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Report No. 6798

PROJECT COMPLETION REPORT

PAKISTAN

PUNJAB LIVESTOCK PROJECT

(LOAN 1366T-PAK)

June 3, 1987

South Asia Regional Office
General Agriculture I Division

PAKISTAN

PUNJAB LIVESTOCK PROJECT - (LN. 1366T-PAK)

PROJECT COMPLETION REPORT

List of Principal Acronyms and Abbreviation Used

AI	Artificial Insemination
CP	FAO/World Bank Cooperative Programme
DSM	Dried Skim Milk Powder
FAO	Food and Agriculture Organization of the United Nations
FMD	Foot and Mouth Disease
GOP	Government of Pakistan
GOPu	Government of Province of Punjab
ICB	International Competition Bidding
LMP	Lahore Milk Plant
PC.1	Planning Commission Form 1
PCC	Project Coordinating Committee
PCR	Project Completion Report
PDLD	Punjab Livestock, Dairy and Poultry Development Department
PLB	Punjab Livestock, Dairy and Poultry Development Board
PRs	Pakistan Rupees
SAR	Staff Appriasal Report
UHT	Ultra-High Temperature milk treatment
UNDP	United Nations Development Programme
VLA	Village Livestock Association

THE WORLD BANK
Washington, D.C. 20433
U.S.A

Office of Director-General
Operations Evaluation

June 3, 1987

MEMORANDUM TO THE EXECUTIVE DIRECTORS AND THE PRESIDENT

SUBJECT: Project Completion Report: Pakistan - Punjab Livestock Project (Loan 1366T-PAK)

Attached, for information, is a copy of a report entitled "Project Completion Report: Pakistan - Punjab Livestock Project (Loan 1366T-PAK)" prepared by the South Asia Regional Office. Under the modified system for project performance auditing, further evaluation of this project by the Operations Evaluation Department has not been made.

Attachment

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PUNJAB LIVESTOCK PROJECT - (LN. 1366T-PAK)

PROJECT COMPLETION REPORT

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PROJECT COMPLETION REPORT

PAKISTAN - PUNJAB LIVESTOCK PROJECT (LN. 1366T-PAK)

PREFACE

This is the Project Completion Report of the Punjab Livestock Project in Pakistan for which a loan in the amount of US$ 10.0 million was extended to the Government of Pakistan in February 1977. Credit closing occured on December 31, 1985 after three years extension. The final disbursement was made in July 15, 1986 and the undisbursed balance of US$ 1.6 million (16% of the loan amount) was cancelled.

The PCR was prepared by the FAO/World Bank Cooperative Programme (FAO/CP) and was reviewed by the General Agriculture I Division of the South Asia Region. The preparation of the PCR is based on the Staff Appraisal Report (No. 1193-PAK) dated January 18, 1977, the President's Report (No. P1860-PAK) dated January 19, 1977, the Project Agreements dated February 18, 1977, correspondence with the Borrower, internal Bank memoranda on project issues as contained in relevant Bank files as well as interviews with officials both in the Bank and in Pakistan who have been associated with the project.

A copy of the draft report was sent to the Borrower on February 12, 1987 for comments, and these comments have been incorporated and are attached as Annex 4.

This project has not been subjected to an audit by OED.

PAKISTAN

PUNJAB LIVESTOCK PROJECT (LN. 1366T-PAK)

PROJECT COMPLETION REPORT - BASIC DATA SHEET

Key Project Data

	Appraisal Estimate	Actual	Actual as % of Appraisal Estimate
Project Costs (US$ million)	19.7	10.8	55
Loan Amount (US$ million)	10.0	8.4 a/	84
Date of Effectiveness	05/25/77	08/03/77	
Date Board approval	02/01/77		
Date Physical Components Completed	05/25/81	01/31/85	
Closing Date	12/31/82	12/31/85	
Economic Rate of Return (%)	30	9	
Institutional Performance	adequate	inadequate	
Technical Performance	adequate	fair	

Staff Input

	FY75	FY76	FY77	FY78	FY79	FY80	FY81	FY82	FY83	FY84	Total
Identification/Preparation	39.9	89.5	7.1								136.5
Appraisal	29.4	29.4	25.0								83.8
Negotiations			5.6								5.6
Supervision			13.9	23.9	36.0	23.7	15.5	18.2	12.5	11.3	155.0
Total (Staff-weeks)	69.3	118.9	51.6	23.9	36.0	23.7	15.5	18.2	12.5	11.3	280.9

Cumulative Disbursement

IDA Fiscal Years:	FY78	FY79	FY80	FY81	FY82	FY83	FY84	FY85	FY86
Appraisal Estimate (US$ million)	1.3	3.9	7.9	10.0	10.0	10.0	10.0	10.0	10.0
Actual (US$ million)	0	0.1	0.2	0.2	0.2	4.1	5.8	6.8	8.4
Actual as % of Est.	0	3	3	2	2	41	58	68	84

Mission Data

Mission Data	Date (Mth/Yr)	No. Persons	Man-days in field	a/ Specialization Represented	b/ Status	c/ Trend	Type of Problem
Identification	05/75	4	100	L,L,A,E	-	-	-
Preparation	07/09/75	4	60	L,L,A,E	-	-	-
Appraisal	01/02/76	4	100	L,L,A,E	-	-	-
Supervision I	03/77	3	30	L,L,E	1	1	-
Supervision II	08/77	2	18	L,R	1	1	-
Supervision III	03/78	2	19	L,E	1	2	P
Supervision IV	07/78	2	36	L,E	2	3	M,F,P
Supervision V	02/79	2	60	L,L,P	3	3	M,F,P
Supervision VI	08/79	3	33	L,L,F	3	1	M,F,P
Supervision VII	03/80	2	18	L,F	3	1	M,F,P
Supervision VIII	11/80	1	6	L	2	1	P,M
Supervision IX	06/81	1	11	L	2	3	P,M
Supervision X	02/83	1	10	F	2	1	M
Supervision XI	06/83	1	4	F	2	1	M
Supervision XII	12/83	2	16	F,A	2	1	M
Supervision XIII	09/84	2	10	E,A	2	2	M
Supervision XIV	08/85	2	8	L,A	2	2	F,M

a/ A = Agriculturist; E = Economist; F = Financial Analyst;
L = Livestock Specialist; P = Animal Products Processing Specialist;
R = Land Resource Planner

b/ 1 = Problem free or minor problem; 2 = moderate problems;
3 = major problems

c/ 1 = improving; 2 = stationary; 3 = deteriorating

d/ F = financial; M = managerial; T = technical; P = political

Other Project Data

Borrower	Islamic Republic of Pakistan	
Fiscal Year	July 1 to June 30	
Name of Currency	Rupee (PRs)	
Currency Exchange Rate:		
Appraisal Year	1976/77	US$1.00 = 9.90
Intervening years Average	1976/77 to 1980/81	US$1.00 = 9.90
	1981/82	US$1.00 = 10.55
	1982/83	US$1.00 = 12.75
	1983/84	US$1.00 = 13.50
	1984/85	US$1.00 = 15.24
Completion Year (December 1985)		US$1.00 = 15.90

PAKISTAN

PUNJAB LIVESTOCK PROJECT (LN. 1366T-PAK)

PROJECT COMPLETION REPORT

EVALUATION SUMMARY

I. Introduction

1. The Livestock Sub-sector constitutes about 29% of value added in agriculture and, contributes about 16% of agricultural export earnings.

2. In support of the Livestock Sub-sector, the Government of Pakistan (GOP) expressed interest in the World Bank's assistance for a project which was to be directed at utilizing the beef potential of the large number of male buffalo calves which registered high mortality rates due to underfeeding. Further preparation of the project also aimed at increasing livestock and agricultural output on about 60,000 farms.

II. Objectives

3. The project which was to be implemented by the Punjab Livestock, Dairy and Poultry Development Board (PLB) in five years aimed primarily at improving marketing of meat and milk by offering adequate prices with technical support and assured input supply to encourage increased supply of beef and milk from the existing herd. These were to be achieved by better feeding of livestock, disease control, upgrading of village livestock, provision of greatly improved marketing, credit and extension services, production of vaccine, and construction or improvement of meat and milk processing facilities. The project also proposed to establish about 350 Village Livestock Association (VLA).

III. Implementation Experience

4. The project was to cost US$25 M. The central project authority for all field development work was the PLB, while the Punjab Department of Livestock, Dairy and Poultry Development (PDLD) was responsible for extension, artificial insemination, vaccine production and research and the University of Faisalabad was responsible for improved training in livestock production.

5. Implementation of the project was much slower than anticipated (paras 3.5-3.7). Initial delays were caused by Martial Law Administration, introduced in March 1977 which required review of all actions taken by the previous political regime. Subsequent delays were due to a waning of interest in the project by the Government of Punjab (GOPu).

6. PLB was beset by problems of frequent changes in leadership of the organization. Under these circumstances, PLB could not provide effective management and coordination that was required for this multi-component

project. This state of affairs had its toll on staff morale who interpreted events as a signal of reduced GOPu commitment, hence uncertainty and resultant delay.

7. There were also no clear relationships between the three agencies involved in the project. The PDLD and the University of Agriculture considered the project as essentially belonging to PLB. The Project Coordination Committee (PCC) met only infrequently and was unable to ensure that these two authorities undertook their tasks under the project. Partly because of these problems, the project which became effective on August 3, 1977 was reclassified as a problem project and was subjected to a review by GOP and the World Bank in July 1979. This review resulted in the reduction in the scope and size of the project. Two components - vaccine production and livestock research were excluded and so were other components so that the project was reduced to the development of VLA's and milk processing facilities. The exclusion of the other components resulted in a reduction of project costs and the loan amount by about 40% of the original estimate

8. The formation of associations of village livestock owners was to be a vital feature of the project. It was assumed that half of the 1000 villages in the project area would form VLA's and 70% of small farmers would become members of VLA's. However, this assumption proved over-optimistic since the concept was new to both technical staff and farmers and by the end of the project less than 8000 farmers were members of a total of 150 VLA's which were formed.

9. The PCC had not been able to remove the major bottlenecks during the project's crisis period. It did not also succeed in bringing about continuity in PLB management or integration of the various components and meetings of the PCC were stopped after the inital years.

IV. Results

10. Owing to the reduction in VLA's from 500 to 150 of which only about 90 were active, only a minimal incremental increase in production was achieved and this is insignificant on a national or provincial scale. However, within the villages with active VLA's, animal numbers increased by 29% while milk production registered a marked increase (para 3.10).

11. The project has also introduced a small number of VLA farmer families to the concept of selling milk on the basis of butter fat content which system is accepted as beneficial.

12. The facilities and equipment for artificial insemination (AI) provided under the project had not been utilized and the AI component had no significant effect as the Department had already adopted deep frozen semen technology with FAO/UNDP-assistance (paras 3.40-3.45).

13. On a positive note, the project with respect to milk collection an processing has helped PLB to keep pace with dairy development in Punjab. Without this assistance, the already existing milk plant would have had little or no possibility of survival.

14. The estimated increase in saleable milk of about 15,000 liters per day at the current purchase price and shared by 8000 farm families is equivalent to an incremental income of about Pakistan Rupees 1,620 per family, per year.

15. The most significant social impact of the project has been to make good quality standardized milk with a long-shelf life available throughout major centers in Pakistan. Although the Lahore Milk Plant ( ) is not the only participant in this development, it seems that this trend towards consumption of quality processed milk will continue.

16. Overall, the project has not met its original objectives of improving livestock production and the incomes of a large number of farm families in the project area. However, it has created a nucleus of functioning VLA's which could lay the basis for further development. The project has also strengthened the AI service in Punjab through the provision of buildings and equipment which could be utilized in the future Likewise, it has improved facilities and laboratory equipment to the College of Veterinary Sciences which can increase the training standard of stock assistants in the Province and assist provision of extension advise to VLA's.

V. Findings and Lessons

17. Important lessons have been learned from the project. In terms of project formulation, an important lesson is that particular attention should be paid to limiting the number of components to those strictly necessary for attaining the project's main objectives. The tendency to address a range of problems simultaneously in order to satisfy the aspirations of government officials should be avoided (para 8.7).

18. A critical examination is required at appraisal of the existing and planned commitments, organizational structure and staff capability of the executing agencies' to assess their implementation capacity. A recurring problem that arose in project execution is executing agency delays in decision making and it is unrealistic to expect a successful commercial undertaking emerging in a situation where management lacks the autonomy in decision making. However, frequent change in the management of the project and excessive delays in taking decisions may also be signs of wavering commitment to a project and review missions need to identify the underlying causes (para 8.7).

19. A detailed knowledge of the market requirements is necessary prior to identifying the needs of plant and equipment, perhaps through a detailed market survey or study. This should be a prerequisite to the determination of the product mix of the milk plant.

20. Project actions should proceed in the correct sequence. The Bank, through its supervisory activities should have ensured the development of VLA's before the setting up of the LMP. Also, the purchase of tankers should have preceeded the setting up of the chilling centers.

21. In a project such as this, the purchasing policy of the LMP should allow for the collection of all milk offered by the farmer regardless of quantity of supply. In dealing with a highly perishable product, farmer confidence is of utmost importance to ensure increased and continuous milk supply. Pricing policy, including overall marketing policy needs to be oriented to building and maintenance of farmer confidence (para 8.7).

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PUNJAB LIVESTOCK PROJECT (LN.1366T-PAK)

PROJECT COMPLETION REPORT

I. INTRODUCTION

1.1 Agriculture is the mainstay of Pakistan's economy. Despite a gradual decline in relative importance over the years, agriculture still accounts for about 30% of GDP and some 60% of the total labour force. Agriculture is also the principal supplier of raw material for industry and the most important source of foreign exchange. In 1982, the sector accounted for about 45% of total exports. Crops and livestock dominate the sector accounting for about 68% and 28% of agricultural GDP respectively.

1.2 The performance of the agricultural sector has varied over the past few decades. Growth rate in the fifties averaged 1.6% per year which was lower than the population growth rate. As the result of increased supply of irrigation water, new policies, use of high yielding varieties and good weather, the agricultural growth rate was raised to an annual average of 3.8% for the period 1960-65 and 6.3% for 1965-70, which was greater than the population growth of 2.8-3.0% per annum. During 1970-75, however, the agricultural sector growth rate declined to an average of less than 1% per annum, leading to serious economic problems in the country. The poor performance was, among other things, due to successive years of bad weather and the 1971 civil war. In order to counter this poor performance, the Government of Pakistan (GOP) intensified irrigation development and the supply of inputs, and introduced incentives that encouraged farmers to increase their production. A number of agricultural programmes and projects were undertaken, ranging from purely sub-sectoral projects for irrigation and input supply development, to integrated rural development and agricultural sector support. These efforts succeeded in accelerating agricultural development. The growth of the sector varied between 3.5% and 4% per annum for the period 1976-83.

1.3 In support of the agricultural sector, GOP launched a World Bank-assisted livestock project in August 1977. This project was the first World Bank assistance to the livestock sub-sector in Pakistan. The project aimed at utilising the beef production potential of male buffalo calves and at increasing livestock and agricultural output on about 60,000 farms. The project area was confined to Sheikhupura District in Punjab Province.

1.4 As project execution was terminating in December 1985, an FAO/World Bank Cooperative Programme (CP) mission visited Pakistan in November/December to assist in the preparation of a project completion report (PCR). That mission produced this PCR which is based on project documents and reports prepared by GOP, Government of Punjab (GOPu) and the World Bank during project preparation and implementation, on discussions the

mission held with Government officials and farmers, and on visits the mission made to the project area.

II. PROJECT FORMULATION

Project Origin

2.1 In mid-1974, the FAO/World Bank Cooperative Programme carried out a livestock sector survey in Pakistan in which the major development requirements of the sector were identified. One of these was the expansion of buffalo meat production for export. In the same year, GOP expressed interest in World Bank assistance for a project to utilise the beef potential of the large number of male buffalo calves which were allowed to die of underfeeding as they could not be reared economically. GOP agreed that such a project would require increased beef prices which were expected to be achieved by a relaxation of the Government ban on beef exports. Based on this, a project was sought to be prepared for World Bank assistance.

Identification and Preparation

2.2 At the request of the GOP, a CP mission visited Pakistan in May/June 1975 to assist in the identification and preparation of a project for strengthening animal health and developing beef production as well as to examine opportunities for milk and mutton production. This mission visited the four provinces and identified a series of projects which could be prepared for World Bank assistance. Most of the proposed investment was for marketing and processing facilities. Even though broad areas of investment were identified during this mission, it was agreed within the Government that preparing projects for simultaneous implementation in all the provinces should be avoided and that a project in Punjab should be the first of a series.

2.3 Identification work was therefore accelerated in Punjab where a comprehensive buffalo meat and milk production project in Sheikhupura district was conceived. This was expected to involve about 150,000 families who would benefit from the sale of 3,000 tons carcase weight of finished buffalo calves and 40,000 tons of milk annually. Major investment was to be on slaughter and meat processing facilities for 400 head daily and milk processing facilities for 100 tons milk daily. Total investment was roughly estimated at US$15-20 million.

2.4 This broadly identified project was subjected to further preparation by the Punjab Livestock, Dairy and Poultry Development Board (PLB), and with the assistance of CP a preparation report was completed in October 1975. The project, to be implemented by the Board in five years, aimed primarily at improving marketing of meat and milk by offering adequate prices with technical support and assured input supply to encourage increased production of beef and milk from the existing herd. The main elements of the project consisted in better feeding of livestock, disease control, upgrading of village livestock, provision of greatly improved marketing, credit and extension services to about 90,000 farm families; construction or improvement of meat and milk processing facilities and production of vaccine. In order to deliver services to farmers and to receive produce, the project proposed to establish about 350 Village Livestock Associations (VLA). The central project authority for all field

development work would be PLB while the Punjab Department of Livestock, Dairy and Poultry Development (PDLD) would be responsible for extension, artificial insemination and health services, for vaccine production and research and the University of Faisalabad (Lyallpur) for improved training in livestock production. The project to be implemented over a five-year period was estimated to cost US$25 million.

Project Appraisal and Credit Effectiveness

2.5 The project was appraised by the World Bank in January/February 1976. As outlined in the Appraisal Report of January 1977, project components comprised:

a) establishing and operating, under the control of PLB, about 500 farmer owned Village Livestock Associations (VLA), which would be the foci for the delivery of governmental and other support services including extension, animal health and artificial insemination. The VLAs would purchase milk from their members for sale to PLB and supply its members with essential inputs. Membership of each VLA would, at project maturity, comprise about 120 families;

b) strengthening the PDLD to improve its research and extension activities, foot and mouth disease vaccine production, and artificial insemination (AI) capabilities and thus to provide project participants with efficient support services;

c) improving the animal production training capacity of the University of Faisalabad to ensure the provision of adequate numbers of suitably trained livestock technicians;

d) expanding the existing Lahore milk plant (LMP - which was to be transferred from the Lahore Dairy Board and become a subsidiary of PLB) from a capacity of 25,000 litres/day to 100,000 litres/day to handle the increase in marketed milk expected to be brought about by the project; and the establishment of milk collection and milk chilling centres in Sheikhupura District;

e) constructing a modern export-standard slaughterhouse and meat processing facility in Lahore to be owned by PLB, with a capacity of 400 head of cattle and buffalo per shift. This was intended to replace existing unhygienic facilities, cater for the increased throughput of larger animals expected to be generated by the project, and provide facilities for processing meat and by-products for export and domestic consumption;

f) improving some 10,000 acres of PLB managed farm land in order to increase rapidly the production of improved cattle; and

g) mapping land use in the project area in order to determine seasonal land use patterns.

2.6 The project was to be implemented by PLB and PDLD of the GOPu, and by the University of Agriculture. The PDLD, was to be responsible for provision of livestock extension and artificial insemination services and animal health services including production of foot and mouth disease vaccine. The University of Agriculture was assigned to implement the training component in animal production. The PLB was made responsible for

developing VLAs and setting up milk purchase and collecting systems, chilling centres and also for refurbishing the LMP. It was also responsible for management of the farms allocated to it and for liaison with the University authorities for training requirements.

2.7 Although the two Government agencies were both responsible to the Minister of Livestock Development of the Government of Punjab and their responsibilities were well delineated, a Project Coordinating Committee (PCC) was established to coordinate the efforts of the implementing agencies with other departments and agencies and to supervise and monitor the project. Its Chairman was to be appointed by the Chief Minister and members of the committee included representatives of the Departments of Finance, Planning and Development, PDLD, the University of Faisalabad, PLB, Animal Husbandry Commissioner of GOP and jointly the five commercial banks and the Agricultural Development Bank of Pakistan. The PCC was to be assisted by a small secretariat to handle administrative matters.

2.8 As appraised, the project was essentially similar to the preparation proposal with the exception of increased disease control and support services. Project costs, including contingencies were estimated at PRs195 million or US$19.7 million with a foreign exchange component of about 50%. The project was expected to yield an economic rate of return of 30%. A loan of US$10 million was approved and was signed on 17 February, 1977 and the project became effective on 3 August, 1977, with an expected closing date of 31 December, 1982.

III. IMPLEMENTATION

A. Project Start-up

3.1 The project had a promising early start. The first supervision mission which visited Pakistan in March/April 1977 reported that the project enjoyed strong support from GOP and GOPu and enthusiasm in the executing agencies was high. The PCC was formally constituted and held its first meeting on 26 June 1977 before project effectiveness. Draft invitations for consultants on the milk plant and slaughterhouse components as well as draft terms of reference for all consultants were prepared and cleared. Until the Government document required for approval by all concerned with the project (PC-1) was finalised, anticipatory approval for expenditures up to March 1979 was given. During the same period, the Lahore milk plant was taken over by PLB as envisaged by the project.

3.2 In spite of the promising start however, some setbacks soon became apparent. Two separate PC-1s were prepared for the PLB and the PDLD and were submitted to GOPu in June 1977. These were not approved as the GOPu decided that they should be re-submitted as a single PC-1 for the project. After re-submission of the combined PC-1 however, clearance was delayed because of a lengthy debate on the financial viability of the slaughterhouse component and the scope of the VLAs. The PC-1 was not cleared until March 1979 with modifications and revisions which resulted in the deletion of several components (paras 3.3-3.4).

B. Changes in Project Design

3.3 As no material progress was being made in project implementation, the project was reclassified as a problem project and was subjected to a review by GOP and the World Bank in July 1979. This review resulted in the reduction of the scope and size of the project. Two components namely foot and mouth vaccine production and livestock research were excluded from the project as they were expected to be financed by British aid and UNDP respectively. Another two components, development of tenant-operated PLB farm and construction of a slaughterhouse were deleted from the project because these appeared to be no longer viable. PLB was not able to prepare specific development plans for the use of the farms in the training for VLAs and staff in improved livestock production and increased crop production. Based on a feasibility study of the slaughterhouse carried out by consultants and using up-dated costs, the financial and economic viability of the plant was found to be marginal.

3.4 With such changes, the project was reduced to the development of VLAs and milk processing facilities. The exclusion of the four components resulted in the reduction of project costs and the loan amount to about 40% of the original estimate. Because of the delay in implementation and inflation, however, final costs in PRs amounted to 55% of the appraisal estimates (Annex 1, Table 2).

C. Overall Implementation Experience.

3.5 Implementation of the project was much slower than anticipated. Delays were caused initially by the Martial Law Administration, introduced in March 1977 which required review of all actions taken during the previous political regime. For instance, consultants which were short-listed in June 1977, had to have their terms of reference cleared by th Martial Law Administration which delayed issuance of invitations. Subsequent delays were due to eroded GOPu interest in the project as appraised. GOPu took a long time to approve the PC-1 and questioned the viability of the slaughterhouse component, although it had been agreed during appraisal and negotiation.

3.6 PLB's implementation capacity proved to be much less than anticipated and there were four changes of Managing Director within the first two years of project effectiveness. Between 1976 and 1985, PLB had nine Managing Directors, an average duration of 1 year. In the prevailing circumstances, the PLB could not provide the management skills and coordination that were required for a successful multi-component project. This unsatisfactory state also seriously affected staff morale who interpreted the events as signals of reduced GOPu commitment and thus uncertainty. An additional factor which contributed to the delay in implementation was the lengthy negotiations taken to recruit consultants.

3.7 The PDLD and the University of Agriculture did not operate on schedule as they considered the project as belonging essentially to PLB. The PCC did not meet regularly and was not forceful in emphasizing the role and duty of these two authorities in the project.

3.8 Because of all these factors and departmental rivalries, the project had to be scaled-down (para 3.3) and the closing date was successively extended three times to 31 December 1983, 1984 and 1985.

D. Implementation of Specific Components

Village Livestock Associations and Field Service

3.9 The survey of villages, selection of VLAs and their registration and subsequent development was to be implemented by the PLB. The PDLD was to be responsible for veterinary services, artificial insemination, production of vaccines, livestock production extension, research and training. Successful implementation therefore depended upon very close collaboration between the two principal agencies.

3.10 Establishment of VLAs. The formation of associations of village livestock owners was a vital feature of the project. They were designed to improve methods of livestock production and to integrate more effectively the livestock and crop production activities of some 60,000 small farmers and landless stock owners. To ensure a satisfactory legal framework, the Government of Punjab prepared specific legislation for the registration of VLAs. <1> Some delays were experienced in the preparation and enactment of this law.

3.11 It was originally assumed for project formulation purposes that half the 1,000 villages in the project area would form VLAs and that 70% of the small farmers and stock owners in each VLA village would become members. In practice this assumption proved over-optimistic since the concept was new to both technical staff and livestock owners. Field work commenced in 1978 and by April, only ten VLAs had been identified. Owing to the delay in finalising the legislation, these early VLAs could not be registered until 1979/80. Subsequently, the target for VLA formation was reduced to 300 by 30 June, 1984 and the area was extended to three districts - Sheikhupura, Okara, Kasur. Later, the number of associations was further reduced to 150. Additional delay occurred due to the necessity to amend the legislation to include the additional districts. The establishment of VLAs is shown in Annex 2, Table 2.

3.12 Thus, in spite of the initial enthusiasm of the farmers and the staff, the programme was effectively diluted and spread over a larger area with fewer associations. A further adverse factor was the reduced number of farmer beneficiaries. The VLA Ordinance specified fifty members as the minimum for establishing a VLA and thus the large majority of VLAs (88%) were registered with this minimum number of members (Sheikhupura 97%, Okara 45% and Kasur 62%). Thus project benefit was restricted to about 8,000 families instead of the 60,000 originally assumed. This number of beneficiaries was further reduced because only some 95 of the 150 VLAs registered were actually delivering milk, with milk delivery from about 4,750 families.<2> Without additional survey work, it was not possible to differentiate numbers of landless and land owners within this number.

<1> Punjab Livestock Assocations and Livestock Association Unions (Registration and Control) Ordinance, 1979. Ordinance V of 1979 (25 April).

<2> Efforts are, however, underway to recommission some of the dormant VLAs.

3.13 Loans were granted to 101 VLAs to enable them to purchase milk testing equipment and medicines and to assist in the establishment of a milk trade. These loans were made between May 1981 and April 1983, were repayable over five years and carried no interest. Twentyfour percent of the loans were made in kind as equipment. By October 1985, only 81 VLAs had repaid the loans while 13 VLAs had made no repayment (see Annex 3, Table 4).

3.14 Extension and health services. Historically the Directorate of Extension of the PDLD was concerned with animal health, with major emphasis on prophylaxis and treatment. With increased interest in animal production in the early 1970s, a Directorate of Livestock Production Extension and Artificial Insemination was set up in PDLD. With FAO/UNDP assistance, this Directorate concentrated its activities in the districts of Sahiwal, Sargodha and Gujranwala, i.e. in districts different to the project. The position was further confused by transferring PDLD's livestock production extension and AI services to the Directorate General of Extension (Animal Health) between 1 January 1983 and 6 November 1985.

3.15 While it appears that some collaboration existed between the Field Service Organization of PLB and the veterinary hospitals and artificial insemination sub-centres of PDLD when they were fortuitously sited close to the VLAs, it was not possible to ensure that every VLA received sufficient attention from extension and animal health workers. The most active and fortunately situated VLAs received adequate support from the extension and health services, but overall the support provided was less than had been envisaged or was required. Noteworthy, is that no progress was made with vaccination against Foot and Mouth Disease. The national production of vaccine has not yet been sufficiently developed to provide enough vaccine for VLA livestock. This was due to failure of negotiations for a grant from a bilateral donor to step up FMD vaccine production. These negotiations are now being revived.

3.16 Training of farmers and VLA workers. Efforts were made to provide training for VLA officials and workers and also for farmers. A training centre was constructed in 1982 on a site in Sheikhupura town close to the project area and became operational in April 1983. Bearing in mind that formation of VLAs commenced in 1978/79 and that peak levels of registration of VLAs occurred in 1981/82, this training centre could have been more effective if inaugurated earlier. Nevertheless, satisfactory syllabuses were developed for training of chairmen and secretaries of VLAs, VLA members and farmers and for village women. Trainees included 60 VLA secretaries (6 months), 14 extension workers (40 days) and in-service training was provided to about 200 local staff of the PDLD, extension workers and spearhead teams. Attempts to provide 15-day courses for farmers were less successful because farmers were reluctant to stay away from their holdings. Nevertheless, some 80 farmers received training; this constitutes about 1% of the 6,400 active VLA members.

3.17 Other syllabuses were developed for dairy technicians and livestock assistants. Some duplicate the National Dairy Training courses held at the University of Agriculture, Faisalabad and the Stock Assistant training given by the College of Veterinary Sciences, Lahore. Confusion also existed as to whether training in AI should be restricted to specialists of the Directorate of Animal Production Extension and Artificial Insemination.

3.18 Considerable uncertainty exists among the staff about the future of the school following termination of the World Bank assistance. The first principal has resigned and been replaced and 11 out of 25 posts (44%) chiefly in administrative and supporting grades are vacant (see Annex 2, Table 1). The training school has a continuing and important part to play in ensuring further development of the VLAs and should concentrate on teaching VLA secretaries and participating farmers.

Milk Collection and Transport

3.19 Attention was rightly devoted to the problems of collecting small quantities of milk from VLAs and its successful transport to the LMP, and it must be recalled that milk for UHT treatment must be as pure as possible. Owing to the reduction in the numbers of VLAs registered (para 3.12), collection routes were less concentrated and quantities of milk were less than envisaged.

3.20 The VLA concept was patterned on the successful village dairy societies established elsewhere in south Asia. These included paying cash for each delivery (less any dues owing to the VLA) and collection of the milk twice daily. The success of the system depended upon: the goodwill of the farmers; the building and commissioning of the chilling centres; and the distance to the milk plant.

3.21 Orderly and logical implementation of the milk collection system was not achieved, principally because of delays in awarding the contract for rehabilitation of the LMP and in its subsequent completion, and secondly because the consultant services did not include advise on setting up of chilling centres. Initially, formation of spearhead teams and registrations of VLAs was delayed pending enactment of specific new legislation governing these associations. Subsequently, formation of VLAs was hastened forward in 1981/82 before the LMP had been rehabilitated but when the LMP began commercial production in July 1984, the chilling centres were still at the planning stage.

3.22 Nevertheless these difficulties have been tackled and milk is being collected and satisfactorily transported to the LMP for UHT treatment. The existing system has, however, departed from the original pattern in the following respects:

- Milk is not paid for daily on delivery but weekly in arrears. This system appears to be convenient to all concerned and is accepted by producers provided prompt payment is made at these weekly intervals.

- Milk is also collected from non-members of the VLAs and some VLA officers are thus acting as milk collectors. As an interim measure, there is no objection to this and indeed the benefits outweigh any disadvantages. In the longer-term, however, it is to be hoped that the services provided by the VLAs will attract new membership.

- The principle, that all milk offered by the VLAs must be purchased, has been violated by LMP which has from time to time refused to receive milk on one or more days.

- Milk is not yet collected twice daily so that only the morning milk can be collected from producers. Once the chilling centres become operational, these problems should be resolved.

- Owing to the delay in completion of the chilling centres, milk collected is currently chilled by blocks of water ice, with the additional costs and problems attendant on this method.

3.23 Expansion of Lahore milk plant. The expansion and rehabilitation of Lahore milk plant was completed in 1984. The technical facilities of the plant have been markedly improved and the new processing and packaging machinery has been fitted into the existing building in a satisfactory manner. The addition of a 750 kVA generator was timely and has already proved its worth in maintaining production during the frequent periods of load-shedding that are currently necessary due to scarcity of electrical generation capacity in Lahore.

3.24 An existing effluent treatment plant has also been enhanced to modern standards.

3.25 The refurbished plant has a capacity of 65,000 litres UHT milk in tetrahedron packs and 15,000 litres of pasteurized milk in bulk, in two shifts per day. The plant also has the capacity to produce 2.5 tons of butter per day in 200 gram packs and has a yoghurt production facility for 5,000 litres per day in plastic cartons of 0.5 litre. The butter and yoghurt facilities have been tested and commissioned but were not yet in production due to lack of paper and cartons.<3> It was understood that the consultants employed by PLB did not recommend production of icecream or cheese.

3.26 The UHT treated milk is packed aseptically in either 0.5 l or 0.25 l tetrahedron paper packs. Three machines produce 0.5 litre packs and one machine produces 0.25 litre packs.

3.27 Although the objective of expansion and modernisation of the Lahore milk plant has been achieved, there are a number of issues concerning selection of equipment which require critical examination. These are:

a) Provision has been made for the production of pasteurised milk in bulk. No clear indication could be obtained of why this facility was required. Apparently, bulk pasteurised milk had previously been supplied to one company up to 1980. This milk was thought to have been resold to hospitals. This purchaser is understood to have ceased operations and currently there is no known market for bulk pasteurised milk. With the ready availability of reliable UHT milk in aseptic packings on the Lahore market, there is unlikely to be a market in the future for bulk pasteurised milk. On grounds of consumer taste, there may be a market for pasteurised milk in 0.5 or 1 litre packings, but this would require the purchase and fitting of a new carton filling line. The pasteurizing facility may also be used to feed the yoghurt production line. <4>

b) Regions which rely on milk production from water buffalo, experience marked seasonal differences in supply volume. In order to ensure continuing goodwill and an outlet for the farmers' milk, collecting centres and plants must be able to purchase all the milk offered by the farmer/producer, even in the season of maximum availability. This situation is conveniently met by production of dried skim milk (DSM) powder and butter oil in the flush season for recombining and toning when milk supplies are scarce. The alternative to this solution is to rely on commercially available or aid supplies of DSM and butter oil for the lean supply season and to refuse purchase of farmers' milk in the flush season. This

<3> These are now in production.
<4> This is being done now.

second alternative appears to have been chosen for the Lahore milk plant, as the equipment for DMS and butter oil was not provided by the project. As a result, VLAs have not been able to sell to LMP all milk they wished to sell. This 'purely' commercial behaviour of the PLB/LMP has undermined farmers' confidence in the milk collection system. This is further reflected in the belief that LMP could use cheaper imported raw materials for reconstruction of milk rather than DSM and butter oil produced from domestically produced milk during flush seasons.

c) Attention was drawn to the fact that a "clarifier" had not been included in the plant design, which relied only on the simpler and less effective milk filtration. This problem had been overcome by purchase and fitting of a clarifier with Government funds. The consultants may only have had experience of more sophisticated conditions but in the circumstances of collection from small farmers in rural areas, a clarifier is essential. <5>

d) The machine supplied for butter packing was designed to produce only 200 g packs. Furthermore, the machine was supplied without stocks of paper for initial use. It was subsequently found that the type of paper with exact perforations could not be obtained or manufactured locally, with the result that the LMP is now committed to importation of paper wrapping for the foreseeable future. The LMP is now endeavouring to repair an old butter packing machine to provide packs of 100 g and 50 g. <6>

e) A similar situation pertains to the yoghurt filling machine provided, namely lack of initial 'start-up' supplies of plastic containers and dedication to a single (large) pack of 0.5 litre. This has resulted in considerable delays in utilising the machine and reliance on the market rival firm for supply of the plastic cups. Provision for change to 125 ml cups has not been made although the machine could be adapted with additional expense and expertise. <6>

f) Small collection tankers have been imported to collect milk from the VLAs and transport it to the chilling centres. These consist of flat-bed lorry chassis carrying two 2,000 litre insulated bulk tanks. However, no satisfactory provision has been made to fill the tanks and the manual handling of filled churns (c. 45 kg) up a fixed ladder needs to be replaced by a stainless steel pump and pipeline.

3.28 Milk collection at VLAs. The largest proportion of VLAs are situated away from all-weather roads although noticeable improvements of rural roads are currently being implemented. Prior to the project, only about 20% of milk produced would be marketed through a traditional system of collectors and middlemen.

3.29 Most of the VLA members will, over a period, supply some milk but on any one day only 25-50% of members bring milk in their own small containers. VLA members also collect milk from relatives or friends who do not belong to the associations. Thus the VLAs are in the process of marrying into the traditional collector system and this should be encouraged. Only morning milk is collected although plans are underway to collect evening milk as well.

<5> The cream separators have subsequently been converted to clarifiers by fitting necessary attachments.

<6> Action is underway to rectify these problems.

3.30 The chairman and/or the secretary supervise the recording of quantity of milk and the butter fat test. Milk is then bulked in 37 kg capacity insulated milk churns and transported to a collection point. Pending completion of the chilling centres, milk is collected by the LMP tankers and ice is put into the milk in the traditional way for cooling. Record keeping appeared to be very good and it is perhaps significant that in the VLAs visited, there had been few changes of chairman or secretary. The VLA officers met gave a good impression of dedication to the aims of the VLAs and their members.

3.31 Chilling centres. Only about 95 VLAs actually collect milk and for the purpose of providing extension advice and associated support services, they have been grouped in clusters of 10-12 under the responsibility of an extension worker. These extension offices also act as collecting points for the bulk milk from their cluster of VLAs. Ideally, each of these eight collecting points should have the capacity to chill the bulked milk but with the reduced number of VLAs and quantity of milk, such development was not viable. The only chilling centre existing at the start of the project was later seriously damaged in a storm and required major repairs.

3.32 Consultants hired by the PLB were requested in February, 1984 to review existing proposals and specifications for chilling centres, to advise on selection of contractors, specification of materials and methods of construction; to evaluate tenders received and supervise the construction and installation of equipment for up to four chilling centres. Logistics of milk collection methods were specifically excluded from the consultants' task.

3.33 The consultants concluded that insufficient funds were available (US$500,000) to build four new chilling centres (US$188,000 each). PLB therefore decided that only two new chilling centres would be built and the remaining funds would be used to repair and refurbish the existing damaged chilling centre. Excellent sites were selected and acquired by PLB for the new centres and by early 1986 the LMP will have three centres each with a capacity of 10,000 litres. These are expected to cool filtered milk from 40°C to 4°C at a rate of 5,000 litres/hour. Standby generators have been included in the plans. After cooling, the milk will pass into two chilled 5,000 litre capacity insulated storage tanks to await collection by the LMP insulated bulk tanker lorries of 9,000 litre capacity, for transport to the LMP. The distances of the chilling centres from the LMP are 70, 85 and 110 km.

3.34 The total expected chilling centre capacity of 3 x 10,000 litres will provide less than half the daily intake of chilled milk required for operation of the LMP at full capacity. These three chilling centres should have been commissioned in June 1984 when the LMP began commercial UHT production. The delay in completing them has undoubtedly affected adversely the planned development of milk collection and processing. The expenditure on purchase of ice to chill the milk would have been avoided and the investment in 9,000 litre tanker lorries would have been utilised earlier.

3.35 If the milk plant component of the project is to be fully developed and reach higher capacity utilisation, evening milk will have to be collected and this will require further investment for more chilling centres. <7> The proposal by LMP to utilise the large tanker trucks for holding chilled milk can only be regarded as a temporary expedient.

<7> Action is being taken to further invest in more chilling centers.

Education in Livestock Production

3.36 Implementation of this component was not started until 1983/84. Nevertheless, great efforts have been made to make effective use of the funds available. Benefits will only become apparent from 1986 onwards when the livestock technicians trained under the new curriculum will complete their training.

3.37 The new curriculum, which was implemented from 1984, provides an intensive 12-months training covering animal management, reproduction, feeding, fodder production and conservation, range management, animal health control and elementary surgical procedures. An intensive course of this type requires very careful selection of trainees if maximum benefit is to be attained, but technicians successfully completing such a course will provide a useful and important strengthening of the livestock extension service. Currently there are 135 trainees and those successful can expect to be employed by PDLD which has posts available.

3.38 This component also provided funds for improvement of buildings and purchase of new equipment. Some 60% of the funds for buildings were utilised for erecting 5 bull pens, a loose housing building and courtyard for cattle, and a small laboratory. These facilities were required to strengthen teaching and research in animal reproduction and artificial insemination. The remaining 40% of the building funds were spent on refurbishing and improvement of facilities in seven sections of the college. Some US$180,000 was spent on laboratory and veterinary equipment.

3.39 The delay in implementing this component must be related to the repeated changes in Managing Director of the PLB. If the training of livestock technicians had been implemented sooner, the new trainees could have helped to ensure technical support for the VLAs. Nevertheless, the assistance to the College of Veterinary Sciences has been well utilised and must be regarded as a useful medium-term investment.

Artificial Insemination

3.40 Intensification of AI for the buffalo and cattle of the VLA members was an essential component of the project. The Directorate of Animal Production, Extension and Artificial Insemination of PDLD had already received assistance via FAO/UNDP during the period 1975/80 with provision of expertise and some US$750,000 of equipment. During this period the use of deep frozen semen in straws was introduced and semen production from indigenous buffalo and cattle increased. This Directorate was therefore well prepared to intensify operations.

3.41 The project had initally proposed the setting up of a new semen production unit at Sheikhupura in the project area. To avoid duplication of buildings, equipment and professional staff, it was decided that the project would fund new buildings and equipment on the site of the existing semen production unit at Quadirabad some 120 miles south of Lahore or 150 miles from the project area. Accordingly a new laboratory, with additional equipment, three rows of bull pens each with a capacity of 40 bulls, and staff houses were erected.

3.42 The buildings were completed and handed over in mid-1983. Although the staff housing has been partly occupied (1 x 3-room, 6 x 2-room and 15 single room houses) and the 120 bull pens are being utilised, the laboratory and semen processing facilities had not yet been used by November 1985. The non-utilisation of the laboratory was due to the omission of certain essential items from the original Government PC-1 (see para 3.2) and the approved contract. The Department is now in the process of rectifying these deficiencies and the facilities are expected to be used in 1986.

3.43 Provision of AI to the buffalo and cattle owned by the VLA members has not proved as effective as was envisaged in the original project (see Annex 2, Table 4). In fact, no intensification of AI services has taken place within the project area. This was due to the fact that:

- the number and density of VLAs (para 3.13) was much less than envisaged;

- there was confusion as to who was responsible for the insemination of VLA livestock. A number of VLA secretaries received some related training, but this was incomplete in respect of AI;

3.44 The Directorate of Livestock Production, Extension and Artificial Insemination received the new buildings and equipment, without making proper use of the created facilities. Delays and indecisions were partly caused by the transfer of PDLD's livestock production extension and AI services to the Directorate General of Extension. <8>

3.45 The investment made by the project in strenghtening AI services has had little impact on the project but can be expected to assist livestock development in the Punjab province in the future.

Land Use Mapping

3.46 Except for a delay of about 6 months in the supply of topographical sheets by the Survey Department of Pakistan to World Bank, there were no major constraints in the production and completion of the land use/land cover map at scale 1:100,000 for Sheikhupur district by 1981. However, the Soil Survey of Pakistan remains sceptical of the need for a land use map based on Landsat data in order to assess the development potential of a farming system where small-scale, mixed cropping is predominant. That authority has also found a number of irregularities in the new land-use map, and it appears doubtful whether this map will be useful for agricultural and livestock development.

<8> Efforts are now being made to increase the coverage for provision of AI services to farmers in the VLA areas.

E. Consultants and Contractors

Consultancy Services

3.47 Out of the 20 man-years of consultancy services provided under the project, some 16 man-years were utilised. The shortfall is due to the exclusion of the foot and mouth disease vaccine production, slaughterhouse and research components for which consultancy services had also been made available. Of the consultancy services utilised by the project, about 63% were for the Lahore milk plant and 32% for the AI centre at Quadirabad, the remainder being for livestock education, training centre and preliminary study of the slaughterhouse.

3.48 The performance of consultants varied widely. According to the PLB, the consultancy provided for planning, designing and supervising the construction of the Lahore milk plant and of the chilling centres has been less satisfactory in that the design of some components and selection of equipment could have been more carefully carried out (para 3.27). With regard to the construction of chilling centres, PLB has expressed its dissatisfaction by pointing out that the consultants have not provided the agreed number of visits for supervision of construction and installation of equipment.

3.49 In addition, the Lahore milk plant was also provided with consultancy services for three resident experts in production, marketing and financial administration. The services provided by these consultants were satisfactory although the marketing expert had to leave before his contract expired for personal reasons (utilised 5 out of 24 man-months) and was not replaced. The performance of the other consultants employed for the AI centre and in the livestock education component were satisfactory.

3.50 The consultancy services provided for the planning, design and supervision of the slaughterhouse component have created serious and still pending problems. The contract for the consultancy was signed in April 1979 and after the preliminary design study was prepared, the slaughterhouse component was deleted from the project following the August 1979 review. Government, therefore terminated the contract for this consultancy. As the two parties did not agree on settling payment of the consultancy services, claims and damages of both were put to arbitration. The arbitration decision was not acceptable to the consultants and the case is now still being dealt with in a civil court.

Contractors

3.51 The civil works of the project were carried out by local private contractors and the quality of work has been generally satisfactory. However, some water leakage in the walls was observed in several buildings of the Sheikhupura training centre. Delays by contractors were also experienced in the completion of the buildings for the College of Veterinary Science, Lahore.

3.52 The services of the contractors who provided machinery and equipment for the Lahore milk plant were satisfactory in that they provided what was required of them according to the contract. However, the difficulties mentioned in para 3.27 could have been minimised had the contractors critically looked into the specification and given their comments.

F. Project Costs

3.53 The total expenditures on the project are PRs128.4 million (US$10.8 million), compared with the appraisal estimates of PRs195 million (US$19.7 million). The principal reason for the lower cost is the reduction of the project's scope following the 1979 review (para 3.3). The excluded components accounted for about 60% of the costs estimated at appraisal. Due to delays in implementation and the resulting escalation of costs, however, final project costs were about 66% in PRs terms and 55% in US dollar terms of the appraisal estimates. The latter percentage is lower because of savings made in US$ by the project as the result of the devaluation of the PRs during the last few years.

3.54 Details of annual project expenditures are shown in Annex 1, Table 1 and the comparison between appraisal and actual costs is summarised in Annex 1, Table 2. About 60% of total project costs were absorbed by the Lahore milk plant, which according to appraisal estimates was expected to represent only 22% of total costs. The increase in costs of the plant is due to the underestimation of costs during appraisal and also due to price escalation as a result of excessive delays in implementation. Also the VLA development proved to be much more costly (US$9,233 each) than estimated at appraisal (US$800 each) as shown in Annex 1, Table 2.

G. Disbursement

3.55 Out of the loan of US$10 million, about US$7.2 million was disbursed up to September 1985. Present estimates are that total disbursement will amount to US$8.4 million after the completion of all the works already committed. Because of the slow implementation and successive modification of the project, disbursement was exceptionally slow. At appraisal, full disbursement was envisaged to take place by Fiscal Year 1981. However, disbursement in that year was only 2% of the appraisal estimate (Annex 1, Table 3). Disbursement lagged so far behind that commitment charges paid up to January 1981 were more than disbursement, being US$0.3 million and US$0.2 million respectively. Disbursement suddenly shot up to 40% in 1983 when project works on the milk plant started progressing. <9>

<9> Final disbursement was US$ 8.348 million.

H. Procurement

3.56 Procurement was the responsibility of the implementing agencies for their specific components. Procurement of AI equipment by the PDLD was carried out satisfactorily. The procurement of laboratory equipment under ICB by the College of Veterinary Services, however, experienced difficulties because the contractor failed to provide spare parts and accessories mainly due to misunderstandings by the contractor of what the accessories entailed. The matter is now being remedied. The PLB has also faced some difficulties in the procurement under ICB in that commissioning of the milk plant was delayed due to late arrival of key plant equipment, including the UHT plant control panel.

IV. INSTITUTIONAL PERFORMANCE AND DEVELOPMENT

General

4.1 The overall performance of institutions involved in project implementation was less satisfactory than anticipated. Major problems were created by the over-emphasized reliance for project implementation on PLB. The excessive prominence placed on PLB as an institution outside the line departments, has been resented by line departments and caused some rivalries. It should have been realised from the outset that PLB, as a board created and controlled by GOPu, could not operate efficiently without the collaboration of the line agencies such as the PDLD, the Department of Planning and Development and the Department of Finance. Although these departments were represented on the Project Coordination Committee, they were not sufficiently involved in the formulation of the project's concept. Support to the project from the main departments was therefore uniform and not strong enough to overcome the project's teething problems.

4.2 The lack of enthusiasm for the project was clearly demonstrated during the processing of the PC-1. Initially, delays were due to procedural reasons but later, questions raised about the viability and scope of some project components were already an indication of disagreement between key project authorities (para 3.2). A further confirmation of this state of affairs was the excessive delay encountered in enacting the new law that established the VLAs; in the appointment of consultants for the milk plant; and in awarding the contract for the plant's construction after the project had been revised. Also, the frequent change of managing directors of the PLB was a symptom of this authority's difficulties in obtaining the essential support from other Government departments.

Project Coordination Committee

4.3 The Project Coordination Committee has not been able to remove the major bottlenecks during the project's crisis period. It has also not succeeded in bringing about continuity in PLB management or integration of the various components. The meetings of the PCC were, in fact, stopped in 1981 after seven meetings between June 1977 and January 1981.

Implementing Agencies

4.4 PLB. Frequent changes in the management of PLB have resulted in a lack of commitment by incumbents who considered their future uncertain. This was inevitably also reflected in staff morale. In addition, it was not possible when appointing PLB managing staff, to take sufficient account of the incumbent's managerial/commercial capacity. This was particularly serious as PLB, having been established only in 1974, had little management experience and was already responsible for a range of other activities such as slaughterhouse operations, meat marketing, poultry production, development of feed mills and management of farms operated by tenants. All this resulted in less satisfactory performance of PLB in the implementation of this project than had been expected at appraisal.

4.5 Also, the performance of PDLD was less than anticipated. Veterinary and production extension support to VLAs was not uniform and remained unreliable; the AI programme had not started at the end of the project. PDLD has continued its work programmes in other parts of the province and not been able to build up the additional services to discharge its responsibilities in the project area in a satisfactory manner.

4.6 The University of Agriculture, College of Veterinary Sciences has not implemented its livestock education component on schedule, apparently due to lack of awareness of the availability of funds. This is a further reflection of the weakness of the PCC.

4.7 Lahore milk plant. The Lahore milk plant, established in 1967 with assistance from UNICEF and operating under the guidance of the Lahore Milk Board, was transferred to PLB. Facilities were modified and expanded under the project, which also provided for the plant to operate as a subsidiary corporation in which an equity participation of the VLAs was sought to be encouraged. The corporation was to be established according to the Company Law of Pakistan, as a largely farmer directed organization, providing the institutional framework for milk collection, processing and marketing. For this purpose, a firm of chartered accountants was engaged to undertake a comprehensive study on the subject of "Lahore Milk Plant - Capital Restructuring and Financing into a Dairy Corporation Under the Companies Act". The study has been completed in April 1984. Memorandum and Articles of Association of the new company - Punjab Dairy Corporation Ltd. - have also been drawn up. Other formalities to form the new company remain to be done. <10>

Accounting and Reporting

4.8 Auditing of PLB accounts was consistently lagging behind schedule. It was reported that the public auditors lacked staff and experience in handling commercial audits. The July 1979, World Bank review mission proposed to have auditing of PLB accounts carried out by private chartered accountants. This was not accepted and the problem of delayed submission of annual audited accounts persisted throughout the implementation period.

4.9 PLB was required to produce a combined progress report each quarter. The format of the report was agreed with the World Bank. However, only three reports have been submitted by PLB to the World Bank and these have not followed the agreed format.

<10> The Corporation commenced business on September 1986.

Compliance with Covenants

4.10 The main covenants have been complied with, even though delays have been encountered in most cases. PLB has engaged a firm of chartered accountants to help establish the Milk Corporation which is expected to become operational from January 1986. Audit reports were submitted for all project years except 1985.

V. PROJECT IMPACT

Incremental Production

5.1 Owing to the reduction of VLAs from 500 to 150 and to only about 95 active VLAs, only minimal incremental increase in production has been achieved and this is insignificant on a national or provincial scale. Nevertheless, within the villages with active VLAs, an increase in animal numbers of 29% has been recorded while milk production is estimated to have increased by about 260 litres per association daily. Some 60% of this is reported as saleable. A part of incremental production has certainly also been brought about by the establishment during the project period of several new private sector milk plants which stimulated the demand for milk.

Technological Change

5.2 The project has introduced a small number of VLA farmer families to the concept of selling milk on the basis of quality (butter fat) and this has been accepted as beneficial.

5.3 The AI component had no significant effect because the Department had already adopted deep frozen semen technology with FAO/UNDP assistance. Furthermore, the facilities and equipment provided under the Punjab Livestock Project have not yet been utilised.<11>

5.4 With regard to milk collection and processing, the project has enabled the PLB to keep pace with dairy development in Punjab. Without this assistance, the existing milk plant would have had little or no possibility of survival.

Social Impact

5.5 The project was expected to create some 6,000 man-years of incremental labour per year at the farm level. The restricted number of VLAs with an average membership of 53 (Annex 2, Table 2) places the project between the Year 1 and Year 2 projections of expected increase in production and thus the objective of incremental labour requirement has not been achieved. Results of a survey of 144 VLAs carried out by the Field Service Organization of the LMB in February 1985 suggest that in the project area increases of 7% in livestock numbers, 19% in milk production and 26% in saleable milk have taken place since the 1977/78 base year data were collected. In 30 of the 144 VLAs surveyed, the number of animals kept was reduced although production and sale of milk had increased.

<11> Now being utilised.

5.6 It is difficult to quantify the effects of the VLA milk collection on farmers' incomes since reliable information on pre-project incomes is lacking. The position is further complicated by the fact that the system has been superimposed upon a traditional method of sale of milk to collectors. Thus an unknown proportion of the increase in saleable milk could have been diverted from this outlet. Finally, seasonal changes in milk supply and therefore of the collectors' price make estimation more difficult. One beneficial effect of the project as expressed by VLA staff and farmers was the 'guaranteed' market outlet and the power to bargain with the traditional milk collectors.

5.7 Some indication of the effects on milk producers' incomes can be gained from the estimated increase in saleable milk of about 15,000 litres per day, although not all of this increase is sold to the LMP. At the current purchase price based on fat content, this increased production is worth PRs35,500 per day shared between some 8,000 families. This would be equivalent to an average income of about PRs1,620 per member per year.

5.8 Another estimate is provided by the VLA at Bucheke with 50 members which produced and received the following milk and cash:

	1982/83	1983/84	1984/85	1985/86 1/
Litres of milk	422,767	216,963	556,691	392,096
Value: (PRs)	783,918	458,056	1,258,726	802,125
(US$) 2/	61,483	33,930	81,735	50,448
Per member (US$)	1,230	679	1,635	1,009
(PRs)	15,682	9,167	25,179	16,043

1/ Four months only.
2/ Adjusted to official exchange rate.

The VLA at Bucheke clearly has been an outstanding and untypical success but the results attained indicate the potential source of additional income from dairying for smallholders.

5.9 Nevertheless, it must be recalled that at least 55 of the 150 VLAs registered are not working and it is thought that of these 35 will never work satisfactorily due to the distances, cost of transport and competition with other buyers. If the defunct VLAs are subtracted (Annex 2, Table 2), the project is benefitting only 6,178 member families.

5.10 The most significant social impact of the project has been to make good quality standardised milk with a long shelf life available throughout major centres in Pakistan. The LMP is not the only participant in this development but it seems that the trend towards the consumption of quality processed milk will continue.

VI. FINANCIAL AND ECONOMIC PERFORMANCE

Financial Performance

6.1 The Lahore Milk Plant, operating under the PLB, has incurred persistent net losses in all years except 1981/82 when it made a small net profit of PRs214,000. In the first five years of its operation, sales revenue could not even cover the cost of sales, resulting in gross losses for those years (see Annex 3, Table 6). Main contributory factors have been low capacity utilisation, and high manufacturing costs brought about by excessive employment of factory labour. Net losses have also continued and in line with gross losses, shown a declining trend. The net loss in 1975/76 was PRs4 million, peaking at PRs4.2 million in 1977/78 falling to PRs3.9 million in 1978/79 and declining thereafter sharply to reach PRs0.7 million in 1983/84 following reduction in factory labour and higher capacity utilisation. At the end of 1983/84, accumulated losses amounted to PRs22 million (Annex 3, Table 5). As a result, the net assets have almost been halved from PRs6.6 million in 1975/76 to PRs3.5 million in 1983/84. Unaudited accounts for 1984/85 reveal a net profit of PRs5.1 million. This is expected to improve with the completion of the remodelling of the plant. Operating surpluses (net of depreciation and interest) are projected as follows (see Annex 3, Table 8):

1984/85	PRs 424,000
1985/86	PRs 2.7 million
1986/87	PRs 17.6 "
1987/88	PRs 18.6 "
1988/89	PRs 23.2 "
1989/90 to 2004/2005	PRs 26.3 "

6.2 Due to financial and other difficulties, the milk plant cannot continue to operate within its capital structure and the book value of assets and liabilities. A proposal has therefore been made to reorganise the LMP, which entails the incorporation, under the Companies Act 1913, of a new corporation - Punjab Dairy Corporation Ltd. - to take over the entire assets and liabilities of the LMP and the field service organization component of the PLP based at Sheikhupura. For the purpose of the take-over, the assets and liabilities have been valued by a recognised firm of chartered accountants. The bases of valuation and the assumptions used in the verification of assets and valuation are given in the Accountants' report. <12> The net assets so arrived at 31.1.84.<13> amounted to PRs114.9 million, made up as follows:

<12> Report on Lahore Milk Plant - Capital Restructuring and Financing into a Dairy Corporation Under the Companies Act 1913, April 1984 - Taseer Hadi Khalid & Co., Chartered Accountants, Pakistan.

<13> Cut-off date for purposes of valuation.

		PRs' 000
Fixed Assets		28,208
Capital work in progress		72,439
Total Fixed Assets		100,647
Current Assets	26,396	
Less current liabilities	11,398	
Net Current Assets (working capital)		14,998
Total Assets		115,645
Less deferred liability for gratuity		746
Net Assets		114,899

6.3 The new corporation would need to invest a sum of PRs100 million in fixed assets and PRs14.9 million in net current assets, making a total investment of PRs114.9 million when it takes over LMP and FSO. The financial profitability of this operation is ascertained by calculating FRR on this investment. Based on the assumptions detailed below, FRR of 15% is expected (see Annex 3, Table 8):

i) Life of the project is 20 years; residual value of fixed assets at the end of 20 years at 10% is PRs10 million; a fixed amount of PRs5.7 million has been included for replacement investment costs.

ii) Working capital for Year 1 (derived from Accountant's report), computed as a percentage of gross revenues at full operation would be 12%. Applying this to revenues of other years, incremental working capital is calculated and recovered in Year 20.

iii) Assumptions on sales and costs are detailed in Annex 3, Table 7. Pre-incorporation and formation expenses have not been included as these figures are not available and the amounts will not be material.

iv) Since expansion and remodelling had not been completed by 31.1.84, when valuation was done, capital expenditure in the intervening period is not included in the investment cost of PRs114.9 million.

v) As a new public company, Punjab Dairy Corporation Ltd. would consider the investment in assets through take-over as its own initial investment. Revenues and costs arising from this are therefore all incremental and are attributed to this investment.

6.4 It should be emphasized here that the financial result is rather sensitive to changes in the expected sales revenue. Switching values show that a decrease of 9% in the sales revenue of UHT milk would lower the rate of return from 15% to 10%, as would a 10% increase of operating costs.

Economic Performance

6.5 An economic re-evaluation has been carried out for the project in which only milk benefits from the projected operations of the milk plant have been attributed to the project. However, the entire project costs incurred since 1977/78 have been set against the above benefits. Financial costs have been adjusted to reflect their economic values by deducting taxes and duties and local costs have been brought to border prices by using a standard conversion factor of 0.8. All costs and benefits are expressed in 1985 constant prices using a deflator based on the consumer price index.<14>

6.6 On the basis of the above, the economic rate of return for the project is estimated at 9% (see Annex 3, Table 9). This is considerably lower than was estimated at appraisal. However, the two estimates are not comparable because the project was significantly changed after the exclusion of several components.

VII. WORLD BANK PERFORMANCE

Project Design and Appraisal

7.1 The project concept of assisting livestock farmers by providing an extension service, organizing them into VLAs and ensuring market outlets for the milk and meat produced was sound. It was, however, optimistic to assume that a young and inexperienced institution like PLB would be able to carry out implementation of all components related to VLAs, milk plant and slaughterhouse during a four year project. A more critical examination of PLB should have been made at appraisal in order to assess its implementation capacity and autonomy in decision making. This would have cautioned the appraisal mission from overloading the project with too many components. The prominence of PLB in the project was undesirable in retrospect as this caused resentment by line departments and created departmental rivalries. In the absence of sufficiently unbiased studies, the appraisal mission also arrived at too optimistic conclusions concerning the viability of the slaughterhouse and the export of buffalo meat. It is also not clear why a Landsat survey was recommended for an area which is well surveyed like Sheikhupura district.

Supervision

7.2 A total of 14 supervision missions have visited Pakistan during the implementation period. In the first two years after credit effectiveness, the missions tried to bring about a smooth start but they were unable to convince the authorities to approve the PC-1. Their efforts in overcoming initial difficulties were commendable as was their request for review of the project in 1979 when it became clear that significant changes in project design would be required. The subsequent exclusion of four components was appropriate. This has made the project more manageable. After the review and modification of the project, all supervision missions were geared towards

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<14> The following deflators have been derived from GOP released statistics on consumer price indices and are: 0.52, 0.56, 0.62, 0.70, 0.76, 0.81, 0.86, 0.93 and 100% for the period 1977/78 to 1985/86 respectively.

expediting implementation. Lengthy procedures and reduced commitment by GOPu have, however, slowed down project implementation. Reminders and suggestions by the supervision missions did not bring about essential changes. The Bank has actually not taken a forceful position, even when covenants such as need for reporting, submitting accounts and establishing the Milk Corporation were not complied with as agreed at appraisal and project reformulation. The frequency of the supervision missions can be considered adequate except for 1982 when no formal supervision mission was sent.

VIII. SUMMARY AND CONCLUSIONS

8.1 The project aimed at introducing new approaches to the production, processing and marketing of meat and milk, ensuring incentives to small farmers in the province of Punjab. It was thought that results would encourage further projects in other provinces.

8.2 The original project consisted of numerous components (para 2.5) and insufficient attention was given to their coordination. PLB, a young institution, had major implementation responsibility not only for commercial undertakings, such as the milk plant and slaughterhouse, but also for non-commercial programmes such as establishing VLAs and training VLA staff. All rather complex project components were envisaged to be planned and executed within four years which was unrealistic and over-ambitious considering that PLB had been set up only three years earlier and become involved in a large development programme including slaughterhouse operations, meat marketing, poultry production, feed milling and management of land reform farms.

8.3 The project commenced at the time of a new Government administration. This affected progress of the project because administrative departments had to deal with changed and new development priorities. Nevertheless, the start in 1977 appeared highly promising. However, initial enthusiasm faded away, the authorities could not agree on initial budgets, and project implementation was seriously delayed. After about two years of inactivity, the project had to be reviewed by GOP, GOPu and the World Bank. This review resulted in the exclusion of four components, foot and mouth disease vaccine production, livestock research, slaughterhouse and development of PLB tenant farms. The core of the project therefore became development of VLAs and milk collection, processing and marketing.

8.4 In spite of the reduced size and scope of the project, implementation did not progress as expected. Much time was taken to appoint consultants and to award contracts for the milk plant. In the meantime, the project had proceeded in establishing VLAs although milk could not be procured from all of them until the milk plant was rehabilitated.

8.5 The project required strong, dynamic and skilled management as well as collaboration and good coordination among the different implementing agencies. However, the management of PLB suffered from frequent changes and coordination among implementing agencies remained weak. The AI programme of PDLD, for instance, was not implemented in the project area as PDLD was operating in other districts. Also the Agricultural University, College of Veterinary Sciences remained unaware until late that it had responsibility for the implementation of a component of education in livestock production.

8.6 Overall, the project has not met its original objectives of improving livestock production and the incomes of a large number of farm families in the district of Sheikhupura. However, it has created a nucleus of functioning VLAs which could be the basis for further development. The project has also strengthened the AI service in Punjab through the provision of buildings and equipment which will be useful in future. Likewise, it has provided improved facilities and laboratory equipment to the College of Veterinary Sciences which can increase the training standard of stock assistants in the province and assist provision of extension advice to VLAs.

Lessons Learned

8.7 The following are the main lessons that could be learned from the experience of this project:

- Particular attention should be paid during project formulation to limiting the number of components to those strictly necessary for attaining the project's main objectives, and temptations to address all problems simultaneously in order to satisfy aspirations of Government officials should be resisted.

- A critical examination is required at appraisal of the designated executing agencies' existing and planned commitments, organizational structure, modus operandi and staff capabilities in order to assess their implementation capacity.

- It is unrealistic to expect a successful commercial undertaking emerging in a situation where management lacks autonomy in decision making.

- Frequent change in the management of the project and excessive delay in taking decisions may be signs of wavering commitment to a project; supervision missions need to resolve the underlying cause in their dialogue with Government.

- Establishing the product mix of a milk plant needs to be based on detailed knowledge of the market requirements. This, in turn, requires a market study or survey.

- The Bank, through its supervision activities, should at least be able to make certain that project actions go in the right sequence. Development of VLAs before LMP and purchase of tankers before establishment of chilling centres should not have been allowed to happen.

- Purchasing policy of a producer-oriented enterprise like LMP should allow for collection of all milk offered by the farmer regardless of quantities in supply. This would build up farmer confidence in the system, so essential an incentive for increased milk production. Pricing policy must, however, be adjusted to take account of cheaper imported raw materials for reconstitution, cost structure of LMP and competitors' prices. Where the resulting decision entails financial losses to LMP, such losses must be made good by the Government.

PAKISTAN

PUNJAB LIVESTOCK PROJECT
(LN 1366T-PAK)

Annual Project Expenditures

	1977/78	78-79	79-80	80-81	81-82	82-83	83-84	84-85	85-86	Total
					(RS '000)					
VLA Development 1/										
Spearhead Teams and VLA										
Machinery and equipment	127	126	269	208	156	236	-	-	-	1,122
Training	420	538	558	543	355	395	129	-	-	2,938
Working capital VLAs	-	40	60	140	54	156	-	-	-	450
Staff and overhead costs	223	828	793	797	851	880	942	-	-	5,114
Sub-total	770	1,332	1,680	1,688	1,416	1,667	1,071	-	-	9,624
Extension Service 1/										
Civil works	-	-	237	-	-	-	-	-	-	237
Machinery and equipment	-	18	222	170	-	110	40	-	-	560
Staff and overhead costs	-	175	142	1,039	773	1,217	1,383	-	-	4,729
Sub-total	-	193	601	1,209	773	1,327	1,423	-	-	5,526
A.I. Service										
Civil works	-	-	-	-	4,588	5,899	-	-	-	10,487
Machinery and equipment	-	-	-	-	-	4,100	450	-	-	4,550
Consultancy services	-	-	115	300	-	37	158	-	-	610
Duty and taxes	-	-	-	-	-	-	2,500	-	-	2,500
Sub-total	-	-	115	300	4,588	10,036	3,108	-	-	18,147
Livestock Education										
Civil works	-	-	-	-	-	-	650	-	-	650
Laboratory equipment	-	-	-	-	-	-	200	2,480	300	2,980
Consultancy services	-	-	150	150	-	-	-	-	-	300
Duty and taxes	-	-	-	-	-	-	500	-	-	500
Sub-total	-	-	150	150	-	-	1,350	2,480	300	4,430
Slaughterhouse										
Consultancy services	-	890	-	-	-	-	-	-	-	890
Milk Plant										
Civil works	-	-	-	-	-	2,743	40	-	-	3,693
Machinery and equipment	-	-	-	-	27,818	15,032	10,723	7,602	2,300	63,573
Consultancy services	-	-	500	370	10	750	5,695	-	-	7,325
Fellowship	-	-	-	-	-	-	700	-	-	700
Duty and taxes	-	-	-	-	-	3,000	1,000	-	-	4,000
Sub-total	-	-	500	370	27,828	21,525	19,068	7,602	2,300	79,291
Training Centre 1/										
Civil works	-	-	2,000	2,387	-	-	-	-	-	4,387
Machinery and equipment	-	-	-	769	685	-	-	-	-	1,454
Consultancy services	-	200	-	-	-	-	-	-	-	200
Staff and overhead costs	137	143	340	525	574	880	830	-	-	3,209
Sub-total	137	343	2,340	3,681	1,259	880	830	-	-	9,250
Landsat Survey										
Purchase of imagery and ground truthing	200	-	-	173	-	-	-	-	-	373
Project Coordination										
Office equipment	-	10	-	-	-	-	-	-	-	10
Staff and overhead costs	37	137	136	175	141	84	115	-	-	829
Sub-total	37	147	136	175	141	84	115	-	-	839
TOTAL	1,144	2,905	5,521	7,746	36,103	35,304	26,965	10,082	2,600	126,370

1/ 1984-85 and 1985-86 activities have been incorporated and costed in the overall departmental budget.

PAKISTAN

PUNJAB LIVESTOCK PROJECT
(LN 1366T-PAK)

Comparison Between Appraisal Cost Estimates and Actual Expenditures

Project Components	Appraisal Estimates (Rs '000)	Appraisal Estimates (US$ '000)	Actual Expenditures 1/ (Rs '000)	Actual Expenditures 1/ (US$ '000)
VLA development	4,020	400	15,150	1,385
FMD vaccine	20,760	2,100	-	-
AI service	3,860	390	18,147	1,494
Livestock research	4,600	460	-	-
Livestock education	8,300	840	4,430	312
Slaughterhouse	43,170	4,370	890	90
Milk plant	28,730	2,910	79,291	6,479
PLB farms	10,160	1,030	-	-
PLB training centre	5,920	590	9,250	889
Landsat survey	1,000	100	373	38
Project coordination	-	-	839	79
Contingencies, taxes and duties	64,480	6,510	-	-
TOTAL	**195,000**	**19,700**	**128,370**	**10,766**

1/ Average annual exchange rates used are: US$1.00 to PRs9.90 for the period up to 1980/81; PRs10.55 for 1981/82; PRs12.75 for 1982/83; PRs13.50 for 1983/84; PRs15.24 for 1984/85 and PRs15.90 for 1985/86.

ANNEX 1
Table 3

PAKISTAN

PUNJAB LIVESTOCK PROJECT
(LN 1366T-PAK)

Disbursement of Loan
(US$ million)

Fiscal Year	Appraisal Estimate		Actual	
	Annual	Cumulative	Annual	Cumulative
1978	1.3	1.3	0	0
1979	2.6	3.9	0.1	0.1
1980	4.0	7.9	0.1	0.2
1981	2.1	10.0	0	0.2
1982	-	-	0	0.2
1983	-	-	3.9	4.1
1984	-	-	1.7	5.8
1985	-	-	1.0	6.8
Sept 1985	-	-	0.4	7.2
June 1986	-	-	1.1	8.3

PAKISTAN

PUNJAB LIVESTOCK PROJECT
(LN 1366T-PAK)

Staff Employed by Punjab Livestock Board

Post	Field Services Organization In Post	Vacant	Post	Training School In Post	Vacant	Post	In post	"Proposed"
Management	3	-	Principal	1	-	Management	-	7
						Administration	10	17
Administration	6	1	Lecturers	5	-	Security	11	
						Cleaning	11	2/
Finance	14	3	Technicians	3	3	Accounts	9	10
						Stores	5	5
Extension	16	4	Administration	7	3	Engineering	23	31
						Procurement	16	43
Spear-head teams	30	11	Hostel	2	1	Processing	37	59
						Quality control	9	8
Other supporting staff 1/	24	14	Other supporting staff	7	4	Marketing	19	24
						Transport	17	2/
Total	93	33		25	11		167	226

Source: Punjab Livestock Board, November 1985.

1/ Office boys, guards, gardeners.

2/ Distributed into other sections.

ANNEX 2
Table 2

PAKISTAN

PUNJAB LIVESTOCK PROJECT
(LN 1366 T-PAK)

Annual Registration of VLA's

Year	Sheikupura		Okara		Kasur		Total	
	VLA's	Members	VLA's	Members	VLA's	Members	VLA's	Members
1979	2	218	-	-	-	-	2	218
1980	4	210	-	-	-	-	4	210
1981	51	2,608	-	-	-	-	51	2,608
1982	49	2,450	6	355	-	-	55	2,805
1983	16	800	12	645	7	407	35	1,852
1984	-	-	2	130	1	105	3	235
1985	-	-	-	-	-	-	-	-
Total	122	6,286	20	1,130	8	512	150	7,928

Source: Punjab Livestock Board.

PAKISTAN

PUNJAB LIVESTOCK PROJECT
(LN 1366T-PAK)

Summary of Project Training at PLB Centre

	Course	Duration	Frequency	Trainee Numbers Projected	Trainee Numbers Actual
PLB	VLA spearhead Teams (includes initial extension staff).	10 weeks per team at inauguration of team.	Two courses in year one and two.	4 teams each of 15	2 teams of 17
	VLA spearhead Team Refresher Course.	One week	Twice per year	3 teams each of 18	2 teams of 17
	Dairy and meat processing.	Ad hoc	Twice per year	All senior plant staff	-
	Overseas Fellowships	2-3 months	Ad hoc	12 key PLB and Ministry Staff	3 PLB staff
VLAs	VLA Staff	8 weeks at appointment	4 courses per year	2 staff from each VLA maximum 30 trainees per course 240 per year.	2 courses of 6 months 32 + 28 trainees.
	VLA Staff Refresher Course	One week once a year	4 courses/year	Same as above	-
	VLA Management Committee	4 days once a year	4 courses/year	2 to 3 members from each VLA per year 30 trainees per course.	-
Extension	Village Extension Workers (VEW).	One day per fortnight.	24 times/year	32 VEW Staff one day per week.	40 lecturers 20 VEW staff
	Route Extension	10 weeks	To supplement VLA spearhead teams as required, extension training as for implementation teams.		

ANNEX 2
Table 4

PAKISTAN

PUNJAB LIVESTOCK PROJECT
(LN 1366T-PAK)

Artificial Insemination of Buffalo and Cattle

	1978/79	1979/80	1980/81	1981/82	1982/83	1983/84	1984/85
Doses of semen produced*	111,482	194,082	212,683	227,700	235,137	313,365	480,001
Inseminations: Punjab*	96,144	133,839	173,777	200,046	214,657	243,129	290,876
Project Area**	-	3,210	4,379	4,887	5,874	7,937	n.a.
Percentage in project area		2.4	2.5	2.4	2.7	3.3	

Sources: * Directorate of Livestock Production Extension and Artificial Insemination, Lahore.
** Punjab Livestock Board.

ANNEX 3
Table 1

PAKISTAN

PUNJAB LIVESTOCK PROJECT
(LN 1366T-PAK)

Sources of Milk Procurement - Lahore Milk Plant

Average Daily Raw Milk Receipts
(litres)

Financial Year	VLAs	"Private"	Total	Percent VLA
1980/81	3,925	1,610	5,535	71
1981/82	3,174	3,135	6,309	50
1982/83	5,410	220	5,630	96
1983/84	3,879	239	4,118	94
1984/85	5,206	9,791	14,997	35

Source: Project Director, Lahore Milk Plant.

PAKISTAN

PUNJAB LIVESTOCK PROJECT
(LN 1366T-PAK)

Summary of Output of Milk Plant 1984-85 Following Rehabilitation

Month 1984	Litres of UHT milk in Tetrapaks (0.5 l)	(0.25 l)	Total Litres	Butter Kgs.
July	326,362	-	326,362	303
August	459,186	-	459,186	697
September	538,884	-	538,884	2,198
October	577,600	-	577,600	1,203
November	592,020	-	592,020	5,130
December	588,190	21,559	609,749	10,048
1984				
January	592,371	35,743	628,114	11,085
February	505,188	33,894	539,082	9,399
March	457,632	66,324	523,956	5,429
April	461,673	44,361	506,034	6,982
May	563,002	76,540	639,542	1,143
June	767,513	62,442	829,955	-
Total	6,429,621	340,863	6,770,484	53,617

Source: Project Director, Lahore Milk Plant.

PAKISTAN

PUNJAB LIVESTOCK PROJECT
(LN 1366 T-PAK)

Utilization of UHT Milk Produced in Lahore Milk Plant

Month 1984	Milk Processed Litres	Sold to Distributors Litres	Sold to Distributors Percent	No.of Towns	Returned by Distributors Litres	Returned by Distributors Percent	Milk Lost/Wasted in Plant Litres	Milk Lost/Wasted in Plant Percent 1/
July	326,362	240,893	74	2	19,848	8.2	18,371	5.6
August	459,186	434,311	94	5	32,671	7.5	6,054	1.3
September	538,884	518,982	96	10	38,329	7.4	7,550	1.4
October	577,600	616,028	107	11	43,834	7.1	4,973	0.9
November	592,020	540,102	91	10	27,342	5.1	6,117	1.0
December	609,749	606,403	99	11	23,637	3.9	6,975	1.1
1985								
January	628,115	638,777	102	12	18,638	2.9	15,962	2.5
February	539,082	517,327	96	13	25,322	4.9	4,837	0.9
March	523,956	557,638	106	13	58,082	10.4	7,513	1.4
April	506,034	538,907	106	12	59,740	11.1	9,412	1.9
May	639,542	649,923	102	12	64,494	9.9	14,078	2.2
June	829,955	760,198	92	11	74,858	9.8	10,646	1.3
July	743,139	787,826	106	11	113,803	14.4	8,128	1.1
August	672,181	572,305	85	12	35,984	6.3	8,861	1.[illegible]
September	616,455	537,728	87	13	47,100	8.8	10,220	1.7
October	573,196	600,193	105	12	33,396	5.6	12,866	2.2

Source: Project Director, Lahore Milk Plant.

1/ Percentage of milk processed.

ANNEX 3
Table 4

PAKISTAN

PUNJAB LIVESTOCK PROJECT
(LN 1366T-PAK)

Loans to VLAs

	1981	1982	1983	Total
No. of VLAs	5	85	11	101
Loans in cash (PRs)	38,000	653,440	62,700	754,140
Repayments (PRs)	6,707	280,260	15,121	317,209
Percentage repayment	9.5	42.9	24.1	42.1
Loans in kind (PRs)	-	-	-	179,950
Loans in kind recovered (PRs)	-	-	-	100,648
Percentage repayment	-	-	-	56

PAKISTAN

PUNJAB LIVESTOCK PROJECT (LN. 1361-PAK)

Lahore Milk Plant: Balance Sheet 1975-76 to 1983-84

	1975-76	1976-77	1977-78	1978-79	1979-80	1980-81	1981-82	1982-83	1983-84
	(PRs)								
Assets									
Fixed Assets	-	-	11,995,615	11,847,640	11,388,831	11,531,872	11,588,960	11,484,538	76,471,041
Less Depreciation	-	-	6,892,016	8,210,081	8,721,903	9,119,797	9,239,375	9,198,295	9,269,369
Written Down Value (Net Assets)	4,217,714	6,249,122	5,103,599	3,637,559	2,666,928	2,411,275	2,349,585	2,286,243	66,801,672
Current Assets									
EEC Stocks DSMP	-	-	-	-	-	-	-	-	1,545,012
EEC Bank Balance	-	-	-	-	-	-	-	-	12,450,012
Stores & Stocks	391,351	486,861	367,276	255,127	492,491	399,299	462,899	281,252	582,215
Cash & Bank Balance	3,848,634	3,897,967	3,173,447	3,557,043	1,169,512	2,251,363	2,391,715	1,433,086	602,767
Trade Debtors	1,778,110	1,785,486	2,037,682	2,767,424	3,167,733	2,549,438	2,175,862	3,076,323	4,438,278
Advances, Deposits & Pre-payments	1,174,735	1,330,745	712,163	664,614	781,615	1,170,794	1,481,399	1,587,082	1,281,992
	7,184,830	7,501,059	6,290,568	7,245,208	5,611,391	6,372,884	6,510,875	6,379,743	21,011,083
Profit & Loss Account	9,384,969	11,934,849	16,616,392	21,086,299	21,928,912	22,091,713	20,941,974	21,569,833	22,247,360
TOTALS	20,787,513	25,684,230	28,010,559	30,969,066	30,199,211	30,875,792	29,805,434	30,235,819	110,022,115
Funds & Liabilities									
Funds & Reserves									
EEC Aid Utilized	-	-	-	-	-	-	-	-	400,000
Govt. of Punjab	956,270	956,270	956,270	956,270	956,270	956,270	956,270	956,269	956,270
UNICEF Donation	2,960,987	4,375,072	4,375,072	4,300,429	4,300,429	4,299,848	4,297,986	4,297,986	4,297,986
Capital Reserve	3,027	1,027	-	-	-	-	-	-	-
World Food Programme	12,014,338	15,505,782	17,705,733	20,066,435	20,081,135	20,081,135	20,077,010	20,077,010	20,077,010
	15,934,622	20,838,150	23,137,075	25,323,134	25,337,834	25,336,453	25,331,266	25,331,266	25,781,266
Long-Term Loan									
Deferred Liability	-	-	-	-	-	-	-	281,523	309,411
EEC Aid Provided to PLDB	-	-	-	-	-	-	-	-	12,850,470
Govt. of Punjab	839,884	377,371	-	-	-	-	-	-	64,977,314
									78,137,395
Current Liabilities									
Accrued Expenses	548,651	462,267	496,797	433,695	131,306	1,845,686	147,507	321,081	1,786,648
Govt. of Punjab - Current Maturity of Long-Term Loan	2,023,866	2,485,499	2,862,870	2,862,870	2,862,870	2,862,870	2,862,870	2,862,870	2,862,870
Security & Other Deposits	582,664	596,541	589,979	586,882	569,182	77,575	93,075	96,937	281,796
Interest Accrued on LTL	617,481	746,911	876,421	1,005,931	1,135,442	1,135,441	1,135,441	1,135,441	1,135,441
Other Liabilities	161,905	177,491	115,292	756,554	162,577	417,847	215,275	286,699	86,699
Bank Overdraft	-	-	32,125	-	-	-	-	-	-
	3,933,887	4,468,789	4,973,484	5,645,932	4,861,377	5,539,339	4,474,168	4,703,838	6,153,454
TOTALS	20,787,513	25,684,230	28,010,559	30,969,066	30,199,211	30,875,792	29,805,433	30,235,819	110,022,115

Source: Punjab Livestock Development Board.

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PUNJAB LIVESTOCK PROJECT (LN. 1366T-PAK)

Lahore Milk Plant: Profit and Loss Account from 1975-76 to 1984-85

Particulars	1975-76	1976-77	1977-78	1978-79	1979-80	1980-81	1981-82	1982-83	1983-84
Quantities sold against sales (litres)	5,339,100	4,273,744	3,873,527	2,660,054	2,464,477	3,218,645	3,344,643	2,218,349	1,930,487
	(PRs)								
Net Sales	8,980,165	7,194,196	6,192,536	6,103,304	7,392,535	10,920,299	11,860,957	8,308,595	7,999,181
Less Cost of Sales (Production Cost)	11,131,389	7,586,976	7,971,528	7,077,372	7,520,533	10,522,145	10,596,087	7,752,417	7,930,473
A. Gross Loss/(Profit)	(2,231,224)	(392,780)	(1,778,992)	(972,068)	(127,998)	398,154	1,264,870	556,178	68,708
B. (i) Less Administrative Expenses	517,286	596,086	1,471,955	1,446,430	986,280	592,689	612,270	648,508	742,579
(ii) Selling & Distribution Expenses	1,322,601	1,526,503	853,865	1,351,515	1,007,643	678,231	692,392	670,282	804,936
(iii) Financial (Interest) Expenses	129,510	129,510	129,510	129,510	129,570	320	1,116	3,148	52,584
Total (i) + (ii) + (iii)	1,969,317	2,252,019	2,455,330	3,127,455	2,123,493	1,271,160	1,305,778	1,321,938	1,600,099
Operating Loss/(Profit) A. + B.	(4,200,541)	(2,644,800)	(4,234,322)	(4,099,523)	(2,251,491)	(873,006)	(40,908)	(765,760)	(1,531,391)
Less Miscellaneous Income (-)	143,875	32,223	25,742	204,097	195,150	213,798	254,746	329,554	859,827
Net Loss/(Profit) for the Year	(4,056,666)	(2,612,577)	(4,208,580)	(3,895,426)	(2,056,341)	(659,208)	213,838	(436,206)	(671,564)
Add: Accumulated Loss up to Prior Year	5,212,725	9,304,969	11,934,049	16,616,392	20,086,299	21,920,912	22,091,713	20,944,974	21,569,834
Adjustments for Prior Year	35,570	16,503	473,763	(425,519)	(221,728)	(488,407)	(932,981)	188,654	(34,038)
Accumulated Loss Carried to Balance Sheet	9,304,969	11,934,049	16,616,392	20,086,299	21,920,912	22,091,713	20,944,974	21,569,834	22,217,360

Source: Punjab Livestock Development Board.

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PUNJAB LIVESTOCK PROJECT
(LN 1366T-PAK)

Lahore Milk Plant Assumptions for Computing Revenue and Costs

	1984/85	1985/86	1986/87	1987/88	1988/89	1989/90 2004/2005
Average daily collection (lt)	15,000 2/	25,000	30,000	35,000	45,000	50,000
Annual Collection (lt '000)						
From VLAs	1,900 2/	3,625	4,350	6,387	9,855	14,600
From other sources	3,575 2/	5,500	6,600	6,387	6,570	3,650
Total annual collection (365 days)	5,475 4/	9,125	10,950	12,775	16,425	18,250
Annual Product Mix 1/ (300 days)						
Pasteurized milk (lt '000)	0	0	0	0	0	0
UHT milk "	6,770 2/	9,000	9,500	10,500	12,000	15,000
Butter (kg '000)	54 2/3/	263 3/	356	448	653	656
Yoghurt "	0	750	1,500	1,500	1,500	1,500
Manufacturing Losses						
Processing losses (%)	2.0 2/	2.0	1.5	1.5	1.5	1.5
Returned Tetrapaks (%)	8.0 2/	8.0	8.0	8.0	8.0	8.0
Operating Costs (PRs/lt)						
Milk collection costs 5/	0.2	0.16	0.26	0.22	0.17	0.14
Processing and packaging:						
- UHT milk	1.8490	1.7599	1.7289	1.7007	1.6752	1.6644
- Butter	3.8566	3.8301	3.8227	3.8112	3.8000	3.7890
- Yoghurt	0.9900	0.9870	0.9870	0.9870	0.9870	0.9870
Distribution	0.2774	0.30	0.30	0.30	0.30	0.30

1/ Wholesale prices ex-plant: UHT milk - PRs5.00/lt; Butter - PRs47.00/kg for 1984/85 and PRs50.00/kg for 1985/86; Yoghurt - PRs10.00/l.

2/ Actual figures (see Annex 3, Tables 1, 2 and 3).

3/ Sales of butter limited in second half 1984/85 and first half 1985/86 owing to lack of packing materials.

4/ Difference between milk received (Table 1) and milk processed (Table 2) due to standardisation with EEC milk powder.

5/ PRs5.00/km for 4,000 lt tankers and PRs10.00 for 9,000 lt tankers, total daily mileage 600 - 960 km.

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ANNEX 3
Table 8

PUNJAB LIVESTOCK PROJECT (LN 1366T-PAK)

Lahore Milk Plant : Income and Operating Costs
(PRs '000)

	84	85	86	87	88	89	90-2002	2003
Milk Procurement								
Total milk procured (lt'000)	6770	9000	10800	12600	16200	18000	18000	18000
Gross Revenue								
Production 1/								
Pasteurized milk	-	-	-	-	-	-	-	-
UTH milk	6770	9000	9500	10500	12000	15000	15000	15000
Butter (kg 000)	54	263	356	448	653	656	656	656
Yoghurt (kg 000)	-	750	1500	1500	1500	1500	1500	1500
Produce prices								
UTH milk price/0001	5	5	5	5	5	5	5	5
Butter price/000kg	47	50	50	50	50	50	50	50
Yoghurt price/000kg	10	10	10	10	10	10	10	10
Procurement price/0001t	3	3	3	3	3	3	3	3
Pasteurized Milk revenue	-	-	-	-	-	-	-	-
UHT milk revenue	33850	45000	47500	52500	60000	75000	75000	75000
Butter revenue	2538	13150	17800	22400	32650	32800	32800	32800
Yoghurt revenue	-	7500	15000	15000	15000	15000	15000	15000
Gross revenue	36388	65650	80300	89900	107650	122800	122800	122800
Processing loss (2%)	728	1313	1606	1798	2153	2456	2456	2456
Gross revenue after losses	35661	64337	78694	88102	105497	120344	120344	120344
Operating costs								
Direct costs								
Raw milk purchases	20310	27000	32400	37800	48600	54000	54000	54000
Milk collection expenses	1095	1460	2847	2810	2792	2555	2555	2555
Processing and packaging	12726	14896	19312	22844	24129	29004	29004	29004
Distribution expenses	1519	2737	3285	3832	4927	5475	5475	5475
Subtotal direct costs	35650	46093	57844	67286	80448	91034	91034	91034
Overhead costs								
Administration and others	200	300	350	400	400	400	400	400
Total operating costs	35850	46393	58194	67686	80848	91434	91434	91434
Operating surplus/deficit	-190	17944	20500	20416	24649	28910	28910	28910
Investment costs								
Fixed investment costs	100000	5700	5700	5700	5700	5700	5700	-10000
Incr. Working capital 2/	14900	3511	1756	1152	2130	1818	-	-25269
Investment costs	114900	9211	7456	6852	7830	7518	5700	-35269
Financial cash flow	-115090	8733	13042	13564	16819	21392	23210	64179

SWITCHING VALUES AT 10%

	PRESENT VALUES	SWITCHING VALUES PERCENT
UHT milk sales revenue	530972.02	-8.8
Butter sales revenue	217028.11	-21.6
Yoghurt sales revenue	107868.74	-43.4
Production losses (2%)	-17117.38	273.3
Total operating costs	-642907.33	7.3
Total investment costs	-149068.33	31.4

NET PRESENT VALUE AT 10% 46775.84

RATE OF RETURN = 15.1%

1/ Derived from Accountant's report.
2/ Computed at 12% of incremental gross revenue.

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PUNJAB LIVESTOCK PROJECT (LN 1366T-PAK)

Economic Analysis
(PRs '000 - in constant 1985 prices)

	77	78	79	80	81	82	83	84	85	86	87	88	89	90-2002	2003
Benefits 1/															
UHT sales revenue	-	-	-	-	-	-	-	36398	45000	47500	52500	60000	75000	75000	75000
Butter sales revenue	-	-	-	-	-	-	-	2729	13150	17800	22800	32650	32800	32800	32800
Yoghurt sales revenue	-	-	-	-	-	-	-	-	7500	15000	15000	15000	15000	15000	15000
Production losses	-	-	-		-	-	-	-783	-1313	-1666	-1798	-2153	-2456	-2456	-2456
Gross revenue	-	-	-	-	-	-	-	38344	64337	78634	88102	105497	120344	120344	120344
Costs															
Total operating costs 1/	-	-	-	-	-	-	-	38548	46393	58194	67686	80848	91434	91434	91434
Incr.Working capital 1/	-	-	-	-	-	-	-	16022	3511	1758	1152	2130	1416	-	-25265
Investment costs 2/	1687	4591	7405	8723	45572	36909	25541	10841	2600	5700	5700	5700	5700	5700	-10000
total economic costs	1687	4591	7405	8723	45572	36909	25541	65411	52504	65652	74530	88678	98552	97134	56165
Net cash flow	-1687	-4591	-7405	-8723	-45572	-36909	-25541	-27067	11833	13042	13564	16819	21392	23210	64175

SWITCHING VALUES AT 10%

STREAM	APPRAISAL VALUE	SWITCHING VALUE	PERCENTAGE CHANGE
UHT sales revenue	273,662.00	286,548.00	4.71%
Butter sales revenue	111,459.00	124,345.00	11.57%
Yoghurt sales revenue	55,350.00	68,240.60	23.28%
Production losses	-8,805.72	4,076.91	-146.28%
Total operating costs	331,173.00	318,266.00	-3.90%
Incr. working capital	9,322.73	-3,563.84	-138.23%
Investment costs	104,056.00	91,169.70	-12.39%
TOTAL BENEFITS	431,665.00	444,552.00	2.99%
TOTAL COSTS	444,552.00	431,665.00	-2.90%

NPV @ 10% = -12,886.7
IRR = 8.6%
CERR = 9.6%

1/ From Annex 3, Table 8.

2/ Based on total financial Project costs as shown in Annex 1, Table 1. Financial costs have been adjusted to reflect economic values by deducting all duties and taxes and by applying SCF of 0.8 to domestic costs. A GDP deflator has been used to express all values in constant 1985 prices.

PAKISTAN

PUNJAB LIVESTOCK PROJECT (LN. 1366T-PAK)

PROJECT COMPLETION REPORT

Comments of the Government of Pakistan
on the Project Completion Report

FAO/World Bank Cooperative mission visited Pakistan during November 1985. The mission reviewed the progress on the project from commencement through completion and prepare the Project Completion Report. On receipt of the Project Completon Report and its review, the Sectionwise comments on the report are summarised as follows:

a. First Two Sections describe the introduction history, project formulation concept including componentwise objectives envisaged and duly assessed by the Appraisal Mission, prior to the credit agreement and its effectiveness.

b. The 3rd Section of the report described the efforts made on the project implementation, changes in designs of the project and overall progress and experience gained during implementation of the specific components of the re-designed project scope. The contents of the report comprehensively described the progress during implementation including the experience/constraint and impact of the project. However, certain clarifications are being put forward prior to finalize the report.

Para 3.12. Efforts are under way for recommissioning of the dormant VLAs and in case no positive response occurs, new VLAs in their place with better location and means of communication will be started.

Para 3.13. Recovery of loan has been shown from 18 VLAs instead of existing 81 VLAs. This might be a typing mistake which may be corrected. It may also be pointed out that recovery now stands at 5.62 lacs as against 4.18 lacs both cash as well as in kind loan.

Para 3.15. The field work was started in 1978 and the figures provided for animals vaccinated, treated for internal parasite and other diseases are actually a result of functioning of a field staff in the area for a period of seven years. It is added that Spearhead Teams were supposed to remain at each VLA for a period of 3 months for motivation of the farms and provison of treatment, etc. Most of the treatment was provided by these Spearhead Teams during their stay at the VLAs.

Inspite of this if figures are calculated on the basis of 7 years and keeping in view the intensive care provided during 3 months stay of the Spearhead Teams at VLAs the figures would not be misleading but within a reasonable range of facts.

Para 3.21. Delay in construction of Milk Chilling Centre is clarified to be on the reasons that initially on appointment of the consultant, the services for Chilling Centre were deleted from the scope of the Consultant services which remained hanging fire. All attempts made on different occasions proved futile till hiring of the consultant services in 1984.

Para 3.25. The production of butter and yoghurt have now started. The arrangement for provisioning of one year's stock of the paper and cartons for packing of the butter and yoghurt have been made.

Para 3.27.

a. Presently milk pasteurizing facility is being utilized to feed the yoghurt production line. However, arrangements are being made for filling of the pasteurized milk in packets to supply to the market for which the survey is in progress for launching market campaign for this product.

b. The availability of surplus milk during the flush production warrants its conversion into milk powder and butter oil for its re-use during the period of scarce milk supply. However, the equipment for this line was omitted in the plant design by the consultant. The inclusion of such equipments for producing the SMP and butter oil into the remodelled LMP as an additional unit was requested by PLP but could not be accepted by the World Bank. Now plan is being worked out for inclusion of such production line into the LMP to produce domestically the SMP and Butter Oil during flush season.

c. Omission of the clarifier in the original plant design has now been overcome through conversion of the existing cream separators into clarifier by fitting additional necessary attachments.

d. The arrangements for paper of the desired specification for packing of butter are now being made in addition to the possibility for change in packing size to produce of 100 g and 50 g of butter.

e. Based on the experience gained by the parties selling yoghurt in the market, it is stated that 0.5 lit. cups are acceptable in the market. However, the cups for filling up of the yoghurt have been made available and production line is put in operation.

f. It is clarified that small milk collection tankers of 2,000 lit. capacity each, fitted on the flat bed lorries, are not the locally fabricated but these are imported alongwith rest of the plant machinery. However, the possibilities for the pump and pipe lines of stainless steel are being made. The milk churns

which are now under use for filling the tanker are not of 45 kg but of 37 kg load each.

Para 3.29. Experience of milk collection by the small farmers necessitated the mixing up of the traditional collection system with the system of milk collection through VLAs members. Meanwhile, upon commissioning of the Chilling Centre the arrangements are under way for collection the evening milk as well.

Para 3.35. The delay in the construction of the Chilling Centre was of course not by choice and was unavoidable. However, now Chilling Centres are being commissioned, making the way to reduce the expenditure on purchase of ice to chill the milk and also making use of the investment on 9000 lit. milk tankers.

Para 3.42. The building constructed and equipment imported to add the semen processing facility at existing A.I. Centre Qadirabad, have now been put to use resulting gradual improvement and increase in the provision of A.I. services in the VLAs areas.

Para 3.43. The Directorate of A.I. being clear of their responsibility to provide the A.I. services now making efforts to increase their coverage for provision of A.I. service to the farmers in the VLAs areas.

Para 3.50. The pending case of arbitration with the Consultant (M/s. Wernberg of Denmark) now in the Civil Court is being mutually resolved through compromising outside the court.

Para 3.55. In text of the para and Annex-I, Table-3, the disbursement up to September 1985 is given as US$ 7.2 million. Now the final disbursement up to the loan closing date, i.e., June 30, 1986 comes to US$ 8.348 million. It may be corrected.

Para 4.4. Uncertain future due to the frequent changes in management of PLDB resulted lack of interest by the incumbents which is conjunction with other procedural formalities resulted the low performance in implementation of the Project. Had this factor not prevailing, the experience of PLDB in other range of activities on previous projects would have worked as catalyst in PLDB performance on this project.

Para 4.7. The pending work concernin formation of a Dairy Corporation is almost complete which has been incorporated since December 12, 1985. The Corporation has now commenced its business since September 1986.

Para 4.8. Auditing of the accounts of PLDB had continuously been carried out by the Directorate of Commercial Audit, Government of Pakistan, as per procedure of the Government. The PLDB has been submitting the audited accounts periodically.

Para 4.10. The covenant concerning to the milk corporation has also been complied with as the said Milk Corporation has been incorporated since December 12, 1985, which has commenced its business from September 1, 1986.

Para 5.3. The existing facilities at A.I. Centre Qadirabad have now been put to operation. Through its utilization the coverage for A.I. service to the VLA farmers is being improved gradually and anticipated to create project impact in the area in near future.

Para 6.2. Keeping in view the delay in remodelling of LMP and resultant low fund generation position of the Plant, so far the Government has decided that a new Corporation "Punjab Dairy Corporation Limited" will only take over the remodelled LMP with its assets and liabilities while the Field Services Organization component of the PLP would be managed by the L & DD Department Punjab for financing this component on grant basis.

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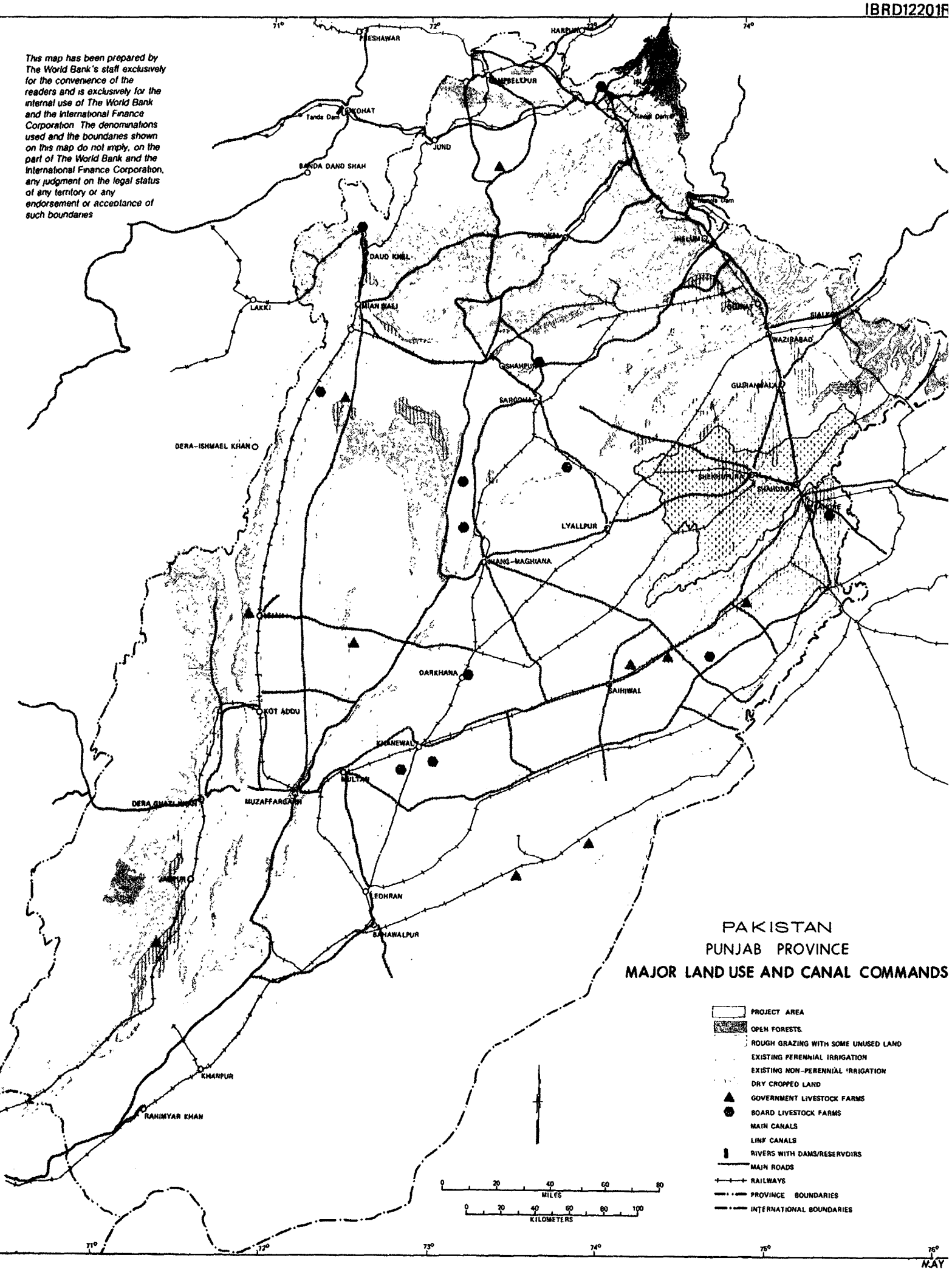

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