.)	-	-	350(78)	56	350(77)	77	350(77)	77	350(70)	5	-	-
-- Dune stabilization (ha)	-	-	-	-	-	-	-	-	-	-	-	-
-- Very large expansion proposed in number of nalla bunds. Economics unproven and have requested study be undertaken.	-	-	-	-	-	-	-	-	-	-	-	-
-- Next mission to examine Solapur experiment with graded bunds.	-	-	-	-	-	-	-	-	-	-	-	-
-- Implementation of contour bunding very poor. Bunds frequently not on contour; waste weirs above drainage line. Soil for bunds frequently taken from low points, thus making field less level. Appraisal report states there should be no contour bunding on black cotton soils. Has been disregarded.	-	-	-	-	-	-	-	-	-	-	-	-
-- Next mission should examine experiment with graded bunds.	-	-	-	-	-	-	-	-	-	-	-	-

Improved Dryland Farming

-- Number of watersheds selected for dryland farming	-	-	-	-	2/3	5 out of 9	2/3	5 out of 10	2/3	3 out 14	2/3	3
-- Fulltime VW appointed	-	-	15	3	15	25	15	25	15	15	15	15
-- No dryland component but have suggested that might now be started in Jodhpur. GOR feel more work required to firm up extension package.	-	-	-	-	-	-	-	-	-	-	-	-
-- Very impressive demonstrations. Augers well for larger extension effort, but results may be somewhat unrepresentative due to excellent rainfall since project started.	-	-	-	-	-	-	-	-	-	-	-	-
-- Have not yet appointed fulltime staff in DA. Using soil conservation staff on secondment for required 4/5 months.	-	-	-	-	-	-	-	-	-	-	-	-
-- Poor coordination between research and extension and insufficient use made of Chas Research Station. Generally this component is poorly implemented.	-	-	-	-	-	-	-	-	-	-	-	-
-- Need to improve practical training in identifying factors limiting production.	-	-	-	-	-	-	-	-	-	-	-	-
-- Extension underway in 5 of 9 watersheds.	-	-	-	-	-	-	-	-	-	-	-	-
-- Excellent coordination between extension and research and some good work at the Solapur Research Station.	-	-	-	-	-	-	-	-	-	-	-	-
-- Need emphasis on early planting (Aug.-Sept.) of Rabi crop.	-	-	-	-	-	-	-	-	-	-	-	-
-- Extension underway in 5 of 10 watersheds.	-	-	-	-	-	-	-	-	-	-	-	-
-- Good research-extension coordination.	-	-	-	-	-	-	-	-	-	-	-	-
-- DPAP extension component will be merged with Bank-supported National Extension Project.	-	-	-	-	-	-	-	-	-	-	-	-
-- Based on note given to mission, appears that now recommending appropriate low-cost package of practices. Considerable improvement	-	-	-	-	-	-	-	-	-	-	-	-
-- 2 Agriculture Officer and 15 VW recently appointed but TAV system yet to start.	-	-	-	-	-	-	-	-	-	-	-	-
-- Demonstration package looks very good, with good back-up from Anantapur Dryland Farming Research Station (ICAR), which next mission should visit.	-	-	-	-	-	-	-	-	-	-	-	-
-- Great improvement on packages of practices which are now in line with farmers' risk ability. Emphasis on improved cultivation (ploughing across slopes etc.), moisture preservation techniques and fertilizer doses commensurate with risk and ability to invest.	-	-	-	-	-	-	-	-	-	-	-	-
-- Dryland Farming component considerable potential for increasing yields and incomes, but little impact to date.	-	-	-	-	-	-	-	-	-	-	-	-
-- Extension services under DPAP to be coordinated with Statewide Extension Project.	-	-	-	-	-	-	-	-	-	-	-	-
-- Farmers need training in soil conservation practices to be provided by agricultural extension workers with technical assistance by SCS.	-	-	-	-	-	-	-	-	-	-	-	-
-- Farm ponds premature and targets substantially reduced. Research on farm ponds being undertaken by ICAR and ICRISAT.	-	-	-	-	-	-	-	-	-	-	-	-
-- Cost of bunded works about Rs.250-400/ha. Total cost of SCW far in excess of appraisal estimates.	-	-	-	-	-	-	-	-	-	-	-	-
-- Both ICRISAT and ICAR's Dryland Project (Hyderabad) developing cheaper and better techniques. Hope is that in the future farmers can incorporate soil and moisture measures into their farming systems. Will require improved farm implements.	-	-	-	-	-	-	-	-	-	-	-	-
-- Soil and moisture conservation program has been focussed through contour bunding.	-	-	-	-	-	-	-	-	-	-	-	-

<sup>1/</sup> Rajasthan Project Description provides for establishment of 11,000 ha of pasture in districts outside Jodhpur and Nagaur.

	JODHPUR (Raj)	NAGPUR (Raj)	AHMEDNAGAR (Mah)	SOLAPUR (Mah)	BIJAPUR (Karnataka)	ANANTAPUR (A.P.)	General Comments
	Target	Target	Target	Target	Target	Target	

Diversification Components

-- Sericulture

-- Sericulture component in both Bijapur and Anantapur making excellent progress. Generates income of about Rs. 6,000/ac., and provides full time employment for about 5 persons/ac. Although grown only on irrigated farms, has considerable further potential for expansion. Could, however, largely be financed from institutional sources.

-- Fisheries

-- Progress continues well. A good scheme with considerable nutritional impact. At full development will supply about 40 M fish/yr employing 700 people.

-- Horticulture

-- Component needs to be examined by next mission. Excessive subsidies included.

Bagasse Treatment

-- Will go ahead with treatment in accordance with recommendations of consultant. Feeding trials underway.

Farmer Service Societies

2 2  
-- FSS formed from amalgamation of other cooperative societies.

Updating of Land Records

-- Work started. 216 villages completed, 500 more to do. Confined now to areas where groundwater and dairy development taking place. Should be completed for district in 2 years.

-- Updating about half completed. Will complete by closing date.

Audits

Not received 64 1/ 19.1 (30%) 1/ 54 24.2 (45%) 1/ 97 38.6 (40%) 1/ 107 37.1 (35%) 2/ 136 44.1 (32%) 2/ 90 42.3 (47%)

-- Total expenditure to date, net of institutional finance, is Rs 205 M (US\$ 25.6 M) -- 35% of project costs (estimated at appraisal at Rs 577 Million, net of institutional finance).

Additional Expenditures

Required to meet Revised Targets (Rs. Million) 23.7 17.1 34.0 28.3 63.5 37.9

Total Expenditures

Required to meet Revised Targets (Rs. Million) 42.8 41.3 72.6 65.4 107.6 80.2

Estimated Expenditures

Eligible for IDA Disbursement (Rs. Million) 22.2 31.1 50.5 49.3 77.2 51.8

1/ Calculated by State Government. Excludes institutional finance, but includes price contingencies.  
2/ Has been worked out on assumption that 30% of funds would be met from institutional sources. On this basis, project cost net of institutional finance (at exchange rate prevailing at appraisal) totals US\$ 70 million.  
3/ Revised targets as proposed by State Governments. Have yet to be formally submitted to IDA for review and approval. GOI have agreed to review and submit one request covering all items that would require changes to legal documents.  
4/ Estimated by GOI.

Note: Figures in brackets are revised targets.



INDIA

DROUGHT PRONE AREAS PROJECT (526-IN)

October/November, 1978 Supervision

Schedule of Disbursements (US\$'000)

<u>IDA Fiscal Year and Quarter</u>	<u>Appraisal Estimate</u>	<u>Last Supervision Estimate (Aug/Sep. 77)</u>	<u>This Supervision Estimate</u>
FY 75			
1st	-	-	-
2nd	250	-	-
3rd	950	-	-
4th	2,350	-	-
FY 76			
1st	3,400	-	-
2nd	4,550	-	-
3rd	5,950	-	-
4th	7,700	1,492	1,492 Actual
FY 77			
1st	8,750	1,900	1,900 Actual
2nd	10,500	2,100	2,100 "
3rd	12,950	4,760	4,760 "
4th	15,750	7,400	7,400 "
FY 78			
1st	17,500	8,900	8,900 Actual
2nd	19,250	11,000	9,300 "
3rd	21,700	13,000	10,700 "
4th	24,500	15,000	13,200 "
FY 79			
1st	26,250	17,000	14,600 Actual (56% of
2nd	28,000	19,000	16,000 appraisal
3rd	30,450	21,000	19,000 estimate)
4th	33,250	23,000	21,000
FY 80			
1st	35,000	25,000	23,000
2nd	-	27,000	25,000
3rd	-	29,000	27,000
4th	-	31,000	29,000
FY 81			
1st	-	33,000	31,000
2nd	-	34,000	33,000
3rd	-	35,000	35,000

Present Closing Date is June 30, 1980. We anticipate, therefore, that unless the closing date is extended, part of the Credit may have to be cancelled.

INDIA

DROUGHT PRONE AREAS PROJECT (526-IN)

October/November, 1978 Supervision

Disbursement Position (Sept. 30, 1978)

<u>Category</u>	<u>Andhra Pradesh</u>	<u>Karnataka</u>	<u>Maharashtra</u>	<u>Rajasthan</u>
	<u>(US\$ Million)</u>			
Civil Works	2.1 (1.3)	2.2 (1.6)	3.1 (1.3)	0.9 (0.3)
Machinery, Vehicles, Equipment and Livestock	0.7 (0.5)	0.3 (0.3)	0.8 (0.2)	0.9 (0.8)
Operating Costs and Project Implementation Units	<u>0.7 (0.3)</u>	<u>0.8 (0.5)</u>	<u>1.3 (0.6)</u>	<u>0.8 (0.4)</u>
Total	<u>3.5 (2.1)</u>	<u>3.3 (2.4)</u>	<u>5.2 (2.1)</u>	<u>2.6 (1.5)</u>

Grand Total (Sept. 30, 1978) = US\$ 14.7 Million (includes US\$ 200,000 for technical assistance)

NOTE: Figures in brackets indicate disbursements on August 31, 1977 (last supervision mission).

INDIA

DROUGHT PRONE AREAS PROJECT (526-IN)

October/November, 1978 Supervision

Draft Paragraph for President's Report

Credit 526-IN is a multi-componented pilot project designed to clarify the most useful approach to improving the productivity in the drought prone areas of India. Viewed in relation to this objective, overall performance is satisfactory and it is now becoming clear which components have potential for large scale replication and which have not. In brief, the two components that have potential to significantly affect the lives of large numbers of the population of drought affected areas in the next decade are: dairying and dryland farming. The majority of other components appear either to be economically unviable in their present form or else to require further research and experimentation to ensure social acceptability and overcome technical deficiencies. Presently Government is reviewing its rural development policies including DPAP. This is being followed closely to determine whether any recommendations would have an impact on the ongoing project and require changes.

INDIA

DROUGHT PRONE AREAS PROJECT (Cr. 526-IN)

Oct./Nov. 1978 Supervision

Partial List of Officials Met

Government of India, New Delhi

Department of Rural Development

Mr. K. P. A. Mennon	Additional Secretary
Mr. R. Srinivasan <sup>1/</sup>	Joint Secretary, DPAP
Mr. G. L. Bailur <sup>1/</sup>	Joint Secretary, DPAP
Mr. J. P. Sharma	Deputy Secretary
Dr. S. N. Bakshi	Deputy Commissioner (Livestock)
Mr. R. W. Albrecht	Pasture Advisor
Dr. M. K. Mathur	Deputy Commissioner (Dryland Farming)
Mr. P. S. Chari	Deputy Commissioner (Economics)
Mr. D. S. Mehra	Assistant Commissioner (Training)
Miss Deepa Jain	Under Secretary
Mr. P. D. Pathak	Assistant Director, DPAP

Department of Economic Affairs

Dr. M. D. Godbole	Joint Secretary
Mr. J. K. Sibal	Director

Government of Rajasthan

Jaipur

Mr. J. K. Bhanot	Principal Sect. & Development Commissioner
Mr. Satish Kumar	Special Sect., Special Schemes
Mr. Wali	Secretary of Agriculture
Mr. B. Ram	Desert Development Commissioner
Mr. B. M. Trivedi	Additional Director (Soil Conservation)
Mr. S. P. Mehts	Project Director (G.W.D.)
Mr. C. M. Mathur	Director Forestry, Rajasthan, Jaipur
Dr. Sushil Chand	Soil Conservationist

---

<sup>1/</sup> Mr. Bailur replaced Mr. Srinivasan in mid-October.



Government of Rajasthan (Continued)

Jodhpur

Mr. Ganpet Rai  
Mr. B. P. Bhargava  
Mr. A. S. Arha

Mr. V. S. Saxena  
Dr. S. C. Sharma

Collector and Chairman, Dist. Dev. Agr.  
Project Director  
Deputy Director of Agriculture,  
Soil Conservation  
Divisional Forest Officer, Jodhpur  
Project Officer, Soil Conservation

Nagaur

Mr. Dharam S. Meena  
Dr. G. S. Shekhawat  
Mr. N. C. Mathur  
Mr. M. C. Arya  
Mr. N. K. Jain  
Mr. K. L. Gupls  
Mr. Bala Ram

Mr. H. H. Singh

Collector and Chairman DDA  
Project Director  
Project Officer (Sheep)  
Accounts Officer, DPAP  
Deputy Director (Soil Conservation)  
Project Economist, DPAP  
Assistant Agricultural Officer  
(Soil Conservation)  
Assistant Agronomist

Government of Maharashtra

Bombay

Mr. L. S. Lulla  
Mr. V. Venkatesan  
Mr. L. C. Gupta  
Mr. P. M. A. Hakeem  
Mr. V. R. Dravid

Mr. S. Bagchee  
Mr. R. S. Deodhar  
Mr. S. P. Phadke  
Mr. P. N. Jagtap

Mr. N. J. Joshi

Mr. G. J. Kulkarni

Mr. K. S. Narayanan

Mr. N. N. Patil

Mr. B. S. Guralwar

Mr. K. R. Angwalkar  
Mr. D. S. Shukla

Mr. S. G. Katdare

Chief Secretary  
Secretary (Planning)  
Secretary (Animal Husbandry)  
Deputy Secretary, Planning Department  
Joint Secretary, Agriculture and  
Cooperation Department  
Executive Director (DPAP), Ahamednagar  
Executive Director (DPAP), Solapur  
Director of Animal Husbandry, Pune  
Director, Groundwater Survey &  
Development Agency, Pune  
Deputy Secretary, Revenue and  
Forests Department  
Deputy Secretary (MI), Irrigation  
Department  
Additional Director of Economics  
and Statistics, Bombay  
Deputy Dairy Development Commissioner,  
Bombay  
Under Secretary, Rural Development  
Department  
Under Secretary, Planning Department  
Chief Engineer, Maharashtra State  
Electricity Board, Bombay  
Managing Director, Maharashtra Land  
Development Corporation, Pune

Government of KarnatakaBangalore

Mr. R. Ananda Krishna

Mr. Y. Rupla Naik

Mr. K. S. N. Murthy

Mr. A. Krishnaswamy

Dr. K. Rangappa

Mr. Santuno Consul

Dr. K. Puttaswamaiah

Mr. G. R. Mavinkurve

Mr. G. N. Alasingrachar

Mr. D. K. Bhattacharya

Brig. V. P. Naib

Mr. S. N. Shantha Kumar

Mr. P. Kotalingangoud

Mr. R. Chikkanna

Development Commissioner, Government  
of KarnatakaCommissioner, SEP and Secretary to  
Government of Karnataka, Rural Develop-  
ment and Cooperation Dept.Commissioner and Secretary to Government  
of Karnataka, Agriculture and Animal  
Husbandry Department

Joint Secretary, Food and Forest Department

Deputy Commissioner and Chairman, DPAP,  
Bijapur District

Project Director, DPAP, Bijapur

Director, DPAP, P. F. &amp; E. Unit

Chief Conservator of Forests

Additional Director of Agriculture.

Director of Horticulture, Bangalore

Managing Director, Karnataka Land Army  
CorporationDeputy Secretary, Commerce and Industries  
Department

Deputy Secretary, Planning Department,

Deputy Secretary, Irrigation, Public Works  
and Electricity DepartmentGovernment of Andhra PradeshHyderabad

Mr. Shravan Kumar

Mr. T. Paduanabhan

Mr. K. Ramakrishna Rao

Mr. K. Ramalinga Reddi

Mr. N. A. Naidu

Mr. C. Rajal Rao

Mr. V. Narayana Rao

Mr. T. K. Mohana Rao

Mr. C. V. Konda Reddy

Secretary to Government, Forests & Rural  
Development DepartmentJoint Secretary to Government, Forests &  
Rural Development Department

Chief Civil Engineer, A.P.D.D.C.

Joint Director of Agriculture (Soil Conserva-  
tion)

Additional Director of Agriculture

Joint Director Agriculture (AH)

Director of Animal Husbandry

Chief Engineer (Medium Irrigation)

Additional Chief Conservator of Forests

Anantapur

Mr. Narayan Reddy

Mr. K. Satya Raju

Mr. C. Hanumanth Rao

Mr. V. Janakiram Naidu

Mr. C. H. Yesudas

Collector &amp; Chairman DDA

Project Administrator, DPAP

Regional Joint Director (AH)

District Forest Officer

Project Economist

ICAR, Hyderabad

Dr. S. L. Chowdhury  
Dr. K. Vijayalakohmi  
Dr. A. Robinson  
Mr. David Kidd

Director  
Soil Physicist  
Consultant Pasture Research  
Training Officer

INDIA

DROUGHT PRONE AREAS PROJECT (526-IN)

October/November, 1978 Supervision

Draft Letter to GOI

Mr. G.L. Bailur  
Joint Secretary  
Department of Rural Development  
Ministry of Agriculture and Irrigation  
Government of India  
New Delhi  
INDIA

Dear Mr. Bailur:

INDIA -- Drought Prone Areas Project (Gr. 526-IN)

Following the recent visit of Messrs. Krafft, Lindt and Brumby, we are writing to highlight a few points arising from their report and to express to you our appreciation for the assistance and hospitality you and your staff extended to them during their visit. We would be grateful if you would convey our sincere thanks to Mr. Srinivasan and extend to him our best wishes in his future assignments.

We attach a copy of part of the mission's report. This is normally for the Bank's internal use, but we think you will find it useful. For the most part, we do not repeat items already covered in the report.

Thank you for the copies of your October 1978 report entitled "DPAP in Six IDA Aided Districts" summarizing progress and containing initial proposals for revised targets in each of the districts. We fully endorse the need to adjust appraisal targets in light of experience. We understand that you will revise the targets further to incorporate additional requests from state governments, bearing in mind availability of funds.

Our main comment on the proposals as they now stand relates to the proposed number of additional irrigation tanks. As you know, we believe these will not prove to be economically viable; the cost of tanks far exceeds appraisal estimates and there seems to be no reason to assume that benefits will be comparably higher. It would seem more prudent to utilize funds generated from programs being cut back in order to expand more profitable activities such as dairying.

As you are aware, revision of appraisal targets will require amendment of the legal documents in some instances. As Mr. Alisbah mentioned in his letter of May 23, 1978 to Mr. Saigal, we would like to consider all amendments at one time rather than on an ad hoc basis. We would appreciate your reviewing revised targets in the context of existing legal documents and submitting an application, through DEA, for any changes, along with the justification for specific changes.

Implied in any adjustment to targets is an assessment of which programs are worth expanding and which are not. We think you will agree that the exercise to revise targets has highlighted the need for project evaluation. DPAP is a pilot project and contains several innovative components; it is essential that we have quantitative evidence as to which components are economically viable. At present we have virtually no data on benefits; for example, for wells or tanks: the area irrigated over a number of years (including drought years), changes in cropping patterns, cropping intensity and yields. We believe evaluation should focus initially on the detailed analysis of individual project components to determine if they are economically viable and to determine their potential for providing employment. It will be a major task to identify exactly what data needs to be collected, to draw up specific guidelines for the districts, and to collect and analyze the data. However, unless this task is done in sufficient detail, we will not be in a position to draw concrete conclusions as to: (a) whether components are suitable for large-scale replication; (b) whether they can be modified to become economically viable; or (c) whether they should be dropped. Our New Delhi Office can provide guidelines on cost-benefit methodology, but we suggest that assistance be sought from an organization that has the capability to undertake the task, including analysis of data. Possibly IIM or one or more of the agricultural universities?

Regarding pasture development, we were most encouraged at progress made on the technical front, particularly with establishment of Cenchrus in Rajasthan and Stylosanthes elsewhere. The capability of these species to set seed very close to the ground, their relative unpalatability in the early growth phase, and the ease with which seed can be collected hold promise for a rapid increase of rangeland improvement. However, if this program is to make a significant impact, it is imperative that efforts be made to encourage farmers to plant Cenchrus and Stylosanthes species on private and communal land. In this context, we note that you will institute a seed multiplication program by guaranteeing farmers a firm price for quality graded seed.

As you know, we believe that establishment of 100-ha pasture blocks along existing line is an impractical approach to large scale rangeland improvement. The effect of these blocks and concomitant sheep societies has been to provide heavily subsidized feed for a few privileged members of sheep societies. Costs of fencing are inordinately high and there appears to be little or no more government land available. Despite this, we feel these blocks have provided a useful mechanism for testing the applicability of alternative pasture and livestock improvement technologies. We should now explore

approaches to sheep and rangeland development that have scope for replication on private and communal land. We suggest more broadly based livestock cooperatives, possibly using the experience of the successful dairy cooperatives as a guide.

It is clear that to date dairy development has had more impact on farmers' incomes than any other component of the project. As indicated in the mission's report, the very success of the program highlights the need for strengthening dairy support services. We feel this could be achieved by bringing all dairy activities in the State under one umbrella, by transferring responsibility for dairy under DPAP to the respective State Dairy Development Corporations (or Federation). The corporation could then provide the necessary service and infrastructure support to handle the expected increase in milk sales. We would be grateful for your reaction to this proposal. Other points concerning dairying are covered in the attached report.

We were pleased to learn that several districts are experimenting with small graded bunds in place of large contour bunds and that the DPAP unit will encourage these efforts further. Districts will need technical assistance to help them identify and test new soil and moisture conservation practices in farmers' fields. In addition to graded bunds, new practices might include the use of ridge and furrow cultivation, beds and dead furrows and, of course, cross slope cultivation. We also encourage as much cooperation as possible with ICAR and the State Agricultural Universities to enable you to identify and adapt farm tools suitable for soil and moisture conservation and dryland farming. Once suitable farm implements are identified, their introduction should be encouraged through the extension system.

As noted in the attachment, we were very impressed with progress on the dryland farming front, particularly regarding the identification of suitable packages of practices. To speed introduction of this component, we would urge that you (a) integrate DPAP extension activities with the State Extension Service in those States which adopt the T & V system; (b) increase the frequency of training for extension workers to every two weeks, with emphasis on recommendations for the next two week period; (c) reduce subsidies to farmers participating in dryland demonstrations so that they do not come to rely on such subsidies; and (d) initiate the dryland farming component in Jodhpur.

We are concerned that no decision has been taken on the recommendations in the report of the consultant on agrometeorology. We note that the main question to be decided relates to the organization of the agrometeorology unit. Please let us know when this issue is resolved.

We turn now to specific points relating to each of the States. In Rajasthan, we understand that the electrification schemes required to implement the deep well program in Jodhpur and Nagaur have now been appraised by the Rural Electrification Corporation (REC) and that these schemes are in line with norms agreed between IDA and REC. As you know, inclusion of these schemes will require amendments to the legal documents. To expedite approval,

would you please (a) submit the formal request for such a change along with other changes to the legal documents, (b) include a summary of REC's findings and recommendations, and (c) include a note detailing the justification for the electrification schemes. This last, will need to compare the economics of diesel versus electrical pumps.

We note that in addition to the electrification schemes, Government of Rajasthan proposes a further chilling plant, additions to the dairy plant and a hydrogeological survey of the Luni Basin. These proposals will need to be examined by GOI before being submitted to IDA, particularly in light of your findings that there are unlikely to be savings from the Credit. You may prefer to finance the additional schemes from GOI funds. We suggest that when finalizing revised targets, it would be simplest and most satisfactory if new schemes (such as the Luni Basin) were not included as these would require detailed appraisal by IDA.

Finally in Rajasthan, we remind you that the schedule in the Project Agreement provides for about 11,000 ha of pasture establishment in districts other than Jodhpur and Nagaur. We understand that such works have been completed but no claims submitted for disbursement; these expenditures are eligible for IDA disbursement.

In Maharashtra, we note GOM has proposed an expansion of 6 chilling plants, and more tanks in Ahmednagar. We would need to be assured that the expansion of chilling plants was justified to process project milk and that such facilities are justified in the context of existing collection, processing and marketing facilities. We have already commented that we do not favor increasing the number of irrigation tanks. We would, however, be prepared to consider additional tanks provided they have been selected with particular attention to their economic viability and it can be shown that they are justified on economic criteria.

As you know, one of the major factors delaying completion of tanks in Maharashtra is the lack of institutional finance. To overcome this, we agree to GOM's proposal to finance communal works down to the farmers' fields from budgetary rather than institutional sources so that CAD is completed at the same time as the reservoir. This is in line with discussions with GOM on the Maharashtra Major Irrigation Project. Such expenditures would be eligible for IDA disbursement.

In Karnataka, we are pleased to note the strengthening of staff at district level. This should help considerably with implementation and coordination of project activities. We are, however, concerned at the three-fold increase in cost of pasture establishment in Bijapur. This is much more costly than in other IDA districts and we would be grateful if you would investigate the reasons for this.

We have received the Master Plan for the Jigjivani irrigation tank in Bijapur and Mr. Lindt discussed our comments with staff from GOK's Department of Irrigation. It appears that the data included in the Master Plan has

been revised. GOK informed the mission that they would send us the amended data; we would be grateful if you would follow up. Finally in Bijapur, regarding the two barrage-cum-lift schemes, we reiterate the comments from our letter of December 6, 1977 to Mr. Naik: that, such schemes were not included in the project description and that we would, therefore, have to examine these two schemes before they could be considered for financing (information required has been discussed with GOK and is set forth in Mr. Parson's letter of December 15, 1976).

We are glad at the continued rapid progress in Andhra Pradesh. Our comments pertaining to Anantapur have been covered in the context of other states; we will, therefore, not repeat them. We think you will agree that the need for evaluation of tanks is highlighted in Anantapur, where (based on your October 1978 report) the cost of 4 tanks has risen from some Rs 2.8 million at appraisal to Rs 11.6 million, a four-fold increase.

As mentioned previously, we draw your attention to Section 3.03 of the Project Agreement relating to audit procedures.

Finally, let me express our pleasure in seeing the overall progress in the six IDA-supported districts.

With kind regards.

Sincerely yours,

G. J. TIBOR  
Chief  
Agriculture C Division  
South Asia Projects Department

To be cleared with Programs, Legal, Controllers



INDIADROUGHT PRONE AREAS PROJECT (526-IN)October/November, 1978 SupervisionPerformance on Dated Covenants

Dated covenants are listed below. All with a fixed date have been met. Annual requirements are being complied with; the exception being Section 2.03(a) of the Project Agreement. Two undated covenants have not been met -- provision of audited accounts and, in one of four districts, work has started on tank construction before a master plan has been sent to IDA. The latter breach has repeatedly been brought to the attention of GOI and the concerned State Government. The plan is being prepared; pending receipt disbursement is not being made against tank construction costs. Audited accounts have been requested.

Drought Prone Areas Project - Dated Covenants

<u>State</u>	<u>Agreement</u>	<u>Action Date</u>	<u>Nature of Covenant</u>
	PA 2.03(a)	Feb. 1 of each year	Furnish a statement on program related to DPAP and procedures to coordinate them.
Andhra Pradesh ) Rajasthan ) Maharashtra ) Karnataka )	PA 2.03(b)	Sept. 30 of each year	Furnish a statement on DPAP <sup>1/</sup> programs and implementation procedures.
	PA 3.04(a)	Dec. 31, 1975	Promote the establishment of at least two Farmers' Service Societies in district.
	PA 3.04(c)	Dec. 31, 1975	Complete survey of short-term agricultural credit in district.

---

<sup>1/</sup> Met by submission of DPAP annual plans for each of the districts.

No. 23(4)/78-DPAP  
Government of India  
Ministry of Agriculture & Irrigation  
(Department of Rural Development)

New Delhi, dated 28th November, 1978

To

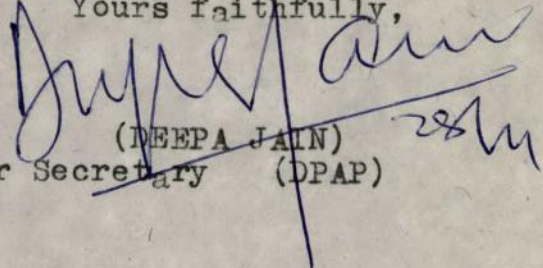
Mr. JOHN LINDT  
World Bank Office  
South Asia Projects Department  
Room No. F-528  
1818-H-Street.  
Washington - D C 20433 (U.S.A.)

Subject:- DPAP Bijapur - Construction of Minor Irrigation  
Tank at Jagjivani - Taluka - Bijapur district,  
Karnataka State, India - regarding.

Sir,

With reference to the subject mentioned above I am  
enclosing herewith a copy of the details on the Minor  
Irrigation Tank at Jagjivani. You will recall that you had  
asked for these during your visit to Bangalore on 23.10.78.

Yours faithfully,

  
(DEEPA JAIN)  
Under Secretary (DPAP)

JAN 02 1979

INCOMING UNIT 1981  
NOV DEC -1 AM 1.21  
RECEIVED

RECEIVED  
1978 DEC -7 PM 1:51  
INCOMING MAIL UNIT

NOV 03 1978

UNDER SECRETARY (DBVB)  
(DEBVB 1711)

*[Handwritten signature]*  
LONN TINDL

Refer to these dated your staff to Bangalore on 23.10.78.  
Investigation Bank of Karnataka. You will recall that you had  
enclosed herewith a copy of the details on the minor  
with reference to the subject mentioned above I am

etc.

Karnataka State, India - Bangalore.

Bank of Karnataka - Details - Hyderabad branch.

Subject:- DBVB Branch - Construction of minor investigation

Management - D. C. 50433 (D. S. V.)

1018-H-Street.

Room No. E-258

South West Projects Department

World Bank Office

Mr. LONN TINDL

50

8781, received on 1782 dated November 1978

(Department of Rural Development)  
Ministry of Agriculture & Irrigation  
Government of India  
No. 22(4)/AB-DBVB

COST OF MINOR IRRIGATION TANK AT JIGAJIVANI  
TALUKA INDI DISTRICT- BIJAPUR

.....

1. Catchment area 65,268 Sq.miles (25.20 sq.miles)
2. Submersible area 168 Hectares
3. Total storage 3.991 M.Cum (142.495 M.Cft)
4. Live storage 3.994 M.Cum (135.318 M. Cft)
5. Rainfall in catchment area (Total mm) 598.93 mm.
6. Rainfall of monsoon 564 mm.
7. Gross command area 1233 Hectares.
8. Cultivable command area 986.58 Hectares
9. Ratio submersible Irrigable. 1:6

II) Cropping pattern

1. Submerged area 168 Hectares : Cultivable area: 1233 Hect.

		<u>Present</u> 688	<u>Future</u> 680
1) Kharif	1) Local Bajra	250 Hect	1) Hy Bajra 300 Ha
	2) Ground nut	130 "	2) G.Nut 130 "
	3) Horse gram	150 "	3) Hy.Jawar 170 "
	4) Mataka	80 "	4) Hy.Maize 80 "
	5) Tur	59 "	
	6) Cotton	11 "	
2) Rabi	1) Rabi jawar	120 "	1) Rabi jawar 200 "
	2) Wheat	64 "	2) Mexican wheat 106 "
	3) Bengal gram	47 "	
	4) Safflower	43 "	
	5) Cotton	30 "	
	6) Linseed	2 "	

-----  
986 Hect.

III) Most important crops for each season.

Rain

1) Kharif	(1) Local Bajra	250 Hect.	1) Hy Bajra	300 Hect
	ii) Ground nut	150 "	ii) Ground nut	130 "
	iii) Mataka	80 "	iii) Hy Jawar	170 "
			iv) Hy.Maize	80 "

IV) Number of Farmers been benefitted.

344 Farmers.

- 1) Maximum holding in the command area : 22 hect.
- 2) Minimum holding : 0.2 "
- 3) Total No. of survey number : 249 Nos
- 4) Av. holding of cultivation : 2.86 hect.
- 5) No. of cultivators less than 2.5 Hect. : 140 Nos
- 6) No. of cultivators more than 6.5 hect. : 22 Nos

V) Cost

1) Tank cost	Rs. 34,27,410
2) Command area development	Rs. 17,05,200
	-----
Total :	Rs. 51,32,610

-----  
Total cost per hectares : Rs. 3515/- hect.

Cost per hect. for command area Development Rs. 1730/- Hect.

**VI) Provision made for displaced persons**

No villages or hutments are submerged and hence no rehabilitation works are necessary. However, attempts are being made to distribute part of the benefitted lands to the owners who have lost with their lands in the submergence area.

Construction Schedule

Dam is completed in all respect in September 78. Canal and C.D. works are scheduled to be completed in March 79.

**VIII. Crop production/Cost return**

1. Land Rental value Rs. 600/-
2. Interest : Depreciation : Management cost.
 

11%	2%	2%
-----	----	----
3. Labour cost : Man : Rs. 4.50  
 Bullock : Rs. 11/- pair or Rs. 6/- single.
4. Expected yield bullock : Rs. 14.00 lakhs  
 of crops.
  - ii) Revise estimate if necessary Rs. 50.00 lakhs.
  - iii) Water charges Rs. 44,000/- per annum.

**VIII. Water charges/Cost recovery**

- i) Total cost Rs. 50.00 lakhs (Revised)
- ii) Net returns on Govt. share : 1.20 %
- iii) Betterment levy : Rs. 12.18 lakhs at Rs. 500/- Acre.

	(1) Maximum holding in the command area
	(2) Minimum holding
	(3) Total No. of survey number
	(4) Av. holding of cultivation
	(5) No. of cultivators less than 0.5 hect.
	(6) No. of cultivators more than 0.5 hect.
	(7) Cost
	(1) Task cost
	(2) Command area development
	Total : Rs. 27,32,610

Total cost per hectare : Rs. 312.21  
 Cost per hect. for command area development : Rs. 190/-

ROUTING SLIP

DATE: 8 Dec

NAME

ROOM NO.

~~① Mr Brandy~~

~~0414~~

② Asia Files

India DPAP (526-IN)

APPROPRIATE DISPOSITION

NOTE AND RETURN

APPROVAL

NOTE AND SEND ON

CLEARANCE

PER OUR CONVERSATION

COMMENT

PER YOUR REQUEST

FOR ACTION

PREPARE REPLY

INFORMATION

RECOMMENDATION

INITIAL

SIGNATURE

NOTE AND FILE

URGENT

REMARKS:

Peter

This looks quite encouraging. Seems the message struck home

JAN 22 RECD

N 10/12.

FROM:

JAL.

ROOM NO.:

F429

EXTENSION:

India - U 526  
Nov 8, 1978

MEMORANDUM TO ALL IDA ASSISTED DPAP DISTRICTS AND  
CONCERNED STATE GOVERNMENT OFFICERS

R.W. ALBRECHT  
World Bank Adviser, DPAP.

No. 78/10  
Government of India  
Ministry of Agriculture & Irrigation  
(Department of Rural Development)  
Krishi Bhavan, New Delhi.

Dated the, 3th November, 1978.

LARGE SCALE PASTURE AND LIVESTOCK DEVELOPMENT -  
CO-ORDINATED PROGRAMME PLANNING AND IMPLEMENTATION.

.....  
During my field visits in 1977-78 we discussed on many occasions how the present pasture and livestock development programme under DPAP could be expanded to incorporate all types of grazing lands (Government, Revenue, village common & private lands). We considered the present DPAP programme of pasture improvement in conjunction with sheep development as a forerunner to much greater efforts and as an experimental and spearheading activity to eventually improve all deteriorated rangelands in India. This anticipated general attack on rangeland improvement could be envisaged as a national development strategy throughout the entire country.

2. During the recent visit of the Central DPAP Government of India team to various IDA districts in September 1978, and also during the tour of the World Bank Review Mission to Rajasthan and Andhra Pradesh in October 1977, the same theme came up during discussions. Possible solutions and methods for intensifying the programme on much expanded scale were discussed with Project Directors, Project Officers and State Government Officials respectively.

3. The main shortcomings of the presently combined pasture and sheep development programme can be summarized as follows:-

(a) Under-Stocking of Improved Pastures

This applies particularly to Rajasthan where excellent seasonal conditions have prevailed since 1975. However, a recurring problem in the Anantapur and other districts has also been the utilization of excess forage which accumulated on the pasture development sites.

(b) Limited Impact of Pasture Improvement Programme

The pasture development programme conducted on the "100 ha pasture plots" has generally been restricted to Government (Forestry) lands only.

.../2

(c) Limited Benefits to Rural Community

The pasture development programme has been limited in area to the targets originally fixed or later adjusted (maximum of 4,500 ha for each district). In addition, the number of farmers and sheep which benefited from the programme has been, comparatively speaking, small.

(d) Sheep Development versus Total Livestock Development

The programme of pasture development as taken up by the States has exclusively favoured sheep development and totally ignored other classes of livestock. This has in the past and may lead in future to social and economic frictions amongst the rural population.

4. It is felt the stage has now been reached when sufficient technical information has been collected to implement a large scale pasture development programme based on fairly sound technical considerations. Some minor problems have still to be resolved for which we can be confident to find a solution within the next two or three years. The major consideration, when assessing progress achieved up-to-date, is how the programme could be expanded and what measures should be taken to implement a much larger programme eventually leading to a National Pasture and Livestock Development Programme throughout India (National Rangeland Development).

5. We know considerable thought has been given to these problems by field staff and State planners. We at the Central DPAP Cell have also given a lot of consideration how the programme could be quickly and effectively enlarged.

6. Of particular importance for Rajasthan is the pasture improvement project under the Desert Development Programme. The newly appointed Additional Chief Conservator of Forests and his team will implement this scheme. It will be very necessary to closely link and coordinate this Desert Development Programme for pastures with the existing similar programme under DPAP.

7. I am taking the liberty of issuing this circular letter to all officers in the districts concerned and all State Government planners who are somehow connected with the pasture, rangeland and livestock development programmes. The Deputy Commissioner (Livestock), DPAP, Dr. S.N. Bakshi and I plan to hold a Symposium sometime in February-March 1979 at New Delhi for the specific purpose of outlining technical and organisational needs to launch this intensified large scale Pasture and Rangeland/Livestock Development Programme in DPAP districts as well as other areas at a later stage. Prior to the symposium it would be useful to collect as many ideas and suggestions as possible as to how this programme could be organised and implemented. In order to make a preliminary survey on the needs of each particular region, we would appreciate if each officer or office to whom this circular

...../3



is being sent, could offer ideas and suggestions. This information will then be summarized and immediately circularized to the individual districts and State Governments.

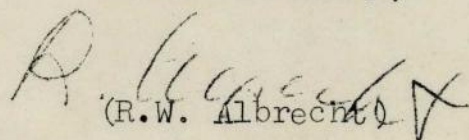
8. Would you please treat this matter as urgent and clearly let us have your views and practical ideas on the points as given below:-

- (a) What is the scope for pasture development in each district or State respectively?
- (b) Is the present departmental infrastructure sufficient to enlarge the programme?
- (c) What are the specific needs to make the present programme more effective?
- (d) How could the social, economic and communal difficulties, known to exist in villages and obstructing the expansion of the present programme, be overcome?
- (e) What coordination between the various Departments and/or other agencies will be needed to launch an expanded programme?
- (f) Two important aspects to consider are:-
  - (i) Incorporation of all classes of livestock in the programme.
  - (ii) Effective involvement of all types of farmers (small, marginal, medium and large farmers) in the development and scientific utilisation of the rangelands.
- (g) What technical and organizational assistance could the relevant Research Institutions offer to implement the programme.

9. We would be extremely grateful to have your reply and suggestions soonest.

With best regards,

Yours sincerely,

  
(R.W. Albrecht)

To

As per list attached.

L I S T

Shri B.P. Bhargava,  
Project Director, DPAP,  
Paota 'B' Road, Sathin House,  
Jodhpur (Rajasthan)

Dr. G.S. Shekhawat,  
Project Director,  
Drought Prone Areas Programme,  
Nagaur-341001 (Rajasthan)

Shri Bhagwan Ram,  
Desert Development Commissioner,  
Jodhpur (Rajasthan)

Dr. Mathur,  
Addl. Chief Conservator of  
Forests (D.D), Forestry Deptt.,  
Jodhpur (Rajasthan)

Shri Sandeep Bagchee,  
Executive Director, DPAP,  
Bhingar Urban Coop. Bank Bldg.,  
Bhingar, AHMEDNAGAR (Maharashtra)

Shri R.S. Deodhar,  
Executive Director, DPAP,  
141-A, Morarji Peth, Chavan Bldg.,  
Sholapur-413001 (Maharashtra)

Shri Shantanu Consul, IAS,  
Project Director, DPAP Authority,  
Bijapur-586101 (Karnataka)

Shri K. Satya Raju, APAS,  
Project Administrator,  
Drought Prone Areas Programme,  
Anantapur-515001 (A.P.)

Dr. D. Ananth Rao,  
Project Officer,  
Sheep & Pasture Dev. Project,  
DPAP, JODHPUR (Rajasthan)  
(AND TEAM)

Shri N.C. Mathur,  
Project Officer,  
Sheep & Pasture Dev. Project,  
DPAP, NAGOUR (Rajasthan)  
(AND TEAM)

Shri M.G. Kulkarni,  
Centre Manager,  
Sheep Service Centre, DPAP,  
Ahmednagar (Maharashtra)  
(AND TEAM)

Shri M.M. Kulkarni,  
Divisional Forestry Officer,  
DPAP, AHMEDNAGAR (Maharashtra)  
(AND TEAM)

Shri S.P. Gabale,  
Sub-Divisional Forest Officer,  
DPAP, SHOLAPUR (Maharashtra)  
(AND TEAM)

Shri P.D. Deshpande,  
Centre Manager,  
Sheep Service Centre, DPAP,  
Sholapur (Maharashtra)  
(AND TEAM)

Shri M. Kittanna Rai,  
Divisional Forest Officer,  
Bagalkot Division,  
Bagalkot-587101 (Karnataka)  
(AND TEAM)

Shri V.H. Kulkarni,  
Project Manager,  
Sheep Service Centre, DPAP,  
Bijapur (Karnataka)  
(AND TEAM)

Dr. C. Hanumantha Rao,  
Regional Jt. Director (A.H.),  
Animal Husbandry Deptt., DPAP,  
Anantapur (A.P.)  
(AND TEAM)

Shri V. Janakiram Naidu,  
District Forest Officer, DPAP,  
Anantapur (A.P.)  
(AND TEAM)

The District Collector,  
Jodhpur (Rajasthan)

The District Collector,  
Nagaur (Rajasthan)

The District Collector,  
Ahmednagar (Maharashtra)

The District Collector,  
Sholapur (Maharashtra)

The District Collector,  
Bijapur (Karnataka)

The District Collector,  
Anantapur (Andhra Pradesh)

FOR INFORMATION AND  
COLLECTIONS.

The Director of Animal Husbandry,  
Animal Husbandry Department,  
Jaipur (Rajasthan)

The Inspector General  
of Forests, Forestry  
Department, Ministry  
of Agriculture and  
Irrigation, Krishi-  
Bhavan, New Delhi.

The Director of Animal Husbandry,  
Animal Husbandry Department,  
Pune (Maharashtra)

The Commissioner of  
Animal Husbandry,  
Animal Husbandry Deptt.,  
Ministry of Agriculture  
& Irrigation, Krishi-  
Bhavan, New Delhi.

The Director of Animal Husbandry/  
Veterinary Service,  
Animal Husbandry Department,  
Bangalore (Karnataka)

The Director of Animal Husbandry,  
Animal Husbandry Department,  
Shanti Nagar Colony,  
Hyderabad - 500028 (A.P.)

Shri Satish Kumar,  
Secretary to the Govt.  
of Rajasthan, Special  
Schemes Organisation,  
Jaipur (Rajasthan)

The Chief Conservator of Forests,  
Forestry Department,  
Jaipur (Rajasthan)

Shri Venkatesan,  
Secretary,  
Planning Department,  
Govt. of Maharashtra,  
Mantralaya, BOMBAY.

The Chief Conservator of Forests,  
Forestry Department,  
Pune (Maharashtra)

The Chief Conservator of Forests,  
Forestry Department,  
Bangalore (Karnataka)

Shri Rupla Naik,  
Commissioner for Special  
Economics Programme and  
Secretary, Department of  
Rural Development and  
Cooperatives,  
Vidhana Soudha,  
Bangalore (Karnataka)

The Chief Conservator of Forests,  
Forestry Department,  
Hyderabad (A.P.)

The Director,  
Sheep & Wool Department,  
Jaipur (Rajasthan)

Shri Shravan Kumar,  
Secretary to the Govt. of  
Andhra Pradesh,  
Deptt. of Rural Development,  
and Forest, Hyderabad (A.P.)

Dr. H.S. Mann,  
Director,  
Central Arid Zone Res. Institute,  
Jodhpur (Rajasthan)

- cc: 1. J.S. (DPAP), New Delhi.
- 2. D.S. (DPAP), New Delhi.
- 3. U.S. (DPAP), New Delhi.
- 4. D.C. (Livestock),  
DPAP, New Delhi.

Dr. B.D. Patil,  
Director,  
Indian Grassland & Fodder  
Research Institute, Pahunj Dam,  
Jhansi-Gwalior Road,  
Jhansi-284003 (U.P.)

cc: Mr. Gabriel Tibor,  
Chief Division C,  
World Bank Office,  
1818 H-Street,  
Washington DC 20433  
(U.S.A.)

(For officers dealing with DPAP)

No.23(1)/78-DPAP  
 Government of India  
 Ministry of Agriculture & Irrigation  
 (Department of Rural Development)

New Delhi, dated the 6th November, 78.

Subject :- Minutes of the meeting held on 30-10-78 under the  
 Chairmanship of JS(DPAP) with the IDA Review  
 Mission.

A copy of the minutes of the above meeting is sent  
 herewith for information and necessary action.

*Pathak*  
 (P.D.PATHAK)

Assistant Director (DPAP)

Distribution :-

A. Govt. of India (Deptt. of R.D.)

1. PS to AS(RD)
2. J.S(DPAP).
3. Director (Credit)
4. WBA/DS(DPAP)/US(DPAP)/ DC(LD)/ DG(Agri.)// PE(DPAP)/  
 RO(DPAP)/ Guard File.

AC(EA)/AC(P)/

B. Planning Commission

1. Shri U.S.Kang, Chief (Agriculture).

C. Department of Agriculture

1. Director, IP.

D. Ministry of Finance

DEC 01 1978

1. Dr. M.D.Godbole, JS(DEA).
2. Mr. J.K.Sibal, Director (DEA).

E. Copy for information to Mr. B.A.Nekley, World Bank Officer  
 55, Lodhi Estate, New Delhi, with a request that he may  
 pass on it to the members of IDA Review Mission.

F. State Governments

1. Shri Satish Kumar, Special Secretary to the Govt. of  
 Rajasthan, Special Schemes Organisation, Jaipur.
2. Shri V.Venkatesan, Secretary, Government of Maharashtra,  
 Planning Department, Mantralaya, Bombay.
3. Shri. Shivan Kumar, Secretary to the Govt. of Andhra Pradesh,  
 Hyderabad.
4. Shri Rupla Naik, Secretary to the Govt. of Karnataka,  
 Bangalore.

Minutes of the meeting held on 30/10/78 under  
the Chairmanship of JS(DPAP) with the IDA  
Review Mission.

A list of participants is attached.

The IDA Mission leader began by emphasising the fact that since the visit of the last review mission, DPAP has made considerable progress, especially in the dairy and dryland farming sectors.

In discussing the Dairy Sector in some detail the Mission pointed out that the stage had now come where a detailed evaluation of this component was called for so that problems arising out of the tremendous expansion in this sector could be visualized and steps taken so as the projects could be ready to tackle them. Another suggestion made by the Mission was that new techniques in A. I. which had proved very successful in New Zealand and which were cheaper than the present technique being used in DPAP areas, could be tried and if need be, the services of a consultant from New Zealand could be obtained for this purpose. The reorganisation of the dairy industry in view of the proven success of the programme and more intensive staff training was also recommended by the Mission.

On Pasture & Sheep Development the Mission felt that seed distribution at subsidized prices to individuals and groups could be tried. If assured of the fact that the seed thus produced would be purchased from them at a stipulated price, it was felt that farmers would respond to growing seed. The Mission also suggested the constitution of livestock societies on the pattern of dairy cooperatives.

Regarding Dryland Farming it was felt that while on the whole the programme was doing well, the programme in Jodhpur needed to be pushed. It was suggested that research findings should now be tried in the field in DPAP areas. Intensive Staff training in Extension services and more widespread use of the T & V system was recommended by the Mission. Mission members also felt that the extent of subsidy for demonstration purposes ought gradually to be reduced.

In the Soil & Moisture Conservation sector, the Mission felt that the role of farm implements had not been emphasised enough.

On the question of savings, the Mission was informed by JS(DPAP) that there would be no savings and that IDA funds would in all likelihood be utilized earlier than expected. The Mission was also informed that all additional proposals from the State Govts. would be considered in this light. Wherever there had been changes in the physical targets as in the case of MI tanks or new schemes had been added as in the case of rural electrification, necessary amendments would be made in the credit Agreements.

The suggestion of the Mission members that evaluation studies of the impact of DPAP in IDA districts be conducted was welcomed. Govt. of India would be requesting the State Govts. to get much exercises conducted and would also be setting independent studies made by some reputed institutes.

Regarding Audit and Reimbursement claims, it was felt that the position was satisfactory. JS(DEA) however pointed out that a team from DEA would be visiting the project areas in connection with the timely submission of reimbursement claims. JS(DPAP) assured JS(DEA) that DPAP project authorities will be requested to give all available data to the DEA Officers.

Regarding Audit statements JS(DPAP) suggested that Audit upto 76-77 had been carried out in all the districts except Bijapur. He informed the Mission members that he would write to the Accountant Generals of the concerned States to expedite Auditing of Accounts for 77-78. DEA would also be kept informed.

In rounding off the discussion JS(DPAP) felt that regarding a DPAP Phase II, it was too early to comment since a decision would have to be taken in consultation with Planning Commission and Deptt. of Economic Affairs. JS welcomed the suggestion of the Mission that if a Phase II materializes, rural roads, small scale industries, drinking water supply etc. could be considered. Regarding the suggestion on evaluation studies JS agreed that these would be conducted.

x-x-x-x-x-x-x-x

In the light of the Mission's observations, the Mission felt that the role of rural extension has not been emphasized enough.

On the question of savings, the Mission was informed by JS(DPAP) that there would be no savings and that IDA funds would in all likelihood be utilized earlier than expected. The Mission was also informed that all additional funds would be considered in this regard. However, they had been changes in the physical targets of the project or few schemes had been added as in the case of rural electrification, necessary arrangements would have to be made in the credit agreements.

RECEIVED  
MAY 20 PM 3:32  
INDIAN BANKING UNIT

LIST OF PARTICIPANTS

1. Mr. G.L.Bailur, JS(DPAP).
2. Mr. R.Srinivasan JS(DPAP) on leave.
3. Dr. M.D. Godbole, JS(DEA).
4. Mr. J.K.Sibal, Dir (DEA).
5. Mr. Lindt )
6. Mr. Paul Dux )
7. Mr. Kraft ) Mission Members.
8. Mr. Peter Brumby )
9. Mr. J.P.Sharma, DS(DPAP).
10. Mr. Rolf Albrecht, World Bank Adviser.
11. Dr. M.K.Mathur, DC(Agri.)
12. Dr. S.N.Bakshi, DC(LD).
13. Miss. Deepa Jain, US(DPAP).
14. Mr. D.S.Mehra, IC(EA).
15. Mr. P.S.Chari, PE.
16. Mr. S.M.Batra, R.O.
17. Mr. P.C.Gupta, S.O.

---

COMPLIANCE ON INFORMATIVE NOTE ON BIJAPUR DPAP

Oct 23/78

COMMAND AREA DEVELOPMENT:

The Department has already surveyed the area coming under minor irrigation tanks and has transmitted the report to the Project Director and is assisting the P.W.D. (Irrigation) in preparation of estimates and suggesting suitable cropping pattern for the Command Areas. Master Plan of Jagajeevini Tank which was sent by the Chief Engineer has been forwarded to the Director, DPAP on 7-7-1978. The Department through its extension staff can effectively guide the farmers in water management techniques. The Karnataka Land ~~Development~~<sup>Army</sup> Corporation has been assigned with the execution of land development works under the Command Area of minor irrigation tanks.

SOIL CONSERVATION:

With regard to site selection of barrow pits, the department has left option to the executing officers for excavation of barrow pits either on the upstream or on the downstream side, but being insisted to excavate barrow pits on the downstream side particularly so, on the deviated points to reduce the slopes in the inter bunded area. The farmers are also being educated to level the land. As mentioned in the summary of findings regarding increased cost of work as lead charges will have to be stated paid etc. it is to be stated that since the berm between the bund and the barrow pit either on the upstream side or on the downstream side will be 10' maximum and 5' minimum and hence the question of increased cost due to lead does not arise. The Department in general is not paying any lead charges for earth work excavation. But during the visit of the World Bank Team the team suggested location of barrow pits on the ridges even if they are far away from the bund to be constructed. In that case lead charges will have to be considered.

With regard to construction of graded bunds the department took up on experimental basis in Tidagundi village and experienced the following problems.



1. Maintaining grade of the channel.
2. Establishing grass in the waterways.
3. Limitation of land holdings which may come in the way of graded channel leading to natural water way
4. Levelling of inter-space between the graded bunds which may add Rs 100/- to Rs 250/- per hectare over the cost of construction.

*Why*  
*this should be done over a period of 1 year as per the practice*

In view of the above it can be said that graded bunds without inter-space land levelling is of no use and soil erosion would increase for want of grassed water ways. Establishment of grass under Bijapur climatic condition is itself a problem.

FARM PONDS:

During the visit of the team one of the Members suggested to slow down the farm pond construction. The ryots are not coming forward since the benefits accrued is not commensurate with the cost and the land cost considering the vagaries of the rainfall.

As per the Appraisal Report the estimated cost is Rs 5000/-, but the present cost is approximately Rs 10,000/-. The Project Director has sought clarification for enhancement and also regarding taking up of works under land improvement act treating 50% cost as subsidy and 50% cost as loan to be recovered in 15 equated annual instalments with 6% interest as is being done in respect of contour bunding works.

The Department has also approached the Government for suitable amendment to the Karnataka Land Improvement Rules 1962 Rule No. 4-A(5) for inclusion of the same in the recovery rules.

In general farm ponds are advocated <sup>not</sup> only in deep black soil regions. Most of the deep black soil region is along the river bed and these areas are either irrigated by lift irrigation or are likely to be covered under the command area of the major irrigation projects and hence the utility of farm ponds in such areas would be minimal. Moreover the policy of the department is

not to take up bunding in deep black soils specially near and along with river bed. However 5 farm ponds have been executed in the villages mentioned below:

- (1) Hegadihal
- (2) Jumanal
- (3) Tikota
- (4) Tajapur
- (5) Dhanakasirur

DRY LAND FARMING:

Programme is being implemented as per the suggestions of the team. The World Bank has already approved the reorganisation of the department & the extension system is being streamlined in the district. The following dry farming practices are being advocated to the farmers:

- (1) Contour cultivation
- (2) Use of adequate quantity of organic manure
- (3) Use of fertilisers
- (4) Use of high yielding varieties and improved seeds
- (5) Use of seed-cum-fertiliser drill
- (6) Seed Treatment
- (7) Clean cultivation and
- (8) Mixed cropping

Cost of fertilisers <sup>now advocated</sup> works out to Rs 160/- per hectare for cereals like hybrid jowar etc., Rs 100/- per hectare for pulses and Rs 120/- for oil seeds whereas the cost of fertilisers as per the recommendations of the department is Rs 500/- per hectare for hybrid jowar, Rs 300/- per hectare for pulses and Rs 440/- per hectare for oil seeds like groundnut and safflower and cotton. Thus the fertiliser recommendations followed under the dry land farming programme in the watersheds are quite within the farmers management capability or their ability to invest and accept the risk.

India - CR 526

RURAL ELECTRIFICATION CORPORATION LTD.  
(A Government of India Undertaking)

DDA Building, Nehru Place,  
New Delhi 110 019.

No. CONSCO/WB/78.7/18090

October 21, 1978.

The Development Commissioner &  
Principal Secretary,  
Government of Rajasthan,  
Jaipur.

Subject: Appraisal of the rural electrification programme  
in the DPAP schemes of Nagaur and Jodhpur districts  
of Rajasthan with IDA assistance.

1)  
Reference: Your D.O.No.F-6(1)/Agri./SS/VII/77/Power  
dated 27th August, 1977.

2) No.RSEB/ACE/S&I/D-4348 dated 13.9.1978  
from Addl. Chief Engineer, RSEB, addressed  
to the CPE, REC Regional Office, Jaipur.

Dear Sir,

It may be recalled that following your request, at the suggestion of the World Bank, for REC to examine the rural electrification component of the DPAP schemes in the districts of Nagaur and Jodhpur, a team from our Jaipur Regional Office had carried out the appraisal of the 11 schemes submitted to us. As had been agreed in our meeting with you and your Senior Officers on 1st September, 1977, the appraisal related to the technical parameters of the schemes judged against REC norms and standards, the economic parameters such as the number of wells and their expected utilisation having already been covered in the appraisal carried out by the World Bank mission. The appraisal report was later examined by us in detail in our headquarters. We then communicated our observations to the Rajasthan State Electricity Board suggesting some modifications in the system network as well as in the scope and coverage of these schemes.

The Rajasthan State Electricity Board thereafter submitted to us eight revised schemes, along with their letter referred at No. 2 above. They informed us that the remaining three schemes viz. those for the Panchayat Samities of Parbatsar I, Parbatsar II and Degana of Nagaur district, had been dropped on the recommendations of the Special Schemes Organisation, Government of Rajasthan.

RSEB have revised the eight schemes taking into account our appraisal observations; the item-wise compliance to our observations are shown in the letter from RSEB, a copy of which is enclosed. We have now examined these revisions made, and find them to be in order. The schemes as now revised conform to the criteria of MNP (D) category of loan which is one of the various categories of REC loans, the norms of which have been agreed to between IDA and REC. The total cost of the schemes and the loan

.... /2

DEC 28 1978

amounts sought against are given below:-

<u>Sl. No.</u>	<u>Name of the Scheme</u>	<u>Cost of Scheme.</u>	<u>Loan amount sought.</u>
1.	Bhopalgarh PS, Distt. Jodhpur	45.014	43.760
2.	Balesar PS, Distt. Jodhpur	65.994	60.372
3.	Shergarh PS, Distt. Jodhpur	33.939	31.656
4.	Phalod PS, Distt. Jodhpur	14.095	13.840
5.	Ostan PS, Jodhpur Distt.	35.716	33.691
6.	Kuchaman PS, Distt. Nagaur	20.754	19.971
7.	Merta PS, Distt. Nagaur	14.366	13.487
8.	Dedwana PS, Distt. Nagaur	7.650	7.191
	Total ::	237.528	223.968

You may forward a copy of this letter to Mr. G.J. Tibor, Chief, Agriculture 'C' Division, South Asia Projects Department, World Bank, on whose request this work was undertaken by us. As we had mentioned in our meeting held on 1st September, 1977, our Corporation was glad to take up this task of carrying out a technical feasibility study as a gesture of goodwill and, therefore, makes no claim by way of consultancy or other charges.

Yours faithfully,

*B.K.N. Murthy*  
(B.K.N. Murthy)  
Chief(CONSCO)

Copy, with compliments, to :-

Mr. G.J. Tibor, Chief, Agriculture 'C' Division,  
South Asia Project Department,  
World Bank/18 H Street N.W., Washington D.C. 20433, U.S.A.

*B.K.N. Murthy*  
(B.K.N. Murthy)  
Chief(CONSCO)  
21.10.1978

1978  
 (1978)  
 (1978)  
 8-1-78

1978  
 (1978)  
 (1978)  
 8-1-78

(1978)  
 (1978)

(1978)

1978  
 (1978)  
 (1978)  
 8-1-78

RECEIVED  
 INCOMING MAIL UNIT  
 1978 NOV - 8 AM 11:31

Sl. No.	Name of the scheme	Cost of	Amount
1.	1978	10.00	10.00
2.	1978	20.00	20.00
3.	1978	30.00	30.00
4.	1978	40.00	40.00
5.	1978	50.00	50.00
6.	1978	60.00	60.00
7.	1978	70.00	70.00
8.	1978	80.00	80.00
9.	1978	90.00	90.00
10.	1978	100.00	100.00
Total		850.00	850.00

1978  
 (1978)  
 (1978)  
 8-1-78

~~P. Albridge~~ India - Cr. 526

R.W. ALBRECHT  
World Bank Adviser(DPAP)

D.O. No. 75/9. 10/17

Government of India  
Ministry of Agriculture & Irrigation  
Department of Rural Development

~~M. K. ...~~

Krishi Bhavan, New Delhi.

Dated, the 9th October, 1978.

Dear Mr. Bagchee,

DISCUSSIONS AND FIELD INSPECTIONS -  
PASTURE AND LIVESTOCK DEVELOPMENT -  
VISIT TO AHMEDNAGAR DISTRICT -  
11TH & 12TH and 21ST & 22ND SEPT.,  
1978.

Herewith a summary of the major points we discussed with yourself and staff of the Forestry and Animal Husbandry Departments.

A : PASTURE SEED MULTIPLICATION

(i) Baragaon Nandur Site

The seed multiplication nurseries near Rahuri are now very well established. Both at the old and new site the standard of work has greatly improved and 2.6 & 1.4 ha of land respectively are established. Excellent stands of Stylosanthes hamata, S. scabra, some S. humilis, Siratro and the three new Cenchrus strains have been planted. Maintenance of the areas is of satisfactory standard. These good efforts should be continued by the Forestry staff.

NOV 09 1978

(ii) Lohgaon Site

Up to date of inspection only 125 mm of rain was received during this season. The superiority of Cenchrus grasses over other perennial indigenous grasses stood out clearly during the prevailing droughty periods. The superior growth and the ability to produce more and greener shoots despite prevailing drought conditions, clearly indicate that Cenchrus species are superior grazing plants. Administrators or scientists who may still have apprehensions about the suitability of Cenchrus species for the programme of pasture development should be shown over the Lohgaon site. Their doubts would readily disappear by actual field observations.

It was noted that 300 kg of seed has been collected at Lohgaon this season.

At the irrigated site near Lohgaon the efficiency of water application could be increased as already pointed out in my last tour note. The supply channels are still unlined and water application to the individual seed beds could be improved by decreasing the slopes and planting of additional seeding material in the water distribution furrows. Such plantings would minimize erosion and the effective area under seed multiplication would be increased.

**B : IRRIGATED FODDER DEVELOPMENT**

We briefly inspected a small demonstrational plot comprising 1/5 ha near Thergaon. This site and other similar demonstrations are conducted by the staff of the Animal Husbandry Department in connection with the Dairy Development Programme.

Leucaena glauca (Kubabul) is exclusively planted for demonstration purposes. Planting of 40,000 trees /ha (this means 4 trees /<sub>m</sub><sup>2</sup>) appears to be much too dense.

The planting technique could be improved by removing the polythene bags from the seedlings before transplanting them into the field. If not removed, these bags will severely restrict early root development.

When talking to the local field officer-in-charge it appeared little attention is being paid to the collection of economic data. It is most important that field staff should obtain accurate information on establishment and maintenance costs and compare them to the value of green fodder production from Kubabul trees. The system of data collection seems to be poorly organised and the Chief Veterinary Officer is advised to look into this matter.

At this stage we do not know whether Kubabul trees are the best choice for the planned fodder development programme under all conditions. Under full irrigation other fodder crops - possibly the tropical legume Siratro - could yield larger quantities of high protein feed. Input requirements for Siratro would be less and there is no risk of poisoning from alkaloids. We should be completely open minded in selecting the most suitable fodder crops and should test a number of fodder crops side by side for proper and practical evaluations.

**C : PASTURE DEVELOPMENT**

(1) Karjat Plot

Two hundred ha were planted for pasture development

in the current 1978 season. Generally the work was of good standard and it will assist and encourage us to go ahead with a large scale programme of pasture development on the Deccan Plateau. The main features inspected and discussed were:-

(1) Stylosanthes hamata and S. scabra were established in small areas of about 1/10 hectare. The land was completely double ploughed and harrowed in order to achieve an ideal seed bed. Stylo plants responded extremely well and grew to a height of approximately 30 cm with strong and vigorous branching habits. Costs for this type of land preparation were given as approximately Rs.500/- /ha. The established stand of Stylos should now be used for seed collection.

When realistically assessing the future potential of this type of land preparation we should, however, keep in mind these comparatively high costs and the practicability of this method under a proposed large scale development scheme. Costs of this magnitude may be prohibitive when applied to entire 100 ha plots. On the other hand restricted and smaller pieces of land may be suitable for this kind of intensive land preparation. Nevertheless, these experimental plantings clearly show the tremendous scope of Stylosanthes hamata under local soil conditions and rainfall received (200 mm). It could be conceived in a future programme that the better sites with deeper and more fertile soil could be similarly treated and these sites could be managed for special purposes such as supplementary grazing for flushing of ewes, green feeding of rams and young lambs, or for hay making purposes.

(2) Evaluation of the new pasture species was done in strips on established furrows. Both Stylosanthes hamata and S. scabra as well as Siratro looked rather promising. The question was raised whether or not weeding practices should be adopted. Our experience in Sholapur shows that spot weeding of selected introduced pasture species ensures a better success. However, weeding must be done at the active growth stage and when soil moisture is available. There is little purpose in weeding under dry conditions. The weeded material should be left in the furrows or mounds and grass beds for mulching purposes.

(3) A small trial was established where Stylosanthes hamata was sown on undisturbed soil. Mr. Ekbote reported germination took place in June and seedlings were still present in July. But an intensive search during field inspection yielded no result. No traces of Stylo plants could be observed. It is difficult to make a definite judgement at this stage but when comparing the rather vigorous growth of young Stylo seedlings in furrows and completely ploughed and



prepared areas, it seems that an establishment without soil preparation and directly on the native pasture sward, may present difficulties. Further sowings should be done - and hopefully have already been done following the good rains received during our inspection on the 22nd of September - and close observations should be made whether *Stylos* will germinate and establish under these conditions. These small sites should be clearly marked for positive identification.

(4) Fertilizer trials using phosphatic fertilizers were established on rather flat land. However, in practice we need to know whether phosphates would be beneficial for safer establishment of species in pasture furrows where soil moisture has accumulated.

(5) Additional pasture production - both from indigenous and introduced *Cenchrus* species - was clearly visible along pasture furrows and mounds and on prepared grass beds. We can firmly state that this extra production results from accumulated soil moisture gained by the structural improvements. The increase in production is estimated to be 300 to 400%. But this observation should be confirmed by production cuts on each site for comparison purposes.

(6) It is obvious that, with increased efforts on pasture demonstrational and experimental work, careful observations and systematic evaluations are needed in order to clearly state which methods of establishments and which species are superior. It is suggested that Mr. Ekbote and his team must spend considerably more time in taking these field observations and in compiling the results in a very systematic manner. I suggest during my proposed visit in November we should spend at least two or three days together at this site solely for the purpose of collecting and compiling more detailed observations and results.

#### (ii) Parner Site

Very little rainfall has been received at Parner - 120 mm so far. *Stylo* introductions in furrows under open grazing conditions showed some promise.

Similar trends in pasture production could also be observed at this site, namely the effects of increased soil moisture along furrows and mounds. This aspect of increased production in the drier years along these favoured sites is one of the basic philosophies behind the ongoing pasture development programme.

### D : SHEEP DEVELOPMENT

#### (i) Grazing Management at Parner

The grazing pattern at the point of entry into the

pasture plot showed severe overuse. Similar observations were made in 1977. It is very essential that shepherds accompanying the flocks should not keep sheep for excessive periods at the entry points of the pasture plots. Shepherds must be told and be educated why this grazing pattern is detrimental. Unit Managers should give particular attention to the aspect of uneven grazing at Parner.

(ii) Supplementary Feeding

Earlier in the year urea and molasses were successfully fed to sheep by spraying the mixture onto roughage feed otherwise not very palatable. Apparently these feeding trials were discontinued due to supply difficulties. However, during our discussions it did not clearly emerge whether supplementary feeding was practicable and economically justifiable. No data were presented and the Sheep Service Centre Manager should write up a summary stating all facts and results achieved. This is important as this type of supplementary feeding seemed to be readily acknowledged by the local farmers and it would have wide applications in other areas on the Deccan Plateau.

(iii) General Extension Work

From discussions with local sheep farmers it appeared they have not yet fully understood the significance and value of improved pastures. We also gained the impression that Animal Husbandry staff under the Sheep Service Centre Manager have not intensively visited other pasture development plots in order to gain first hand knowledge of the new promising pasture species. It is strongly felt to improve this situation, firstly by training the local Animal Husbandry Department staff and to make them fully aware of the importance of pasture development and pasture management practices; and, secondly to pass on this knowledge to farmers of the already established societies as well as to farmers in the surrounding villages. There is wide scope to intensify extension work by holding small field days and practical discussion sessions with all farmers concerned. It appeared very little efforts have been attempted in highlighting the combined pasture and sheep development programme to them and to village leaders.

(iv) General Discussions -  
Pasture/Livestock Programme

Animal Husbandry Department officers have so far established 5 Sheep Breeders' Cooperative Societies and another 4 are to be added in accordance with the decision taken in 1977. However project staff seemed to be hesitant to go beyond more societies than nine. It was specifically asked whether the Department had any

alternative and better scheme for the development of sheep in the district. Apparently no other plans have been formulated. The open question is therefore how to make full use of all developed pastures. Similarly as in the Sholapur district additional Sheep Breeders' Cooperative Societies could be formed in a phased manner.

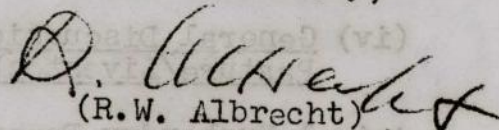
Many more thousands of ha of land could be identified and developed under a pasture development programme for use by all classes of livestock. Admittedly a substantial portion of these lands may be privately owned. However, this should not be an obstacle to an all out attack on a general improvement of degraded original pasture land. This will require a greatly intensified and very closely coordinated programme by the Forestry, Animal Husbandry and Agriculture Departments. It is felt time has now come to take a much broader outlook and a bolder step for the large scale implementation of a pasture/livestock development programme. If action along these lines is not planned and implemented, then within the next decade severe shortages of feed and much further deteriorated grazing lands and animals will be the consequences. Please discuss these aspects further with your staff and the respective Departments concerned for formulation of some specific action programmes in the near future.

**E : PROPOSED FIELD DAY**

As discussed during our recent visit a more detailed field inspection for all DPAP staff is planned in the Ahmednagar and Sholapur districts some time in mid or late November. Our Assistant Commissioner, Mr. D.S. Mehra, will coordinate this programme. Let us know your more definite plans and a tentative programme for these field visits.

Please accept again our appreciation for all arrangements made during our recent project inspections and meetings with your staff. Looking forward to see you at the forthcoming meeting in Bombay and later in November for my follow-up visit to Ahmednagar.

Yours sincerely,

  
(R.W. Albrecht)

Mr. S. Bagchee,  
Executive Director,  
Drought Prone Areas Programme,  
Ahmednagar (Maharashtra).

(10 copies for distribution to DPAP Forestry & Animal Husbandry staff.)

Copy also forwarded to:-

(No. of)  
(Copies)

1. The Collector,  
Ahmednagar (Maharashtra) 1
2. Shri G.B. Dasputre,  
Chief Conservator of Forests,  
Forestry Department,  
Poona (Maharashtra) 2
3. Shri C.M. Joshi,  
Additional Chief Conservator  
of Forests, Forestry Department,  
Poona (Maharashtra) 2
4. Dr. S.P. Phadke,  
Director, (Attn: )  
Animal Husbandry Department, (Dr.N.M.Jangure)  
Poona (Maharashtra) 2
5. Shri P.G. Salvi,  
Secretary,  
Forests & Revenue Department,  
Govt. of Maharashtra, Mantralaya,  
Bombay. 1
6. Shri J.N. Gupta,  
Secretary,  
Animal Husbandry Department,  
Government of Maharashtra, Mantralaya,  
Bombay 1
7. Shri V. Venkatesan,  
Secretary,  
Planning Department,  
Govt. of Maharashtra, Mantralaya,  
Bombay. 1
8. Dr. P.D. Makasdar,  
Jt. Director,  
Animal Husbandry and  
Ex-Officio Dy. Secretary, Govt. of  
Maharashtra, Animal Husbandry Deptt.,  
Mantralaya, Bombay. 1
9. The Director,  
Project Preparation & Area Planning Cell,  
Old Customs House, Dte. of Economics and  
Statistics, Bombay (Maharashtra). 1  

(Attn. Sh. D.M. Khare, )  
(Animal Husbandry Specialist)
10. Mr. Gabriel Tibor,  
Chief Division C,  
World Bank Office,  
1818-H Street,  
Washington DC 20433 (U.S.A.) 2

(For Officers dealing with DPAP)

(No. of)  
(copies)

11. World Bank Resident Mission,  
55, Lodhi Estate,  
New Delhi. 1  
(Copy for DPAP file)
12. Jt. Secretary (DPAP), New Delhi. 1
13. Dy. Secretary (DPAP), New Delhi. 1
14. Dy. Commissioner (Livestock), New Delhi. 1
15. Assistant Commissioner (E.A.), New Delhi. 1

Copies also forwarded to:-

- \* 1. Shri K. Satya Raju,  
Project Administrator,  
Drought Prone Areas Programme,  
Anantapur (A.P.) 5
- \* 2. Shri Shantamu Consul,  
Project Director,  
Drought Prone Areas Programme,  
Bijapur (Karnataka) 5
- \* 3. Shri R.S. Deodhar,  
Executive Director,  
Drought Prone Areas Programme,  
Sholapur (Maharashtra) 5

\* (For information only and  
distribution to field staff).

*Pk Bhatia*

(P.K. Bhatia)

P.A. to World Bank Adviser, DPAP.

Rajasthan

In. credit 526  
Oct. 13, 1978

IDA PROJECT REPORT D.P.A.P. REVIEW

In the original Project Report total expenditure envisaged was about Rs.174 million from January, 1975 to 30.6.80. Of the total project cost about Rs.118 million was to come from the budgetary outlays and Rs.56 million from institutional source (these figures are inclusive of a provision of 69% for price escalation). The details are given at Annexure - I. On the basis of the experience of execution of IDA Project for 3 - 1/4 years. It appears that budgetary expenditure on items envisaged in the Project Report would be about Rs.94 million, including following proposals submitted during the last review meeting.

- \* 1) Additional Chilling Plant and related input one each in Jodhpur and Nagaur Districts.
- \* 2) Additions to Dairy Plant.
- \* 3) Hydrogeological survey of Lunibasin.
- ← 4) Electrification Programme.

Details are given in Annexure-III. The amount required for completion of targets from institutional source is likely to exceed than the targeted outlay.

A comparison of sets of figures given in Annexure-I & IIIA & IIIB shows the following differences.

1) Minor Irrigation :- Under this sector budgetary outlay of Rs.14.9 million will be required. Against Project estimates of Rs.8.9 million from budgetary resources

The difference is mainly on account of subsequent world bank approval to allow staff cost to be charged to the Project Account and inclusion of Hydrogeological investigation in Luni basin.

2) Agriculture :- Under soil and moisture conservation and dry land farming likely expenditure required has been projected as Rs.16 million against the Projects estimates of Rs.35 million envisaged in the Project cost. The difference is on account of large scale reduction of soil survey parties which has resulted because of stopping soil survey work in new areas. Difference is also on account of the fact that earlier estimate included soil conservation works of about 15 million, but the soil conservation works likely to be sanctioned out of D.P.A.P. are of the order of 3.2 million only because of our decision that new soil conservation work would be taken under Desert Development Programme in 1978-79 onwards. Since the cost of soil conservation works is non reimbursable item, therefore the reimbursement from world bank would not be effected.

.....2..

3) Sheep and Pasture Development :- Under Sheep and Pasture Development Budgetary requirement is 11.4 million against the Rs.27 million for Sheep and Pasture Development because of the fact that the handing over of possession of plots is being resented by the local people coupled with the delay in preparation of Project Report of Ram Multiplication Farm. Pasture Development Programme was not taken up except maintenance of Dry Pasture.

The larger difference in the estimates are on account of the fact that the work is not being taken up, in the districts other than Jodhpur and Nagaur (namely Churu & Jalore) which were earlier included in the intensive Sheep Development Project and also forms part of the Project estimates submitted to the World Bank as envisaged in the project agreement.

4) Cattle and Dairy Development :- Against Rs.31.25 million envisaged in the Project Report budgetary outlay required are of the order of Rs.18.23 million (including additional proposals regarding additional Chilling Plant one each in Jodhpur and Nagaur and additions to Jodhpur Dairy). Difference is mainly on account of the fact that against the provision of Rs.10 million for Milk transportation subsidy the expenditure was negligible and coupled with the fact that staff was recruited late. This has resulted in considerable savings. Further, operational staff on Chilling Plant e-tc. is not being funded out of the Project cost. As also the price escalation has been below to the expectation.

In case of Dairy Development Milk procurement has been considerably hampered because of the inadequate and inaccessible roads conditions linking various milk potential villages. As a result of poor road conditions the milk collections on routes where only four wheel drive vehicles are required for transportation has resulted in low milk procurement. It has, therefore, been proposed that the milk routes recently sanctioned by Government of India to enhance the milk procurement be included in the Project Report. Similarly, the targets of concentrate distribution could not be achieved because of the non availability of the concentrate feed. The demand for concentrate feed is very high. This has compelled the Government to decide to take up a feed mix plant of 100 tonnes capacity per day at Jodhpur. This may also be included in the IDA Project.

Under the Project management and updating of land records the likely budgetary requirement is Rs.4.69 million against the estimates of 5.42 million in the project report.

The expenditure on land records has been lower than the expected while there has been an increase in expenditure in case of Project management on account of need for office building. The expenditure on District core funds has already been merged with the expenditure on subsidy under various sectoral <sup>scheme</sup> ~~scheme~~ and very little additional amount would be required.

With the projected expenditure outlined above the reimbursable amount over the project period would be about Rs.53.32 million as against Rajasthan eligibility of about Rs.63 million in the Project Agreement.

In view of the above it will be seen that budgetary outlays required for the Project period would be about 94.06 million and that of the reimbursable amount Rs.53.32 million. Thus, there would be a shortfall in budgetary outlays of about Rs.26 million and Rs.10 million of reimbursable amount.

Additional proposals which appear necessary for further progress of the project have therefore been proposed in such a manner that no reimbursable amount is lost. The total budgetary requirement on these proposals would be of 22.5 million. With the reimbursable amount being Rs.18 million. Thus proposals are given below :-

(Rs. in million)		
Item	Estimated cost	Reimbursable amount
1) Feed Mix Plant	7.5	6.0
2) Milk Routes	15.0	12.0

With the addition of these two items and the clearance of Rural Electrification which is pending for final decision by the World Bank. The reimbursable amount is likely to exceed 63 million eligibility for Rajasthan. Hence, it is suggested that these additional proposals may kindly be agreed and the reimbursement for these two above mentioned project may be subject to the availability of savings of reimbursable amount of other states beyond Rs.63 million for the Project period.

Basantani.  
13.10.1976



ANNUAL PLAN 1978-79

Details of budgetary outlays for 78-79 are given below:-

<u>Sector</u>	<u>Jodhpur</u>	<u>Nagaur</u>	<u>Total</u>
1. Agriculture	28.97	28.06	57.03
2. Ground Water	18.02	2.08	20.10
3. Sheep Development	29.78	23.80	53.58
4. Dry Pasture Development	0.35	0.28	0.63
5. Dairy Development	29.58	13.88	43.46
6. Land Records	0.66	0.45	1.11
7. Project Management.	8.81	4.92	13.73
8. Subsidies.	26.13	19.73	45.86
Total:-	<u>142.30</u>	<u>93.20</u>	<u>235.50</u>

Details of Physical & Financial Progress is given in Annexure II.

Agriculture:- Since, the area under Soil Survey has exceeded the area under topographical survey it has already been decided to discontinue the topographical survey in the current financial year. However, soil survey in 4000 hect. in Jodhpur and 14000 hect. in Nagaur would be carried out during the current financial year in order to complete the watershed reports of the area already covered under topographical survey. As regards watershed management Rs.5 lacs each in jodhpur and Nagaur has been provided for soil and water conservation works. Besides this, Rs.10.23 laos in jodhpur and Rs.2.18 lacs in Nagaur are available for completion of the watershed plants sanction<sup>ed</sup> in 77-78. Work in 6 watershed in Nagaur & 5 in Jodhpur <sup>are</sup> in Progress.

Dry land farming demonstration would be continued in Nagaur District and the programme has also been extended in Jodhpur. 320 dry land farming demonstration each in Jodhpur & Nagaur are planned for 78-79.

Sheep and Pasture Development:- The programme of Sheep and Pasture Development in the current year is restricted to the development of plots already taken into possession. However, attempts would be made to complete the project targets. The funds provided<sup>in 78-79</sup> are for completion of the identified 76 plots in Jodhpur and Nagar District. Up the end of Aug. 78, 23 plots in Jodhpur & 27 plots in Nagaur have been developed.

A taken provision of Rs. 5 lacs has been kept under sheep and pasture development for establishment of a Ram Multiplication Farm. Project Report for the same has been received and is being examined in the State Government.

Rs. 1.80 lacs have also been provided for Development of Private Pasture plots in 400 hect each in Jodhpur and Nagaur.

Minor Irrigation:-

Rs. 8.34 lacs have been provided for continuing the ground Water programme in jodhpur and Nagaur District. It is targeted of drilling 70 M.D.T. tubewells in jodhpur and 16 MDT in Nagaur. Besides, 410 dug cum bore wells and deepening of wells by blasting. Upto Aug. 78, 23 M.D.T. 28 Dug Cum bore wells and 101 DC.BT have been the achievement.

Hydrogeological Investigation:-

In jodhpur Hydrogeological Investigations in Luni Basin would be continued. A sum of Rs.11.76 lacs is available for this purpose. The achievement upto Aug.78 has more than 50% in case of well inventories and analysis of water samples. However progress in respect of exploratory wells and geophysical soundings was nil.

Cattle & Dairy Development:-

The work of two additional chilling plant one each at Phalodi & Nagaur is in progress. A sum of Rs. 24 lacs ( 19 lacs for Phalodi and 5 lacs for Nagaur) are provided for investment cost besides Rs.2.50 lakh for phalodi and Rs.2.34 lacs for Nagaur are provided for inputs for new chilling plants, at jodhpur and Nagaur respectively. The balance of Rs.12.62 lakh for inputs for Merta Chilling Plants & for Jodhpur Dairy.

Project Management:-

A sum of Rs.8.81 lacs in Jodhpur and 4.92 lacs in Nagaur are provided for Project Management during the current financial year, these would be utilised.

A sum of Rs.19.73 lakh in Nagaur and Rs.26.13 lakh in jodhpur are provided to cover the cost of assistance to be provided to small and marginal farmer and agriculture Labourers on SFDA Pattern.

Besides this, the Funds have also been provided for Minor Irrigation works (Tanks & Khadeens ) and Managerial subsidy for providing full time Managers in Primary agriculture credit societies & a pilot Project for development of Agriculture. These Programme have not been included in I.D.A. assisted programme.

.....

Shiv  
13.10.78

## ANNEXURE I

(Rs. Million).

Sector	Jodhpur			Nagaur		I.F.
	Total	Govt.	IF	Total	Govt.	
1. Minor Irrigation	26.77	7.87	18.90	13.35	1.00	12.35
2. Soil Conservation	15.90	15.90	-	16.74	16.74	-
3. Dry Land Farming	-	-	-	5.78	2.78	3.00
4. Sheep Development	2.53	2.53	-	8.66	8.66	-
5. Pasture Development	6.71	6.71	-	9.17	9.17	-
Dairy Development	39.71	23.26	16.45	13.56	7.99	5.77
7. Updating of Land Records	1.69	1.69	-	2.11	2.11	-
8. Project Management	0.81	0.81	-	0.81	0.81	-
9. District core funds	5.00	5.00	-	5.00	5.00	-
Total :-	99.12	63.77	35.35	75.18	54.26	20.92.

\*Kim\*/  
13/10/

DISTRICT DEVELOPMENT AGENCY, JODHPUR

PROJECT COST & TARGET

Sector/Item	Unit	Physical Progress													Financial Progress (Rs. in lakh)		
		Original	Revised	1978-79											Expenditure	Outlay	
		(Tentative)	(Rs. in lakh)	Completed till March '78	Revised Target	Completed till March '78	Revised Target	Completed till March '78	Revised Target	Completed till March '78	Revised Target	Completed till March '78	Revised Target	Completed till March '78	Revised Target	Completed till March '78	Revised Target
				1	2	3	4	5	6	7	8	9	10	11	12	13	14
<b>I. MINOR IRRIGATION:</b>																	
<b>A. Ground Water Development.</b>																	
i) M.D.T.	No.	113	200		31.50					94	70	14					
ii) C.A.D.	Hect.	2260			30.30												
iii) D.C.B. Well	No.	300	185		59.10	64.07				125	30	22					2.37
irrigated Area	No.	3600															
iv) D.C.B.T. Well Irrigated Area	No.		550							258	280	98					
v) Rigs	No.	2	2														
vi) Establishment & Equip.	No.				37.50					1							6.26
<b>Sub-Total I</b>					158.40	64.07							50.81	13.26			6.26
vi) Failure cost under SFDA	No.								4.86	20				1.52			2.20
<b>Sub Total II</b>									4.86	20				1.52			2.20

contd...2..

(2)

	1	2	3	4	5	6	7	8	9	10	11	12	13
<u>LUNIT BASIN SCHEME</u>													
i) Well inventories	No			2500			485	1000	686				
ii) Chemical Analysis	No			2500			289	1000	635				
iii) Geophysical sounding	No			250				125					
iv) Exploratory Test	No			60				30					
v) Pump Testing	No			24		320.00		6		2.01	29.99	11.76	1.58
vi) Staff & equipment	No												
Sub Total I					158.40	100.93				54.44	26.89	20.22	3.95
											46.49		

<u>II AGRICULTURE</u>													
a) Soil Conservation													
i) Reconnaissance Survey	000 Ht.	2250		322.40	8.49		322.40						
ii) Detailed Survey	000 H			116.00			112.00	4					
iii) Agro Economic Survey	000H			116.00			94.30			41.50	140.97		
iv) Topographical Survey	000 H	120		59.80			59.80						
v) Execution of Water shed	Hect.	15000		13850*	30.00	17.24		6350	288		17.24		5.48
vi) Estt. & Equipment					55.57	65.23					11.73		
b) Dry Farming Demonstration	No							250	167				
Sub Total IV				94.36	82.47	94.06				41.50	40.97	28.97	5.48

<u>III FORESTRY</u>													
Maintenance of 8 old Dry pasture.	Hect.	16000	1220	39.70	3.86		1220	1220		3.16	0.70	0.35	0.07

\* Work in \* 7000 hect. would be funded out of D.D.P. in 78-79.

contd..3

1  
2  
3  
4  
5  
6  
7  
8  
9  
10  
11  
12  
13

IV. SHEEP DEVELOPMENT

a. Estt. of 100 Hect. Pasture plot.	No	45	45	-	39	-	23	-	-	25.88
b. Estt. of 10 hect. plot	No	50	800 (ha.)	-	-	-	-	-	-	0.90
c. Ram Multiplication Farm	NC	1	-	-	60.96	-	-	-	-	5.00
d. Sheep Societies	No	45	45	14.99	22	17	-	-	-	-
e. Service centres	No	1	-	-	-	1	-	-	-	-
f. Consulting Services	No	1	-	-	-	1	-	-	-	-
Sub -Total VI			14.99	60.96	60.96		31.10	29.78	29.78	2.94

V. DAIRY DEVELOPMENT

a) Spear Head Team	No	3	4	-	3	1	-	-	-	-
b) Primary Societies	No	120	180	-	156	160	157	-	-	-
c) Mobile vety, Unit	No	3	4	-	3	1	-	-	-	-
d) A.I. Centre	No	1	2	-	1	-	-	-	-	3.03
e) Distribution of M. Cattle	13500	4000	-	-	667	1500	81	-	-	50.43 29.58
f) Calf rearing centre	No	1	-	-	-	-	-	-	-	-
g) Chilling Plant	No	1	2	-	-	1	In progress	-	-	-
Sub Total VII			4.81	234.94	94.92	44.49	50.43	29.58	3.03	

VI. PROJECT MANAGEMENT

VII. UPDATING OF LAND RECORDS	No	-	-	10.00	2.10	196	56	20	0.78	1.40	0.56	0.27
VIII. Subsidies (SFDA)	-	-	-	-	58.11	-	-	-	3.46	54.65	23.93	1.63
IX. Power	-	-	-	-	100.00	-	-	-	77.00	23.00	-	-

GRAND TOTAL

			556.90	520.17	267.94	260.23	142.30	18.74				
--	--	--	--------	--------	--------	--------	--------	-------	--	--	--	--

kutty/  
13.10.78

DISTRICT DEVELOPMENT AGENCY, NAGPUR PROJECT COST & TARGETS

Sector/Scheme	Unit	Physical Target		Project Cost		Physical Progress		Financial Progress		Exp. upto Aug. '78
		Original	Revised (Tentative)	Original	Revised	Target	Actual	Funds needed	Outlay	
			(Rs. in lakh)			March '78	Aug. '78	March '78	78-79	
<b>I. Minor Irrigation:</b>										
a) Tubewells	No.	59	24.30	34	16	12	11	38.50	2.08	0.76
b) C.A.D.	Hect.	1180	16.00	49	30	6	12	5.26	2.08	0.76
c) D.C.B	No.	125	17.00	159	50	5	11	43.76	2.08	0.76
d) D.C.B.T.	Hect.	1250	21.70	1	1	1	1	38.50	2.08	0.76
e) Rig	No.	1	9.64	1	1	1	1	9.64	2.08	0.76
f) Establishment	Rs.		79.00	48.44				43.76	2.08	0.76
Sub-Total-I			79.00	48.44				43.76	2.08	0.76
<b>II. AGRICULTURE:</b>										
a. Soil Conservation:	Lac Hect.	17.67	6.61	2.86	14	2.17	23.97	34.94	28.06	5.35
a. Soil Survey (Reconn.)	000 Hect.	85.81	58.91	85.81	2929	568	15.32	0.03		
b. Detailed Survey	Hect.	15000	35.00	59.8	310	320	9.74	0.74		
c. Establishment	000 hect.	120	34.22	2.48	320	320	35.71	41.03	28.06	5.35
d. Soil Cons. Works	No	450	76.74	133.28						
e. Topographic survey										
f. Dry Farming										
g. Demonstrations										
Sub-Total: IV			133.28							

\* work in 7000 hect would be funded out of D.D.P. in 78-79

Kuttu  
13.10.78

	1	2	3	4	5	6	7	8	9	10	11	12	13
III. FORESTRY:													
IV. Pasture Development													
a. Dry Land Pasture					35.65	3.76	441	441	441	3.16	0.60	0.28	0.06
b. Staff Estt.					18.60								
					54.25	3.76				3.16	0.60	0.28	0.06

V. Sheep Development													
a. Estt. of 100 hect. Pasture Plot.	No	45		45	14.63	31.48	24	16	2	17.31	14.10	21.40	
b. Estt. of 10 hect. P. Plots	No/Hect.	50	800			1.80		16/400			1.80	0.90	
c. Estt. of Sheep Societies	No	45	45		3.60	5.00	23				5.00		3.06
d. Ram Multiplication farm	No						20						
e) Staff Estt & Equip.	No	693			33.00	7.37				4.27	3.10	1.50	
Sub-Total					51.23	45.58				21.58	24.00	23.00	3.06

VI. Dairy Development													
a. Spearhead Team	No	1	2			10.58	1	2	1	4.14	6.44		
b. Primary Societies [DCS]	No	40	80		15.40	2.00	41	21	1	1.19	0.81		
c. Mobile vet unit	No	1	2			5.09	1	2	1	1.61	3.48		
d. Distribution of Milch Cattle	No	4400	1200		26.70		172	5	59			13.88	0.57
e. Chilling Plant	No	1	2		23.00	41.86	1	2	1	56.81	12.94		
f. Additional Dairy					15.09	27.89							
					80.19	87.42				63.75	23.67	13.88	0.57
VII Project Management					4.01	18.68				10.54	8.14	4.92	1.40
VIII Updating land record					12.50	1.35				0.42	0.93	0.45	0.09
IX Power						100.00				67.00	33.00		
X Subsidies						30.83				2.87	27.96	19.73	2.86
Grand Total						412.50				248.79	163.71	93.20	14.15

kutty/  
13.10.78



## J O D H P U R D I S T R I C T

S.No. Sector/Item	Progress upto 74-78 Expenditure Reported	1978-79		1979-80		Grand Total
		Outlay	Total Reimbursement	Total Reimbursement	Total Reimbursement	
1. Minor Irrigation	54.44	18.04	20.22	13.16	25.23	100.93
2. Soil Conservation & Dry Farming	41.50	16.59	28.97	7.04	12.00	82.47
3. Sheep & Pasture Dev.	31.18	18.84	29.78	19.10	-	60.96
4. Dry Pasture Development	3.16	0.35	0.35	0.21	0.35	3.86
5. Dairy Development (44.46)	44.54	29.05	29.58	24.40	20.85	94.92
6. Uptodating of Land Record	0.78	0.66	0.66	0.40	0.74	2.18
7. Project Management.	11.93	6.64	8.81	7.04	4.00	24.74
8. Power	70.00	-	-	-	39.00	109.00
9. Subsidies	3.46	19.15	23.93	-	30.72	58.11
10. Distt. Core funds	-	-	-	-	-	-
Total:-	260.94	109.32	142.30	71.35	124.93	528.17
					58.34	288.23

@ Reimbursement claims for power are to be sent.

£ Claims sent from Jodhpur and proportionately distributed in Jodhpur & Nagaur for Rigs.

Shdy  
13.10.78

## ANNEXURE III B

(Rs. in lakh)

## NAGGAUR DISTRICT

Sector/Item	1974-75		1978-79		1979-80		Grand Total
	Exp.	Reim.	N.R. Saving	Outlay	Total	Reim.	
	Progress upto						
	1974-75						
	Reported	Reim.					
	2	3	5	4	8	9	10
1. Minor Irrigation	43.76	27.78	-	2.08	2.30	1.38	48.14
2. Soil Conservation	35.74	22.43	10.48	28.06	12.97	8.52	76.74
3. Dry Farming	-	-	-	-	-	-	-
4. Sheep Development	21.58	17.16	11.08	12.72	0.20	0.16	45.58
5. Pasture Development	3.16	1.90	-	0.28	0.32	0.17	3.76
6. Dairy Development	63.75	49.19	1.52	12.36	9.79	7.18	87.42
7. Land Record	0.42	0.24	-	0.45	0.48	0.30	1.35
8. Project Management	10.54	7.74	0.14	4.78	3.22	1.93	18.68
9. Power.	60.00 (67.00)	38.20	-	-	33.00	18.80	100.00
10. Subsidies.	2.87	-	8.93	19.73	8.23	-	30.83
11. Direct, Core fund.	-	-	-	-	-	-	-
Total:-	248.79	164.64	32.15	93.20	70.51	38.46	412.50
	248.79	164.64			70.51		245.02

@ Reimbursement claims for Power are to be sent £ claims sent from Jodhpur proportionately distributed in Jodhpur & Paggur for Rigs.

Sl. No. 10.78

R.W. ALBRECHT  
World Bank Adviser(DPAP)

D.O. No.75/9.

Government of India  
Ministry of Agriculture & Irrigation  
Department of Rural Development

-----  
Krishi Bhavan, New Delhi.

Dated, the 9th October, 1978.

Dear Mr. Bagchee,

DISCUSSIONS AND FIELD INSPECTIONS -  
PASTURE AND LIVESTOCK DEVELOPMENT -  
VISIT TO AHMEDNAGAR DISTRICT -  
11TH & 12TH and 21ST & 22ND SEPT.,  
1978.

Herewith a summary of the major points we discussed with yourself and staff of the Forestry and Animal Husbandry Departments.

A : PASTURE SEED MULTIPLICATION

(i) Baragaon Nandur Site

The seed multiplication nurseries near Rahuri are now very well established. Both at the old and new site the standard of work has greatly improved and 2.6 & 1.4 ha of land respectively are established. Excellent stands of Stylosanthes hamata, S. scabra, some S. humilis, Siratro and the three new Cenchrus strains have been planted. Maintenance of the areas is of satisfactory standard. These good efforts should be continued by the Forestry staff.

(ii) Lohgaon Site

Up to date of inspection only 125 mm of rain was received during this season. The superiority of Cenchrus grasses over other perennial indigenous grasses stood out clearly during the prevailing droughty periods. The superior growth and the ability to produce more and greener shoots despite prevailing drought conditions, clearly indicate that Cenchrus species are superior grazing plants. Administrators or scientists who may still have apprehensions about the suitability of Cenchrus species for the programme of pasture development should be shown over the Lohgaon site. Their doubts would readily disappear by actual field observations.

It was noted that 300 kg of seed has been collected at Lohgaon this season.

At the irrigated site near Lohgaon the efficiency of water application could be increased as already pointed out in my last tour note. The supply channels are still unlined and water application to the individual seed beds could be improved by decreasing the slopes and planting of additional seeding material in the water distribution furrows. Such plantings would minimize erosion and the effective area under seed multiplication would be increased.

**B : IRRIGATED FODDER DEVELOPMENT**

We briefly inspected a small demonstrational plot comprising 1/5 ha near Thergaon. This site and other similar demonstrations are conducted by the staff of the Animal Husbandry Department in connection with the Dairy Development Programme.

Leucaena glauca (Kubabul) is exclusively planted for demonstration purposes. Planting of 40,000 trees /ha (this means 4 trees /<sub>m</sub><sup>2</sup>) appears to be much too dense.

The planting technique could be improved by removing the polythene bags from the seedlings before transplanting them into the field. If not removed, these bags will severely restrict early root development.

When talking to the local field officer-in-charge it appeared little attention is being paid to the collection of economic data. It is most important that field staff should obtain accurate information on establishment and maintenance costs and compare them to the value of green fodder production from Kubabul trees. The system of data collection seems to be poorly organised and the Chief Veterinary Officer is advised to look into this matter.

At this stage we do not know whether Kubabul trees are the best choice for the planned fodder development programme under all conditions. Under full irrigation other fodder crops - possibly the tropical legume Siratro - could yield larger quantities of high protein feed. Input requirements for Siratro would be less and there is no risk of poisoning from alkaloids. We should be completely open minded in selecting the most suitable fodder crops and should test a number of fodder crops side by side for proper and practical evaluations.

**C : PASTURE DEVELOPMENT**

(1) Karjat Plot

Two hundred ha were planted for pasture development

in the current 1978 season. Generally the work was of good standard and it will assist and encourage us to go ahead with a large scale programme of pasture development on the Deccan Plateau. The main features inspected and discussed were:-

(1) Stylosanthes hamata and S. scabra were established in small areas of about 1/10 hectare. The land was completely double ploughed and harrowed in order to achieve an ideal seed bed. Stylo plants responded extremely well and grew to a height of approximately 30 cm with strong and vigorous branching habits. Costs for this type of land preparation were given as approximately Rs.500/- /ha. The established stand of Stylos should now be used for seed collection.

When realistically assessing the future potential of this type of land preparation we should, however, keep in mind these comparatively high costs and the practicability of this method under a proposed large scale development scheme. Costs of this magnitude may be prohibitive when applied to entire 100 ha plots. On the other hand restricted and smaller pieces of land may be suitable for this kind of intensive land preparation. Nevertheless, these experimental plantings clearly show the tremendous scope of Stylosanthes hamata under local soil conditions and rainfall received (200 mm). It could be conceived in a future programme that the better sites with deeper and more fertile soil could be similarly treated and these sites could be managed for special purposes such as supplementary grazing for flushing of ewes, green feeding of rams and young lambs, or for hay making purposes.

(2) Evaluation of the new pasture species was done in strips on established furrows. Both Stylosanthes hamata and S. scabra as well as Siratro looked rather promising. The question was raised whether or not weeding practices should be adopted. Our experience in Sholapur shows that spot weeding of selected introduced pasture species ensures a better success. However, weeding must be done at the active growth stage and when soil moisture is available. There is little purpose in weeding under dry conditions. The weeded material should be left in the furrows or mounds and grass beds for mulching purposes.

(3) A small trial was established where Stylosanthes hamata was sown on undisturbed soil. Mr. Ekbote reported germination took place in June and seedlings were still present in July. But an intensive search during field inspection yielded no result. No traces of Stylo plants could be observed. It is difficult to make a definite judgement at this stage but when comparing the rather vigorous growth of young Stylo seedlings in furrows and completely ploughed and

prepared areas, it seems that an establishment without soil preparation and directly on the native pasture sward, may present difficulties. Further sowings should be done - and hopefully have already been done following the good rains received during our inspection on the 22nd of September - and close observations should be made whether Stylos will germinate and establish under these conditions. These small sites should be clearly marked for positive identification.

(4) Fertilizer trials using phosphatic fertilizers were established on rather flat land. However, in practice we need to know whether phosphates would be beneficial for safer establishment of species in pasture furrows where soil moisture has accumulated.

(5) Additional pasture production - both from indigenous and introduced Cenchrus species - was clearly visible along pasture furrows and mounds and on prepared grass beds. We can firmly state that this extra production results from accumulated soil moisture gained by the structural improvements. The increase in production is estimated to be 300 to 400%. But this observation should be confirmed by production cuts on each site for comparison purposes.

(6) It is obvious that, with increased efforts on pasture demonstrational and experimental work, careful observations and systematic evaluations are needed in order to clearly state which methods of establishments and which species are superior. It is suggested that Mr. Ekbote and his team must spend considerably more time in taking these field observations and in compiling the results in a very systematic manner. I suggest during my proposed visit in November we should spend at least two or three days together at this site solely for the purpose of collecting and compiling more detailed observations and results.

(ii) Parner Site

Very little rainfall has been received at Parner - 120 mm so far. Stylo introductions in furrows under open grazing conditions showed some promise.

Similar trends in pasture production could also be observed at this site, namely the effects of increased soil moisture along furrows and mounds. This aspect of increased production in the drier years along these favoured sites is one of the basic philosophies behind the ongoing pasture development programme.

D : SHEEP DEVELOPMENT

(i) Grazing Management at Parner

The grazing pattern at the point of entry into the

pasture plot showed severe overuse. Similar observations were made in 1977. It is very essential that shepherds accompanying the flocks should not keep sheep for excessive periods at the entry points of the pasture plots. Shepherds must be told and be educated why this grazing pattern is detrimental. Unit Managers should give particular attention to the aspect of uneven grazing at Parner.

(ii) Supplementary Feeding

Earlier in the year urea and molasses were successfully fed to sheep by spraying the mixture onto roughage feed otherwise not very palatable. Apparently these feeding trials were discontinued due to supply difficulties. However, during our discussions it did not clearly emerge whether supplementary feeding was practicable and economically justifiable. No data were presented and the Sheep Service Centre Manager should write up a summary stating all facts and results achieved. This is important as this type of supplementary feeding seemed to be readily acknowledged by the local farmers and it would have wide applications in other areas on the Deccan Plateau.

(iii) General Extension Work

From discussions with local sheep farmers it appeared they have not yet fully understood the significance and value of improved pastures. We also gained the impression that Animal Husbandry staff under the Sheep Service Centre Manager have not intensively visited other pasture development plots in order to gain first hand knowledge of the new promising pasture species. It is strongly felt to improve this situation, firstly by training the local Animal Husbandry Department staff and to make them fully aware of the importance of pasture development and pasture management practices; and, secondly to pass on this knowledge to farmers of the already established societies as well as to farmers in the surrounding villages. There is wide scope to intensify extension work by holding small field days and practical discussion sessions with all farmers concerned. It appeared very little efforts have been attempted in highlighting the combined pasture and sheep development programme to them and to village leaders.

(iv) General Discussions -  
Pasture/Livestock Programme

Animal Husbandry Department officers have so far established 5 Sheep Breeders' Cooperative Societies and another 4 are to be added in accordance with the decision taken in 1977. However project staff seemed to be hesitant to go beyond more societies than nine. It was specifically asked whether the Department had any

alternative and better scheme for the development of sheep in the district. Apparently no other plans have been formulated. The open question is therefore how to make full use of all developed pastures. Similarly as in the Sholapur district additional Sheep Breeders' Cooperative Societies could be formed in a phased manner.

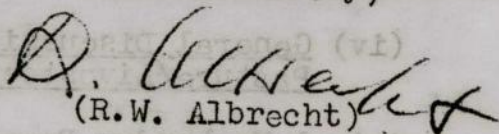
Many more thousands of ha of land could be identified and developed under a pasture development programme for use by all classes of livestock. Admittedly a substantial portion of these lands may be privately owned. However, this should not be an obstacle to an all out attack on a general improvement of degraded original pasture land. This will require a greatly intensified and very closely coordinated programme by the Forestry, Animal Husbandry and Agriculture Departments. It is felt time has now come to take a much broader outlook and a bolder step for the large scale implementation of a pasture/livestock development programme. If action along these lines is not planned and implemented, then within the next decade severe shortages of feed and much further deteriorated grazing lands and animals will be the consequences. Please discuss these aspects further with your staff and the respective Departments concerned for formulation of some specific action programmes in the near future.

**E : PROPOSED FIELD DAY**

As discussed during our recent visit a more detailed field inspection for all DPAP staff is planned in the Ahmednagar and Sholapur districts some time in mid or late November. Our Assistant Commissioner, Mr. D.S. Mehra, will coordinate this programme. Let us know your more definite plans and a tentative programme for these field visits.

Please accept again our appreciation for all arrangements made during our recent project inspections and meetings with your staff. Looking forward to see you at the forthcoming meeting in Bombay and later in November for my follow-up visit to Ahmednagar.

Yours sincerely,

  
(R.W. Albrecht)

Mr. S. Bagchee,  
Executive Director,  
Drought Prone Areas Programme,  
Ahmednagar (Maharashtra).

(10 copies for distribution to DPAP Forestry & Animal Husbandry staff.)



- Copy also forwarded to:- (No. of) (Copies)
1. The Collector,  
Ahmednagar (Maharashtra) 1
  2. Shri G.B. Dasputre,  
Chief Conservator of Forests,  
Forestry Department,  
Poona (Maharashtra) 2
  3. Shri C.M. Joshi,  
Additional Chief Conservator  
of Forests, Forestry Department,  
Poona (Maharashtra) 2
  4. Dr. S.P. Phadke, (Attn: )  
Director, (Dr. N.M. Jangure)  
Animal Husbandry Department, Poona (Maharashtra) 2
  5. Shri P.G. Salvi,  
Secretary,  
Forests & Revenue Department,  
Govt. of Maharashtra, Mantralaya,  
Bombay. 1
  6. Shri J.N. Gupta,  
Secretary,  
Animal Husbandry Department,  
Government of Maharashtra, Mantralaya,  
Bombay 1
  7. Shri V. Venkatesan,  
Secretary,  
Planning Department,  
Govt. of Maharashtra, Mantralaya,  
Bombay. 1
  8. Dr. P.D. Makasdar,  
Jt. Director,  
Animal Husbandry and  
Ex-Officio Dy. Secretary, Govt. of  
Maharashtra, Animal Husbandry Deptt.,  
Mantralaya, Bombay. 1
  9. The Director,  
Project Preparation & Area Planning Cell,  
Old Customs House, Dte. of Economics and  
Statistics, Bombay (Maharashtra). 1  
(Attn. Sh. D.M. Khare, )  
(Animal Husbandry Specialist)
  - ✓ 10. Mr. Gabriel Tibor,  
Chief Division C,  
World Bank Office,  
1818-H Street,  
Washington DC 20433 (U.S.A.) 2

(For Officers dealing with DPAP)

(No. of)  
(copies)

- 11. World Bank Resident Mission,  
55, Lodhi Estate,  
New Delhi. 1

(Copy for DPAP file)

- 12. Jt. Secretary (DPAP), New Delhi. 1
- 13. Dy. Secretary (DPAP), New Delhi. 1
- 14. Dy. Commissioner (Livestock), New Delhi. 1
- 15. Assistant Commissioner(E.A.), New Delhi. 1

Copies also forwarded to:-

- \* 1. Shri K. Satya Raju,  
Project Administrator,  
Drought Prone Areas Programme,  
Anantapur (A.P.) 5
- \* 2. Shri Shantanu Consul,  
Project Director,  
Drought Prone Areas Programme,  
Bijapur (Karnataka) 5
- \* 3. Shri R.S. Deodhar,  
Executive Director,  
Drought Prone Areas Programme,  
Sholapur (Maharashtra) 5

\* (For information only and  
distribution to field staff).

*P.K. Bhatia*

(P.K. Bhatia)

P.A. to World Bank Adviser, DPAP.

(Label number)

Mr. Gabriel Tibon  
Chief Division  
World Bank Office  
1818-H Street  
Washington DC 20433 (U.S.A.)

(For Office use only)

Incha. cr 526 10/27.

~~N. KRASSET~~  
~~J. Lindl~~ } o/r

Asia Files

Er 526-IN

No. 16/4/76 - DPAP

10/30

Government of India  
Ministry of Agriculture & Irrigation  
Department of Rural Development

KRISHI BHAVAN, NEW DELHI  
Dated the 9th October, 1978.

✓ Mr. G.J. Tibon  
Chief Agri. Division  
South Asia Project Deptt.  
International Dev. Association  
18/8 H Street, N.W.  
Washington,  
De - 20443 (USA)

Subject :- Progress report till June 1978 for I D A  
assisted Projects under credit Agreement  
Information for the DPAP.

Sir,

*Quarterly Report*

I am enclosing herewith two statements  
indicating the physical and financial achievements of  
the Six I D A districts for information of the Association.

Yours faithfully

*J.P.*

Encl: 2 Statements

(J.P. SHARMA)  
Deputy Secretary to Government of India.

Copy to :- All Officers DPAP Division

RECEIVED  
DEC 14 1978

No. 15/476 - DRAP  
Government of India  
Ministry of Agriculture & Irrigation  
Department of Rural Development

KRISHNI BHAWAN, NEW DELHI  
Dated the 27th October, 1978.

Mr. G. J. Tibbitts  
Chief Agr. Division  
South Asia Project Dept.  
International Dev. Association  
1818 H Street, N.W.  
Washington,  
Dc - 20448 (USA)

Subject :- Progress report till June 1978 for I D A  
Assisted Projects under credit Agreement  
Information for the DRAP.

Sir,

I am enclosing herewith two statements  
indicating the physical and financial achievements of  
the six I D A districts for information of the Association.

Yours faithfully

Encl: 2 Statements  
Deputy Secretary to Government of India  
(J.P. SHARMA)

Copy to :- All Officers DRAP Division

RECEIVED  
1978 OCT 27 PM 2:25  
INCOMING MAIL UNIT

R.W. ALBRECHT  
World Bank Adviser(DPAP)

No.75/5 (Jodhpur)  
Government of India  
Ministry of Agriculture & Irrigation  
Department of Rural Development

Krishi Bhavan, New Delhi.

Dated, the 9th October, 1978.

FIELD INSPECTIONS AND DISCUSSIONS IN JODHPUR  
AND NAGOUR DISTRICTS - 27TH TO 29TH SEPTEMBER,  
1978.

Dear Messrs. Bhargava and Shekhawat,

Following the Central team's recent field tour and inspections in the Jodhpur and Nagaur districts the major points which came to our attention with the pasture and sheep development programme are summarized below. I am writing this joint report for both districts as most subjects discussed are of interest to both teams and require attention by them. In addition I have also gone through previous tour notes wherein I mentioned certain activities should be taken up. From our recent discussions I believe not all matters have been attended to. Please comment without fail on the subject matters brought up in this letter and bring us up to date on all actions taken.

A. PASTURE DEVELOPMENT

(i) Pasture Species Introduction Techniques

Pasture development work inspected at the Bhavad, Kasthi and Gogalao plots is of very satisfactory standard. It is apparent that all team members have now acquired sufficient knowledge to establish introduced Cenchrus spp. with a reasonable measure of success even under more limited seasonal rainfall conditions as experienced in 1978. Particularly noteworthy was the spread of introduced grasses away from the originally sown furrows. No doubt, this spreading is accelerated under actual grazing conditions. However, our expectations must be realistic and we have to be patient. In other words, a natural spreading of these species throughout the developed pasture plots can take anything up to 10 years. This is confirmed by overseas experience under identical soil and climatic conditions.

...../2

The alternative to this approach would be to spend considerably more funds on a per ha cost basis wherever additional soil working and ploughing can be taken up on more suitable land. On the other hand, funds for complete land preparation over large tracts are not unlimited. Our approach is therefore to intensify pasture establishment on the relatively best areas only where responses are surer and can be expected more quickly. On the more difficult sites (rocky outcrops and steep topography, very sandy soils, lower rainfall sites in western parts of districts) a more extensive approach in development is indicated. Under these conditions we "let nature work with us", i.e. a minimum of physical inputs as far as pasture species introductions is concerned combined with correct grazing management methods and seasonal adjustment of stocking rates in accordance with the prevailing carrying capacity, will gradually improve the deteriorated rangelands.

(ii) Planting of Fodder Trees

Experience has shown it is a slow, costly and difficult task to introduce fodder trees into the pasture development plots. Survival rates of newly planted trees after one year can be as low as 30% despite some waterings given. I am more than ever convinced that it would be a wise approach and, in the long run much more efficient both financially and in achieving the physical targets, to restrict annual plantings of fodder trees to rather small areas. These small areas - they may only be one or two ha within the 100 ha plots - could then be better looked after and protected in the early stages of development. I think it is wrong to try to restrict watering of trees to only 3 to 4 applications in the first year and have up to 80% losses on comparatively larger areas or when planting thousands of trees along boundaries or entrance roads to plots. Watering of trees is costly due to long haulage distances and there is a limit how many well looked after plantings can be taken up in anyone year. In view of these experiences I would suggest to adopt a future policy of planting smaller areas annually but to give them more inputs, i.e. more frequent watering of trees. If failure rates with tree plantings can be decreased to about 20% such an approach of concentrating on smaller, but more intensively looked after areas would allow us to make a safer and, in the long run, a more effective and most likely cheaper impact than producing large figures of physical targets achieved with little success to be shown in the field afterwards.

The recommended practice of planting fodder trees in more concentrated blocks on the better site conditions within each development plot, has not always been adhered to. We should also concentrate on trees of real fodder

value only such as Prosopis cineraria, Acacia nilotica, Albizia lebbeck, Ziziphus spp., Salvadora spp. etc. Extensive use of Parkinsonia spp., as has been observed at the Barnel watershed area in Nagaur district, should not be advocated. Parkinsonias are more suitable as fuel and shade trees. However, most of the better fodder trees also provide shade and shelter and these are therefore to be preferred.

(iii) Hay Making

Efforts have been made to collect hay at some pasture development sites but they should be intensified in the above average seasons. During the better years there is tremendous wastage of feed on the ground. The opportunity to preserve this fodder as much as possible must be grasped.

A reason quoted why more hay making activities were not attempted was shortage of funds. This is difficult to understand when analysing the financial achievements in the pasture and sheep development sector for both districts. These figures disclose huge savings of up to 50% for Jodhpur district (12.72 lacs spent out of an allocation of 25.02 lacs for 1977/78 and a similar underspending for Nagaur). Why can these funds, earmarked for the pasture and sheep development sector, not be gainfully used for the programme? Hay making on a larger scale would be only one of the very useful outlets for these unspent funds. The DDA and Desert Development Commissioner should have a close investigation of this situation.

Hay making is still done too late in the season. Quality is more important than quantity. Hay stacks inspected at Bhavad and Gogelao should be better protected for long term storage and quality sampling should be done. We must find out how long we could store hay in the field and what are the losses involved. For details see Training Note No.10 recently issued.

(iv) Seed Multiplication

It was an unfortunate decision by the Director of Sheep and Wool to abandon seed multiplication efforts at the Mandore Farm close to Jodhpur. The initial good impact made at Mandore will now be lost and the programme will be delayed. Close supervision of activities is needed for success in seed multiplication and hopefully the multiplication programme planned at the more distant Bilara site will prove equally promising.

Multiplication of the new grass and legumes species met with commendable success in the Nagaur district. Additional areas have been established at the Gogelao site but timely control of insect pests (grasshoppers and caterpillars) must be enforced. It is recommended to

have the appropriate quantities of insecticides (BHC dust etc.) in storage at the site at Gogelao for ready use, if and when needed.

(v) Pitting Trials

We could not inspect any sites treated this season. However, it appeared that only small areas have been treated this year and only after the commencement of the rains. It should be recalled that pitting is possibly one of the cheapest and most effective means to rejuvenate deteriorated rangelands on a large scale. For best results the disc pitter should be run over the land before the onset of monsoonal rains. If difficulties are experienced with penetration the disc pitter can be weighted down with wire coils, sand bags or stones attached to it. The main use of this equipment is on soils showing surface scalding or texture-contrast soils where the sandy top layer has been eroded away and exposing the underlying heavier textured soils.

(vi) Legume Introductions

According to Dr. Bhan Siratro and Stylosanthes hamata plants sown at sites in the Nagaur district have survived since 1977. We could not inspect these sites but will do so during October. Normally I do not expect these pasture legumes to play a major role for dryland pasture development in the Nagaur or Jodhpur districts, or anywhere in western Rajasthan. Based on overseas experience the rainfall in these areas is just not sufficient for permanent establishment and survival of these species. It is certainly interesting to note the performance of these legumes at Nagaur but we should not forget the rainfall last year was 200% of what is normally the long term average. I suggest to continue with the present small scale testing of these species in selected rows under the field experimental programme as we have planned it and implemented earlier this year. However, we should be very realistic about the potential of Stylos, Siratro and Dolichos lablab and not be carried away in our enthusiasm and by too high expectations.

At earlier workshops we discussed the need to do some work with native legumes occurring naturally in Rajasthan. Certain Indigofera spp. were mentioned growing in the Barmer and Pali districts. The first step would be to collect seed of these indigenous legumes and multiply them under special care. Afterwards small scale introductions could be attempted under field conditions. Has anything been done or planned along these lines?

.../5



B. PASTURE MANAGEMENT

(i) Carrying Capacity of Pasture Lands

Following my previous tour in late February we agreed that in addition to the five plots in the Jodhpur district which were sampled for production estimates, all remaining plots should also be sampled in order to gain more reliable data on pasture production and possible stock carrying capacities. This action was confirmed in my tour note of 22nd March, 1978. As I could not ascertain whether this work has been completed please let us know the present position. Has this task been completed in time? If so, a summary of the production data will be required.

(ii) Present Sheep Numbers in Pasture Plots

At present all developed pasture plots in the Jodhpur and Nagaur districts are grossly understocked. This position arose as the result of excellent seasons during the 1975 to 1978 period and the rather slow introduction of sheep into the grazing plots. This matter was repeatedly discussed during my previous visits earlier this year and twice in 1977. Whilst some additional livestock (cattle) have apparently been introduced in selected plots last year for the purpose of reducing the rank feed available, correct stocking of the pastures has not been taken up systematically and forcefully.

In most of the plots inspected now there is still rank and dried-off feed standing from last year's growth. The same position will happen this year. The present number of sheep grazing on the plots will not be able to cope adequately with the fodder produced from indigenous and introduced pasture species. Consequently huge amounts of feed, which was highly nutritious at the earlier growth stage, are wasted. This feed could have been converted into wool, mutton or milk. The situation is a poor example of management in a country where livestock is generally starving and in need of fodder.

The rank growth from last year depressed the full growth potential of pasture species this season and it will constitute a fire hazard later during this season. We discussed at length the remedies to be taken and action should now be initiated without further delay. A number of steps are possible:

- a) More farmers can be enrolled into the society and their sheep be admitted for grazing.
- b) Additional sheep of existing society members can be admitted for grazing.

(c) The areas can be temporarily grazed by other livestock (sheep and/or cattle) available in nearby villages.

(d) It is too late now to consider hay making of the surplus pasture growth but in future this would be the most practical solution whenever above average seasons are experienced and resulting surplus fodder is available. As mentioned earlier it is also an easy way to use up funds, allotted to the programme, in a meaningful and correct way.

We all realize these suggestions require a lot of extension work and extra efforts by the spearhead teams. However, at this early development stage in our programme we can ill-afford luxurious pastures with wastage of good fodder for just a few selected livestock owned by a few farmers.

Inevitably this must create bad feelings in the villages and we can not hope to popularize the programme by such management practices. The long term aim of the pasture/livestock development programme is to eventually incorporate all available grazing lands in the districts - they may be private lands, village common lands, Revenue lands or whatever category - but causing antagonism at this early stage of the game will not help us in achieving this target. We must remove any possible bias against our programme.

Spearhead team leaders, their professional team members, unit managers and stock inspectors must learn to recognize when to take corrective action with regard to stocking of pastures. Learning to apply the "proper use" principle is what constitutes the art in range management as distinct from pure scientific principles. At this stage it is recommended to introduce additional numbers of livestock to reduce the present surplus growth. The level of reduction must be calculated on the basis of standing fodder left for the remaining season. If the spearhead team members can not visually assess when this stage will have been reached, then actual pasture cuts must be obtained to substantiate and guide the local decisions taken.

In future this additional grazing should be introduced as soon as the indications are that the season will be good and surplus fodder will be produced. Let me stress again that larger scale hay making and fodder preservation is, in my opinion, the best solution should these situations occur again in 1979 and subsequent years. A policy and the practice of building up fodder banks with high quality livestock feed will allow us to tackle the complex problems of livestock grazing and pasture management in a completely flexible manner. Stored fodder can be used

for livestock of the society once their numbers have been built up and scarcity conditions do occur, or the benefit of the fodder banks can be passed on to non-society members as part of the generally envisaged district wide development programme.

(iii) Special Grazing Management Practices

The time has come when special grazing management practices can, and should now be introduced at plots such as at Gogelao, Bhavad, Kasti etc. We noted that commendable efforts were made by the staff at the Gogelao plot not to overgraze the areas near the sheep sheds and watering places. The grazing pattern, as we observed it, was a vast improvement as compared with the one adopted during my previous visit. May I suggest we should now go one step further and try to withhold sheep grazing from certain areas for a short period and for special purpose management aims. These objectives may be to encourage quicker and more seed setting in areas where perennials should be increased; preservation of good quality grasses on the most fertile sites for subsequent hay making; or recovery of plant vigour on depleted sites. Hand in hand with the temporary withholding of livestock on some areas, more concentrated grazing on other paddock sites for specified short term periods can be used as a management tool to remove excess growth or for control of undesirable species. (Principle of comparatively heavy stocking for short periods - unselective grazing).

With reference to Training Note No.9 on Grazing Management Methods these practices could now be introduced by the shepherds under the instruction of the spearhead team members and unit managers. I should clearly point out that these practices should be adopted without additional internal subdivisional fencing of the paddocks and should only be based on the capacity of the shepherds to hold the flocks more or less in the specially selected areas for the periods so stipulated. Could we try out these practices and see how successfully they could be adopted? What difficulties would be experienced in practice?

C. SHEEP DEVELOPMENT

(i) Tanka Development

All watering points in the pasture plots have been completed and, despite some shortcomings of rainfall at some sites, all tankas are full and ready for use for livestock drinking water later in the season. One aspect, however, needs immediate attention. The catchment areas of these tankas have not yet been fenced off and all livestock and human traffic goes unobstructed over these specially constructed mini-watersheds. This results in destruction of the specially sealed surface areas and, even more important, in contamination of the collected

drinking water in the tanks due to manure droppings and other impurities getting mixed with the water. This neglect should be immediately remedied in the interest of a healthy and safe water supply to livestock as well as humans who may have to depend on supplies from these tankas.

(ii) Selection of Rams

With Marwari sheep the policy adopted is selective breeding. However, some of the rams inspected had rather poor wool quality showing many hairy patches. Only the best available rams should be introduced in the breeding flocks. Price considerations should only be secondary when selecting quality breeding rams for the society flocks.

(iii) Distribution of Dividends

Apparently Rajasthan by-laws of the societies stipulates distribution of dividends in kind instead of in cash. This will be a matter for the State Government to reconsider and to correct. We would strongly recommend that farmers are much better served by cash dividends leaving them at their discretion how to use the funds according to their individual needs and wishes.

(iv) Monitoring of Sheep Performance

To assess the impact by our sheep development programme we must have comparable data from sheep flocks kept under traditional systems of sheep husbandry. As previously reminded these data must now be collected from a statistically significant number of village sheep and compared to our sheep society flocks. Please ensure prompt action on this matter.

D. FUTURE PLANS FOR LARGE SCALE PASTURE DEVELOPMENT SCHEMES

During the Jodhpur meeting with the combined district teams we discussed at some length future prospects of expanding the present programme of developing pastures only for sheep farmers and to plan for a more general attack on rangeland improvement. Under such a proposed enlarged programme all land should be incorporated which is at present used and usable for grazing purposes (not permanent cropping land).

Earlier appraisals and surveys carried out in 1973/74 clearly pointed out that 16,000 ha of land in the Jodhpur district and 5,000 ha in the Nagaur district are suitable and available for a general pasture improvement and development programme and should be taken up under DPAP plans. The latest physical progress report presented to the Central Team in late September showed that, apart from the sheep pasture plots

developed in both districts (Jodhpur approx. 2,300 ha; Nagaur approx. 2,700 ha), no other areas have been developed since 1975. The Forestry Department has so far only maintained pasture areas (1220 ha) which were established prior to 1973 and no new areas were taken up by that Department under D.P.A.P.

We noted with satisfaction that the newly appointed Additional Chief Conservator (Desert Development Programme) at Jodhpur and his team has formulated comprehensive plans to develop extensive areas for pastures. These developed pasture lands could and should be used by all classes of livestock. This will be instrumental in avoiding tensions and frictions amongst farmers due to the present one-sided approach to pasture development for sheep production only.

Efforts on such a grand scale must be closely co-ordinated by all Departments involved in the technical and administrative aspects of the programme, i.e. Forestry, Animal Husbandry, Agriculture and Revenue Departments. The initial and main push must come from much more intensive and personal extension work right at the village level. Meetings and personal discussions and contacts with all farmers (small, medium and large operators), surpanches, block pramukhs, zila parishad chiefs and local M.L.A.'s will be needed. A substantial part of the extension and education programme should incorporate organised visits by local farmers and peoples' representatives to the already developed pasture plots and to show them and explain in detail all technical implications, our objectives in the short and long term, as well as our initial difficulties. The point should be stressed that, unless pasture development becomes an accepted and large scale programme within the entire districts, it will be extremely difficult to overcome the initial doubts and criticisms that only a few privileged farmers would benefit from the development. The extension campaign should, therefore, stress to incorporate all possible pasture lands (private, village commons, or government owned) in order -

- 1) To prevent a further drastic deterioration of existing grazing lands together with a gradual qualitative improvement of the soil and vegetative mantle
- 2) To assist in providing adequate feed and fodder resources locally in view of the increasing difficulties experienced by migrating flocks to adjoining States
- 3) To improve the quality of livestock with the simultaneous objective of introducing proper grazing capacity of the land and sustained optimum production.

- 4) To improve the economic position of a wide cross section of the rural population.

Much of the success of the envisaged large scale programme will depend on the skill, enthusiasm and dedication of the spearhead teams, the district forestry officers and their range staff, stock inspectors, agricultural extension officers and the wide range of extension personnel under their control at the village level. The responsibility of the planners and administrators of the scheme should be to provide for acceptable and satisfactory working conditions and transport facilities of these field staff. It is utmost important to keep up the morale of our front line extension workers. Funds for these purposes should be appropriately and timely sanctioned. From a review of the present financial disbursements it clearly appears that the targets in the livestock/pasture development sector were grossly underspent last year. Funding of the proposed stepped-up extension and education programme on pasture development should therefore not present difficulties.

The Desert Development Commissioner, Additional Chief Conservator of Forests, Project Directors of DPAP and Project Officers should now jointly formulate action plans for a realistic and immediate programme. This envisaged programme of large scale development of pasture and rangelands under the DPAP could be the forerunner of still more extensive projects of grazing land development under the Desert Development Programme as foreshadowed by the National Commission on Agriculture in their Interim Report issued in March 1974.

Yours sincerely,

*R. W. Albrecht*  
(R.W. Albrecht)

Mr. B.P. Bhargava,  
Project Director, DPAP,  
Pacta B Road, JODHPUR  
(Rajasthan)

(10 copies for  
distribution to  
DPAP field staff)

Dr. G.S. Shekhawat,  
Project Director,  
Drought Prone Areas Programme,  
NAGPUR (Rajasthan)

- do -

Copies also forwarded to:-

1. Shri Dhanpat Rai,  
Collector,  
Jodhpur (Rajasthan) ( 1 copy )
2. Shri Darshan Singh,  
Collector,  
Nagaur (Rajasthan) ( 1 " )
3. The Desert Development Commissioner,  
Jodhpur (Mr. Bhagvan Ram)  
(Rajasthan) ( 2 copies )
4. Dr. Mathur,  
Additional Chief Conservator(D.D.),  
Jodhpur (Rajasthan) ( 2 " )
5. The Development Commissioner and  
Secretary to the Govt. of Rajasthan,  
Agriculture & Allied Departments,  
Jaipur (Rajasthan) ( 1 " )
6. Shri Satish Kumar,  
Secretary to the Govt. of Rajasthan,  
Special Schemes Organisation,  
Jaipur (Rajasthan) ( 2 " )
7. Shri Priyadarshi Thakur,  
Deputy Secretary, Spl. Schemes,  
Govt. of Rajasthan,  
Agriculture (GR VII) Deptt.,  
Jaipur (Rajasthan) ( 2 " )
8. Shri K.K. Gupta,  
Chief Conservator of Forests,  
Jaipur (Rajasthan) ( 2 " )
9. Shri Ramakant,  
Director, Sheep & Wool,  
Sheep & Wool Department,  
Jaipur (Rajasthan) ( 2 " )
10. The Director of Agriculture,  
Govt. of Rajasthan,  
Jaipur ( 2 " )
11. Mr. Gabriel Tibor,  
Room No.F 504,  
World Bank Office,  
1818-H Street,  
Washington DC 20433 (U.S.A.) ( 2 " )  
(For officers dealing with DPAP)
12. World Bank Resident Mission,  
55, Lodhi Estate, New Delhi. ( 1 " )  
(For DPAP Training File)
13. JS(DPAP)/DS(DPAP)/DC(Livestock)/AC(EA) ( 1 copy each)

*P. K. Bhatia*  
(P.K. Bhatia)  
P.A. to World Bank Adviser, DPAP

R.W. ALBRECHT  
World Bank Adviser(DP/P)

No.75/5 (Jodhpur)  
Government of India  
Ministry of Agriculture & Irrigation  
Department of Rural Development

Krishi Bhavan, New Delhi.

Dated, the 9th October, 1978.

FIELD INSPECTIONS AND DISCUSSIONS IN JODHPUR  
AND NAGOUR DISTRICTS - 27TH TO 29TH SEPTEMBER,  
1978.

Dear Messrs, Bhargava and Shekhawat,

Following the Central team's recent field tour and inspections in the Jodhpur and Nagaur districts the major points which came to our attention with the pasture and sheep development programme are summarized below. I am writing this joint report for both districts as most subjects discussed are of interest to both teams and require attention by them. In addition I have also gone through previous tour notes wherein I mentioned certain activities should be taken up. From our recent discussions I believe not all matters have been attended to. Please comment without fail on the subject matters brought up in this letter and bring us up to date on all actions taken.

A. PASTURE DEVELOPMENT

(i) Pasture Species Introduction Techniques

Pasture development work inspected at the Bhavad, Kasti and Gogalao plots is of very satisfactory standard. It is apparent that all team members have now acquired sufficient knowledge to establish introduced Cenchrus spp. with a reasonable measure of success even under more limited seasonal rainfall conditions as experienced in 1978. Particularly noteworthy was the spread of introduced grasses away from the originally sown furrows. No doubt, this spreading is accelerated under actual grazing conditions. However, our expectations must be realistic and we have to be patient. In other words, a natural spreading of these species throughout the developed pasture plots can take anything up to 10 years. This is confirmed by overseas experience under identical soil and climatic conditions.

.../2



The alternative to this approach would be to spend considerably more funds on a per ha cost basis wherever additional soil working and ploughing can be taken up on more suitable land. On the other hand, funds for complete land preparation over large tracts are not unlimited. Our approach is therefore to intensify pasture establishment on the relatively best areas only where responses are surer and can be expected more quickly. On the more difficult sites (rocky outcrops and steep topography, very sandy soils, lower rainfall sites in western parts of districts) a more extensive approach in development is indicated. Under these conditions we "let nature work with us", i.e. a minimum of physical inputs as far as pasture species introductions is concerned combined with correct grazing management methods and seasonal adjustment of stocking rates in accordance with the prevailing carrying capacity, will gradually improve the deteriorated rangelands.

(ii) Planting of Fodder Trees

Experience has shown it is a slow, costly and difficult task to introduce fodder trees into the pasture development plots. Survival rates of newly planted trees after one year can be as low as 30% despite some waterings given. I am more than ever convinced that it would be a wise approach and, in the long run much more efficient, both financially and in achieving the physical targets, to restrict annual plantings of fodder trees to rather small areas. These small areas - they may only be one or two ha within the 100 ha plots - could then be better looked after and protected in the early stages of development. I think it is wrong to try to restrict watering of trees to only 3 to 4 applications in the first year and have up to 80% losses on comparatively larger areas or when planting thousands of trees along boundaries or entrance roads to plots. Watering of trees is costly due to long haulage distances and there is a limit how many well looked after plantings can be taken up in anyone year. In view of these experiences I would suggest to adopt a future policy of planting smaller areas annually but to give them more inputs, i.e. more frequent watering of trees. If failure rates with tree plantings can be decreased to about 20% such an approach of concentrating on smaller, but more intensively looked after areas would allow us to make a safer and, in the long run, a more effective and most likely cheaper impact than producing large figures of physical targets achieved with little success to be shown in the field afterwards.

The recommended practice of planting fodder trees in more concentrated blocks on the better site conditions within each development plot, has not always been adhered to. We should also concentrate on trees of real fodder

*only*

value only such as Prosopis cineraria, Acacia nilotica, Albizia lebbeck, Ziziphus spp., Salvadora spp. etc. Extensive use of Parkinsonia spp., as has been observed at the Barnel watershed area in Nagaur district, should not be advocated. Parkinsonias are more suitable as fuel and shade trees. However, most of the better fodder trees also provide shade and shelter and these are therefore to be preferred.

(iii) Hay Making

Efforts have been made to collect hay at some pasture development sites but they should be intensified in the above average seasons. During the better years there is tremendous wastage of feed on the ground. The opportunity to preserve this fodder as much as possible must be grasped.

A reason quoted why more hay making activities were not attempted was shortage of funds. This is difficult to understand when analysing the financial achievements in the pasture and sheep development sector for both districts. These figures disclose huge savings of up to 50% for Jodhpur district (12.72 lacs spent out of an allocation of 25.02 lacs for 1977/78 and a similar underspending for Nagaur). Why can these funds, earmarked for the pasture and sheep development sector, not be gainfully used for the programme? Hay making on a larger scale would be only one of the very useful outlets for these unspent funds. The DDA and Desert Development Commissioner should have a close investigation of this situation.

Hay making is still done too late in the season. Quality is more important than quantity. Hay stacks inspected at Bhavad and Gogelao should be better protected for long term storage and quality sampling should be done. We must find out how long we could store hay in the field and what are the losses involved. For details see Training Note No.10 recently issued.

(iv) Seed Multiplication

It was an unfortunate decision by the Director of Sheep and Wool to abandon seed multiplication efforts at the Mandore Farm close to Jodhpur. The initial good impact made at Mandore will now be lost and the programme will be delayed. Close supervision of activities is needed for success in seed multiplication and hopefully the multiplication programme planned at the more distant Bilara site will prove equally promising.

Multiplication of the new grass and legumes species met with comendable success in the Nagaur district. Additional areas have been established at the Gogelao site but timely control of insect pests (grasshoppers and caterpillars) must be enforced. It is recommended to

have the appropriate quantities of insecticides (BHC dust etc.) in storage at the site at Gogelao for ready use, if and when needed.

(v) Pitting Trials

We could not inspect any sites treated this season. However, it appeared that only small areas have been treated this year and only after the commencement of the rains. It should be recalled that pitting is possibly one of the cheapest and most effective means to rejuvenate deteriorated rangelands on a large scale. For best results the disc pitter should be run over the land before the onset of monsoonal rains. If difficulties are experienced with penetration the disc pitter can be weighted down with wire coils, sand bags or stones attached to it. The main use of this equipment is on soils showing surface scalding or texture-contrast soils where the sandy top layer has been eroded away and exposing the underlying heavier textured soils.

(vi) Legume Introductions

According to Dr. Bhan Siratro and Stylosanthes hamata plants sown at sites in the Nagaur district have survived since 1977. We could not inspect these sites but will do so during October. Normally I do not expect these pasture legumes to play a major role for dryland pasture development in the Nagaur or Jodhpur districts, or anywhere in western Rajasthan. Based on overseas experience the rainfall in these areas is just not sufficient for permanent establishment and survival of these species. It is certainly interesting to note the performance of these legumes at Nagaur but we should not forget the rainfall last year was 200% of what is normally the long term average. I suggest to continue with the present small scale testing of these species in selected rows under the field experimental programme as we have planned it and implemented earlier this year. However, we should be very realistic about the potential of Stylos, Siratro and Dolichos Mablab and not be carried away in our enthusiasm and by too high expectations.

At earlier workshops we discussed the need to do some work with native legumes occurring naturally in Rajasthan. Certain Indigofera spp. were mentioned growing in the Barmer and Pali districts. The first step would be to collect seed of these indigenous legumes and multiply them under special care. Afterwards small scale introductions could be attempted under field conditions. Has anything been done or planned along these lines?

B. PASTURE MANAGEMENT

(i) Carrying Capacity of Pasture Lands

Following my previous tour in late February we agreed that in addition to the five plots in the Jodhpur district which were sampled for production estimates, all remaining plots should also be sampled in order to gain more reliable data on pasture production and possible stock carrying capacities. This action was confirmed in my tour note of 22nd March, 1978. As I could not ascertain whether this work has been completed please let us know the present position. Has this task been completed in time? If so, a summary of the production data will be required.

(ii) Present Sheep Numbers in Pasture Plots

At present all developed pasture plots in the Jodhpur and Nagaur districts are grossly understocked. This position arose as the result of excellent seasons during the 1975 to 1978 period and the rather slow introduction of sheep into the grazing plots. This matter was repeatedly discussed during my previous visits earlier this year and twice in 1977. Whilst some additional livestock (cattle) have apparently been introduced in selected plots last year for the purpose of reducing the rank feed available, correct stocking of the pastures has not been taken up systematically and forcefully.

In most of the plots inspected now there is still rank and dried-off feed standing from last year's growth. The same position will happen this year. The present number of sheep grazing on the plots will not be able to cope adequately with the fodder produced from indigenous and introduced pasture species. Consequently huge amounts of feed, which was highly nutritious at the earlier growth stage, are wasted. This feed could have been converted into wool, mutton or milk. The situation is a poor example of management in a country where livestock is generally starving and in need of fodder.

The rank growth from last year depressed the full growth potential of pasture species this season and it will constitute a fire hazard later during this season. We discussed at length the remedies to be taken and action should now be initiated without further delay. A number of steps are possible:

- a) More farmers can be enrolled into the society and their sheep be admitted for grazing.
- b) Additional sheep of existing society members can be admitted for grazing.

- (c) The areas can be temporarily grazed by other livestock (sheep and/or cattle) available in nearby villages.
- (d) It is too late now to consider hay making of the surplus pasture growth but in future this would be the most practical solution whenever above average seasons are experienced and resulting surplus fodder is available. As mentioned earlier it is also an easy way to use up funds, allotted to the programme, in a meaningful and correct way.

We all realize these suggestions require a lot of extension work and extra efforts by the spearhead teams. However, at this early development stage in our programme we can ill-afford luxurious pastures with wastage of good fodder for just a few selected livestock owned by a few farmers.

Inevitably this must create bad feelings in the villages and we can not hope to popularize the programme by such management practices. The long term aim of the pasture/livestock development programme is to eventually incorporate all available grazing lands in the districts - they may be private lands, village common lands, Revenue lands or whatever category - but causing antagonism at this early stage of the game will not help us in achieving this target. We must remove any possible bias against our programme.

Spearhead team leaders, their professional team members, unit managers and stock inspectors must learn to recognize when to take corrective action with regard to stocking of pastures. Learning to apply the "proper use" principle is what constitutes the art in range management as distinct from pure scientific principles. At this stage it is recommended to introduce additional numbers of livestock to reduce the present surplus growth. The level of reduction must be calculated on the basis of standing fodder left for the remaining season. If the spearhead team members can not visually assess when this stage will have been reached, then actual pasture cuts must be obtained to substantiate and guide the local decisions taken.

In future this additional grazing should be introduced as soon as the indications are that the season will be good and surplus fodder will be produced. Let me stress again that larger scale hay making and fodder preservation is, in my opinion, the best solution should these situations occur again in 1979 and subsequent years. A policy and the practice of building up fodder banks with high quality livestock feed will allow us to tackle the complex problems of livestock grazing and pasture management in a completely flexible manner. Stored fodder can be used

for livestock of the society once their numbers have been built up and scarcity conditions do occur, or the benefit of the fodder banks can be passed on to non-society members as part of the generally envisaged district wide development programme.

(iii) Special Grazing Management Practices

The time has come when special grazing management practices can, and should now be introduced at plots such as at Gogelao, Bhayad, Kasti etc. We noted that commendable efforts were made by the staff at the Gogelao plot not to overgraze the areas near the sheep sheds and watering places. The grazing pattern, as we observed it, was a vast improvement as compared with the one adopted during my previous visit. May I suggest we should now go one step further and try to withhold sheep grazing from certain areas for a short period and for special purpose management aims. These objectives may be to encourage quicker and more seed setting in areas where perennials should be increased; preservation of good quality grasses on the most fertile sites for subsequent hay making; or recovery of plant vigour on depleted sites. Hand in hand with the temporary withholding of livestock on some areas, more concentrated grazing on other paddock sites for specified short term periods can be used as a management tool to remove excess growth or for control of undesirable species. (Principle of comparatively heavy stocking for short periods - unselective grazing).

With reference to Training Note No.9 on Grazing Management Methods these practices could now be introduced by the shepherds under the instruction of the spearhead team members and unit managers. I should clearly point out that these practices should be adopted without additional internal subdivisional fencing of the paddocks and should only be based on the capacity of the shepherds to hold the flocks more or less in the specially selected areas for the periods so stipulated. Could we try out these practices and see how successfully they could be adopted? What difficulties would be experienced in practice?

C. SHEEP DEVELOPMENT

(i) Tanka Development

All watering points in the pasture plots have been completed and, despite some shortcomings of rainfall at some sites, all tankas are full and ready for use for livestock drinking water later in the season. One aspect, however, needs immediate attention. The catchment areas of these tankas have not yet been fenced off and all livestock and human traffic goes unobstructed over these specially constructed mini-watersheds. This results in destruction of the specially sealed surface areas and, even more important, in contamination of the collected

drinking water in the tanks due to manure droppings and other impurities getting mixed with the water. This neglect should be immediately remedied in the interest of a healthy and safe water supply to livestock as well as humans who may have to depend on supplies from these tankas.

(ii) Selection of Rams

With Marwari sheep the policy adopted is selective breeding. However, some of the rams inspected had rather poor wool quality showing many hairy patches. Only the best available rams should be introduced in the breeding flocks. Price considerations should only be secondary when selecting quality breeding rams for the society flocks.

(iii) Distribution of Dividends

Apparently Rajasthan by-laws of the societies stipulates distribution of dividends in kind instead of in cash. This will be a matter for the State Government to reconsider and to correct. We would strongly recommend that farmers are much better served by cash dividends leaving them at their discretion how to use the funds according to their individual needs and wishes.

(iv) Monitoring of Sheep Performance

To assess the impact by our sheep development programme we must have comparable data from sheep flocks kept under traditional systems of sheep husbandry. As previously reminded these data must now be collected from a statistically significant number of village sheep and compared to our sheep society flocks. Please ensure prompt action on this matter.

D. FUTURE PLANS FOR LARGE SCALE PASTURE DEVELOPMENT SCHEMES

During the Jodhpur meeting with the combined district teams we discussed at some length future prospects of expanding the present programme of developing pastures only for sheep farmers and to plan for a more general attack on rangeland improvement. Under such a proposed enlarged programme all land should be incorporated which is at present used and usable for grazing purposes (not permanent cropping land).

Earlier appraisals and surveys carried out in 1973/74 clearly pointed out that 16,000 ha of land in the Jodhpur district and 5,000 ha in the Nagaur district are suitable and available for a general pasture improvement and development programme and should be taken up under DPAP plans. The latest physical progress report presented to the Central Team in late September showed that, apart from the sheep pasture plots

developed in both districts (Jodhpur approx. 2,300 ha; Nagaur approx. 2,700 ha), no other areas have been developed since 1975. The Forestry Department has so far only maintained pasture areas (1220 ha) which were established prior to 1973 and no new areas were taken up by that Department under D.P.A.P.

We noted with satisfaction that the newly appointed Additional Chief Conservator (Desert Development Programme) at Jodhpur and his team has formulated comprehensive plans to develop extensive areas for pastures. These developed pasture lands could and should be used by all classes of livestock. This will be instrumental in avoiding tensions and frictions amongst farmers due to the present one-sided approach to pasture development for sheep production only.

Efforts on such a grand scale must be closely co-ordinated by all Departments involved in the technical and administrative aspects of the programme, i.e. Forestry, Animal Husbandry, Agriculture and Revenue Departments. The initial and main push must come from much more intensive and personal extension work right at the village level. Meetings and personal discussions and contacts with all farmers (small, medium and large operators), surpanches, block pramukhs, zila parishad chiefs and local M.L.A.'s will be needed. A substantial part of the extension and education programme should incorporate organised visits by local farmers and peoples' representatives to the already developed pasture plots and to show them and explain in detail all technical implications, our objectives in the short and long term, as well as our initial difficulties. The point should be stressed that, unless pasture development becomes an accepted and large scale programme within the entire districts, it will be extremely difficult to overcome the initial doubts and criticisms that only a few privileged farmers would benefit from the development. The extension campaign should, therefore, stress to incorporate all possible pasture lands (private, village commons, or government owned) in order -

- 1) To prevent a further drastic deterioration of existing grazing lands together with a gradual qualitative improvement of the soil and vegetative mantle
- 2) To assist in providing adequate feed and fodder resources locally in view of the increasing difficulties experienced by migrating flocks to adjoining States
- 3) To improve the quality of livestock with the simultaneous objective of introducing proper grazing capacity of the land and sustained optimum production.



- 4) To improve the economic position of a wide cross section of the rural population.

Much of the success of the envisaged large scale programme will depend on the skill, enthusiasm and dedication of the spearhead teams, the district forestry officers and their range staff, stock inspectors, agricultural extension officers and the wide range of extension personnel under their control at the village level. The responsibility of the planners and administrators of the scheme should be to provide for acceptable and satisfactory working conditions and transport facilities of these field staff. It is utmost important to keep up the morale of our front line extension workers. Funds for these purposes should be appropriately and timely sanctioned. From a review of the present financial disbursements it clearly appears that the targets in the livestock/pasture development sector were grossly underspent last year. Funding of the proposed stepped-up extension and education programme on pasture development should therefore not present difficulties.

The Desert Development Commissioner, Additional Chief Conservator of Forests, Project Directors of DPAP and Project Officers should now jointly formulate action plans for a realistic and immediate programme. This envisaged programme of large scale development of pasture and rangelands under the DPAP could be the forerunner of still more extensive projects of grazing land development under the Desert Development Programme as foreshadowed by the National Commission on Agriculture in their Interim Report issued in March 1974.

Yours sincerely,

*R. W. Albrecht*  
(R.W. Albrecht)

Mr. B.P. Bhargava,  
Project Director, DPAP,  
Paota B Road, JODHPUR  
(Rajasthan)

(10 copies for  
distribution to  
DPAP field staff)

Dr. G.S. Shekhawat,  
Project Director,  
Drought Prone Areas Programme,  
NAGPUR (Rajasthan)

Copies also forwarded to:-

1. Shri Dhanpat Rai,  
Collector,  
Jodhpur (Rajasthan) ( 1 copy )
2. Shri Darshan Singh,  
Collector,  
Nagaur (Rajasthan) ( 1 " )
3. The Desert Development Commissioner,  
Jodhpur (Mr. Bhagvan Ram)  
(Rajasthan) ( 2 copies )
4. Dr. Mathur,  
Additional Chief Conservator(D.D.),  
Jodhpur (Rajasthan) ( 2 " )  
*of Forests*
5. The Development Commissioner and  
Secretary to the Govt. of Rajasthan,  
Agriculture & Allied Departments,  
Jaipur (Rajasthan) ( 1 " )
6. Shri Satish Kumar,  
Secretary to the Govt. of Rajasthan,  
Special Schemes Organisation,  
Jaipur (Rajasthan) ( 2 " )
7. Shri Priyadarshi Thakur,  
Deputy Secretary, Spl. Schemes,  
Govt. of Rajasthan,  
Agriculture (GR VII) Deptt.,  
Jaipur (Rajasthan) ( 2 " )
8. Shri K.K. Gupta,  
Chief Conservator of Forests,  
Jaipur (Rajasthan) ( 2 " )
9. Shri Ramakant,  
Director, Sheep & Wool,  
Sheep & Wool Department,  
Jaipur (Rajasthan) ( 2 " )
10. The Director of Agriculture,  
Govt. of Rajasthan,  
Jaipur ( 2 " )
11. Mr. Gabriel Tibor,  
Room No.F 504,  
World Bank Office,  
1818-H Street,  
Washington DC 20433 (U.S.A.) ( 2 " )  
(For officers dealing with DPAP)
12. World Bank Resident Mission,  
55, Lodhi Estate, New Delhi. ( 1 " )  
(For DPAP Training File)
13. JS(DPAP)/DS(DPAP)/DC(Livestock)/AC(EA) ( 1 copy each)

*P. K. Bhatia*  
(P.K. Bhatia)  
P.A. to World Bank Adviser, DPAP

Copies also forwarded to:-

1. Shri Dhanraj Rai, Collector, Jaipur (Rajasthan) (1 copy)
2. Shri Dattaram Singh, Collector, Jaipur (Rajasthan) (1 copy)
3. The Desert Development Commissioner, Jaipur (Mr. Bhagwan Ram) (Jaipur) (2 copies)
4. Dr. Mahendra, Additional Chief Conservator (D.D.), Jaipur (Rajasthan) (2 copies)
5. The Development Commissioner and Secretary to the Govt. of Rajasthan, Agriculture & Allied Departments, Jaipur (Rajasthan) (1 copy)
6. Shri Satish Kumar, Secretary to the Govt. of Rajasthan, Social Schemes Organisation, Jaipur (Rajasthan)
7. Shri Pradyuman Thakur, Deputy Secretary, S.I. Schemes, Govt. of Rajasthan, Agriculture (GR VII) Deptt., Jaipur (Rajasthan)
8. Shri K.K. Gupta, Chief Conservator of Forests, Jaipur (Rajasthan)
9. Shri Shankar, Director, Sheep & Wool Department, Jaipur (Rajasthan)
10. The Director of Agriculture, Govt. of Rajasthan, Jaipur
11. Mr. Gabriel Tibor, Room No. 7, 204, World Bank Office, 1818 H Street, Washington DC 20543 (U.S.A.) (2 copies)  
(For officer dealing with DDP)
12. World Bank Resident Mission, 25, Lehn Palace, New Delhi (1 copy)  
(For DDP Reserve File)
13. IS(DP) / IS(DP) / DC(Division) / AC(EE) (1 copy each)  
P. A. to World Bank Liaison DDP

RECEIVED  
 1978 OCT 16 PM 2:27  
 INCOMING MAIL UNIT



# Record Removal Notice



<b>File Title</b> Drought Prone Areas Project - India - Credit 0526 - P009692 - Correspondence - Volume 12		<b>Barcode No.</b>  30305792		
<b>Document Date</b> October 6, 1978	<b>Document Type</b> Letter			
<b>Correspondents / Participants</b> To: Rolf Albrecht, Ministry of Agriculture and Irrigation Department of Rural Dev. From: Dorothy Murphy				
<b>Subject / Title</b> Appointment letter				
<b>Exception(s)</b> Personal Information				
<b>Additional Comments</b>		The item(s) identified above has/have been removed in accordance with The World Bank Policy on Access to Information or other disclosure policies of the World Bank Group.		
		<table border="1"><tr><td><b>Withdrawn by</b> Ann May</td><td><b>Date</b> June 16, 2017</td></tr></table>	<b>Withdrawn by</b> Ann May	<b>Date</b> June 16, 2017
<b>Withdrawn by</b> Ann May	<b>Date</b> June 16, 2017			

India - CVR 526  
India - Kandi Water  
Sheet + Area  
Daw

Class of Service: **TELEX** Date: **OCTOBER 6, 1978**  
Telex No.: **953-313-150** Originators Ext: **73445**

0 START HERE  
1 TO  
CITY/COUNTRY  
MESSAGE NO.:  
4  
5  
6  
7  
9  
10  
11  
12  
13  
14  
15  
17  
18  
19  
20  
21 END OF TEXT  
22

**INTBAFRAD**  
**NEW DELHI, INDIA**  
~~7562~~ **1461**  
FOR CHIP ROWE RE KANDI/DPAP. WE FEEL BEST THAT KRAFFT CONTINUE TO PARTICIPATE IN NEGOTIATIONS THROUGH THURSDAY, OCTOBER 12. LINDT AND BRUMBY SHOULD GO AHEAD WITH DPAP AS SCHEDULED. KRAFFT NOW SCHEDULED ARRIVE DELHI NIGHT OF 13/14 AND WILL FLY INTO JODHPUR MONDAY 15 WHERE HE WILL JOIN OTHERS. GRATEFUL IF YOU COULD AAA NOTIFY SRINIVASAN AND BBB ASK KAKAR TO MAKE HOTEL BOOKING FOR KRAFFT IN DELHI ACCORDINGLY AND CHANGE DATE HIS FLIGHT TO JODHPUR. PLEASE LET US KNOW WHEN HOTEL/FLIGHT CONFIRMED. REGARDS. NOTTIDGE.  
  
OCT 12 REC

NOT TO BE TRANSMITTED

SUBJECT: <b>INDIA -- DPAP and Kandi Projects</b>	DRAFTED BY: <b>KXXRY NJKrafft:tns ML</b>
CLEARANCES AND COPY DISTRIBUTION: <b>cc: Mr. Lindt</b>	AUTHORIZED BY (Name and Signature): <b>C. P. Nottidge, Acting Chief, ASPAC</b>
	DEPARTMENT: <b>South Asia Projects</b>
SECTION BELOW FOR USE OF CABLE SECTION CHECKED FOR DISPATCH	

OCTOBER 5, 1978  
73642

TELEX  
922-313-120

INTERRAD

NEW DELHI, INDIA

~~11/1~~

CONFIRMED. REGARDS. NOTTINGE.  
HIS FLIGHT TO JOHNPUR. PLEASE LET US KNOW WHEN HOTEL FLIGHT  
HOTEL BOOKING FOR KRAFT IN DELHI ACCORDINGLY AND CHANGE DATE  
YOU COULD AAA NOTIFY SRINIVASAN AND BSB ASK KAKAR TO MAKE  
INTO JOHNPUR MONDAY 12 WHERE HE WILL JOIN OTHERS. GRATEFUL IF  
KRAFT NOW SCHEDULED ARRIVE DELHI NIGHT OF 13/10 AND WILL FLY  
LINDT AND BRUNBY SHOULD GO AHEAD WITH DPAP AS SCHEDULED.  
TO PARTICIPATE IN NEGOTIATIONS THROUGH THURSDAY, OCTOBER 12.  
FOR CHIP ROWE RE KANDI DPAP. WE FEEL BEST THAT KRAFT CONTINUE

OCT 13 828

COMMUNICATIONS SECTION

INDIA -- DPAP and Kandl Projects (B) (S) (U) (C) (R) (E) (S) (T) (S)

10:50

C. F. Nottinge, Acting Chief, ASRAC

South Asia Projects

cc: Mr. Lindt

OCT 04 1978

Pattern of assistance for various schemes now available under DPAP, SFDA and CADA and proposed under the new scheme for Intensive Development of Blocks.

Name of the scheme	DPAP	SFDA	CAD	Proposed under the new programme for intensive development of blocks
1.	2.	3.	4.	5.
<u>Irrigation</u>				
i) Medium irrigation	100% Central grant-in-aid	Not included	Not included	Not allowed
ii) Minor irrigation (State works)	100% Government outlay	-do-	-do-	-do-
<u>Individual beneficiary schemes</u>				
i) Individual minor irrigation works	25 & 33-1/3% Govt. assistance for small and marginal farmers	25 & 33-1/3% assistance for small & marginal farmers	25 & 33-1/3% for small and marginal farmers	25% & 33-1/3% as subsidy to small & marginal farmers respectively.
ii) Community irrigation works including drainage	50% Govt. assistance towards cost apportionable to small and marginal farmers	50% Central assistance	50% Central assistance	50% of the cost as in other programmes
iii) Failed wells subsidy	Rs 1,000 or actual cost, whichever is less	Rs 1,000 actual cost, whichever is less	Not allowed	Rs 1,000 or actual cost of the well, whichever is less.
iv) Inputs	25 & 33-1/3% on cost of potassic & phosphatic fertilisers for small & marginal farmers	25 & 33-1/3% on cost of potassic and phosphatic fertilisers for marginal farmers only	Not allowed	25% & 33-1/3% on cost of potassic & phosphatic fertilisers for small & marginal farmers

India - CA 526  
 Recd Oct 11, 1978

	1.	2.	3.	4.	5.
v)	Agricultural demonstrations	Rs 500 per hect. on inputs	Rs 200 per demonstration over the project period	Not allowed	Rs 500 per hectare on the cost of inputs
vi)	Implements	25 to 33-1/3% Govt. assistance for SF and MF respectively	25 to 33-1/3% Central assistance for SF and MF respectively	-do-	25% & 33-1/3% to SF and MF respectively on improved implements, identified as such by the State Department of Agriculture.
vii)	Storage Bins	-do-	-do-	Not allowed	25 & 33-1/3% subsidy to SF and MF
viii)	Land development/soil & water conservation	25% Govt. assistance to all farmers	25 & 33-1/3% Central assistance to SF & MF respectively	25 & 33-1/3% to SF & MF respectively or the pattern followed by the State.	25 and 33-1/3% to SF & MF respectively
ix)	Distribution of milch animals	25 to 33-1/3% Govt. assistance to SF & MF and agricultural labourers respectively	-do-	Not included	25% and 33-1/3% as subsidy to SF & MF respectively
x)	Distribution of other animals (sheep, goats, pigs, poultry, duckery etc.)	-do-	-do-	-do-	-do-
xi)	Horticulture	-do-	-do-	-do-	25% and 33-1/3% to SF & MF on the cost of seedlings inputs land levelling, tools, fence etc.



1.	2.	3.	4.	5.
xii) Plough bullocks/ bullock-carts/ camels/camel-carts	-do-	-do-	-do-	25 and 33-1/3% for SF and MF
xiii) Fisheries	25% Govt. assistance for fishing nets	-do-	-do-	33-1/3% towards nets, fingerlings, boats etc.
xiv) Sericulture	25% Govt. assistance for Mulberry culti- vation to SF & MF	-do-	-do-	25% and 33-1/3% to SF and MF on mulberry plants, cuttings, rearing applica- nces, rearing sheds and equipment. The entire cost of planting material.
xv) Farm Forestry	Cost of planting material to be borne by government	-do-	-do-	
<u>Infrastructure Development</u>				
i) Seed farms	100% Govt. assistance	Not included	Not included in Central Sector	Not allowed
ii) Trainings	Full cost of organising training courses Govt. assistance	-do-	-do-	Full cost of training, provided it is organised in GSTC, FTC, Krishi Vigyan Kendras and Agricultural Universities.
iii) Godowns	100% cost borne by Government	Not included	-do-	Not allowed
iv) Mandies	Rs 3 lakhs per Mandi on <u>ad hoc</u> basis	Rs 4 lakhs for 4 regulated markets as Central assistance	-do-	Not allowed
v) Soil conservation	100% through Govt. fund	Not included	-do-	100% assistance for govt. lands to be taken up on a watershed basis.
vi) Fisheries	100% through Govt. funds	-do-	-do-	Not allowed

1.	2.	3.	4.	5.
vii) Veterinary dispensaries	100% through Govt. funds	vii) -do- Veterinary dispensaries	-do- 100% through Govt. funds	Not allowed
viii) A.I. Centres	-do-	viii) -do- A.I. Centres	-do- -do-	100% assistance in areas where BAIF is working
ix) Breeding farms	-do-	ix) -do- Breeding farms	-do- -do-	Not allowed
x) Chilling centres collection centres	-do-	50% Central grant-in-aid, limited to Rs 2 lakhs per unit	-do- -do-	50% of the cost limited to Rs 2 lakhs
xi) Feed Mixing Plant	-do-	Not included	-do- -do-	Not allowed
xii) Development of Pastures	-do-	xii) -do- Development of Pastures	-do- -do-	Not allowed
xiii) Fodder Banks	-do-	xiii) -do- Fodder Banks	-do- -do-	Not allowed
xiv) Afforestation	-do-	xiv) -do- Afforestation	-do- -do-	Not allowed
xv) Fish farms	-do-	xv) -do- Fish farms	-do- -do-	Not allowed
xvi) Cold storage	-do-	xvi) -do- Cold storage	-do- -do-	Not allowed
xvii) Equipments	-do-	Not included	100% loan by centre for purchase of equipments for land development	Not allowed
xviii) Transport vehicles	-do-	Not included	Not included	50% assistance to small vehicles like three wheelers for specific purposes like collection of milk, eggs etc. only in areas under operations Flood II.

1.	2.	3.	4.	5.
xix) Link Roads	Not included	Not included	Not included	Not allowed
xx) Agro & Forest based industries	-do-	-do-	-do-	Not allowed
xxi) Extension staff	100% through Govt. funds for any special staff	-do-	Full cost borne by the State Govt.	Not allowed
xxii) Administration (including surveys)	-do-	100% Central grant-in-aid	50% by the State & 50% by Centre	Not allowed
<u>Support to institutions</u>				
i) Risk fund cover	6% on short and medium term loans to the primary cooperative societies/central cooperative bank and 2% on long-term loans to land development banks	6% on short and medium term loans to the primary cooperative societies/central cooperative banks and 2% on long-term loans to land development banks	Not included	Not allowed
ii) Non-overdue cover loan to weak cooperative banks	Rs 10 lakhs	Rs 10 lakhs	Not included	Not allowed
iii) Equity, capital & debenture support	Share capital loan to SF & MF upto 4 shares, or Rs 40.00	Share capital loan to SM & MF upto 4 shares or Rs 40.00	50% by the Centre & 50% by the States	Interest-free share capital loan to SF & MF upto 4 shares or Rs 40.00
iv) Debt redemption	Not included	Not included	Not included	Not allowed

1.	2.	3.	4.	5.
v) Managerial subsidy	Allowed for farmers services societies	Allowed for farmers services societies and LAMPS	Not included	On a tapering basis to FSS and LAMPS

\* \* \* \* \*

DISTRIBUTION: MR. TIBOR  
MR. ALISBAH

1092 FOR KRAFFT

RE YR 1357 DPAP SUPERVISION MISSION

SRINIVASAN HAS CONFIRMED THAT EXTENDED PROGRAMME FROM OCTOBER 12  
TO 30 IS CONVENIENT FOR ALL STATES CONCERNED. ITINERARY WILL BE  
AS REQUESTED BY YOU. REGARDS

RAYMOND ROWE

1978 OCT -4 AM 11: 00  
COMMUNICATIONS DIVISION

RECEIVED

OCT 03 1978



# Record Removal Notice



<b>File Title</b> Drought Prone Areas Project - India - Credit 0526 - P009692 - Correspondence - Volume 12		<b>Barcode No.</b>  30305792				
<b>Document Date</b> October 3 1978	<b>Document Type</b> Letter					
<b>Correspondents / Participants</b> From: Rolf Albrecht, Ministry of Agriculture and Irrigation Department of Rural Dev. To: Dorothy Murphy						
<b>Subject / Title</b> Appointment information						
<b>Exception(s)</b> Personal Information						
<b>Additional Comments</b>		The item(s) identified above has/have been removed in accordance with The World Bank Policy on Access to Information or other disclosure policies of the World Bank Group.				
		<table border="1"><tr><td><b>Withdrawn by</b></td><td><b>Date</b></td></tr><tr><td>Ann May</td><td>June 16, 2017</td></tr></table>	<b>Withdrawn by</b>	<b>Date</b>	Ann May	June 16, 2017
<b>Withdrawn by</b>	<b>Date</b>					
Ann May	June 16, 2017					