

PD-AAZ-068

60552

Project Assistance Completion Report
for the
Rural Area Development: Rapti Zone Project

No. 367-0129



USAID/Nepal
Kathmandu, Nepal
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--- Unclassified ---

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Summary Project Data Sheet

Project Name : Rural Area Development: Rapti Zone
Project Number : 367-0129
Grant Executed : August 12, 1980
Project Completed : July 30, 1988
Planned Cost : \$33,674,000
Actual Expenditure: \$27,419,000
Status : Phase II Project started in July 1987

	<u>1980</u>	<u>1987</u>
Zonal Population	: 876,723	1,029,345
Cereal Grain Production*	: 173,837 MT	219,613 MT
Per Capita Production	: 198 Kg.	213 Kg.
ADB/N Per capita loan investment	: 5 Rs.	53 Rs.
Forestry Seedlings/yr.	: 175,000	3,340,000
Forestry Plantation	: 20 ha.	2,754 ha.

	<u>1984</u>	<u>1987</u>
Milk Production	: 43,448 MT	49,283 MT
Meat Production	: 8,774 MT	9,810 MT
Egg Production	: 17.5 Million	19.6 Million

Infrastructure :

- 180 kms. of roads
- 163 kms. of trails
- 15 bridges
- 46 drinking water systems
- 14 irrigations systems - 1,841 has.
- 139 school roofs
- 41 office buildings
- 10 rural service centers

* To avoid distortions from variations in annual rainfall, cereals production uses the 3 year average of 1977-80 and of 1985-87.

PROJECT ASSISTANCE COMPLETION REPORT

RURAL AREA DEVELOPMENT: RAPTI ZONE PROJECT (No. 367-0129)

I. BACKGROUND

With the 5th Five Year Development Plan (1975-80), His Majesty's Government of Nepal (HMG/N) refocused its development priorities towards development in the Hills and towards greater government services for agriculture, rural development and health. This change coincided with the U.S. Government's new directions in economic assistance to support broader rural development and social welfare activities. During the 5th Five Year Plan, USAID/Nepal explored investment opportunities with HMG/N for rural area development and focused project development on the five districts comprising the Rapti Zone in the Mid-Western Development Region. The Rapti Zone, consisting of Dang, Salyan, Pyuthan, Rolpa and Rukum Districts, was one of the poorest areas of Nepal with an estimated per capita income of approximately \$60, which was less than half of the national average of \$140. Poverty in the Zone was accompanied by malnutrition, low literacy, low school enrollment, limited health services, lack of roads, no public utilities, nascent markets, poor commerce, limited handicrafts, and no industry. The economy was dependent on agriculture and natural resources. With high population density per unit of cultivable land, low incomes, insufficient food production, and pervasive soil erosion and nutrient depletion, the fundamental life support system (agriculture, livestock and forestry) of the people was endangered.

Because of the urgent need for improved development services and for increased investment in the Zone, and because of the development opportunity brought by the construction of the national East-West Highway into the Zone, the Rapti Zone was chosen for a 15 to 20 year development program to be financed jointly by the U.S. Government and the HMG/N. This program was designed from 1977 to 1980, and the Grant Agreement for Phase I Rural Area Development: Rapti Zone Project (367-0129) was signed in August of 1980. This Phase I Rapti Project continued until July of 1988. However, during the last year only a few bridging activities involving technical assistance and carryover construction were funded, as the main program was modified and continued under support from the Phase II Rapti Development Project (RDP) (No. 367-0155). This report presents the achievements and lessons learned during the seven years of the Phase I Project, from August 1980 through July 1987. These achievements and lessons form the baseline for the Phase II RDP which began in July 1987 and will continue until July of 1995.

II. SUMMARY OF PROJECT IMPLEMENTATION

A. Project Goal and Purpose

The Project Goal, the same as the overall USAID program goal in 1980, was to help the HMG/N promote development in such a way as to meet the basic needs of Nepal's poor majority, with special attention to the Middle Hills. The Project purposes were:

- to increase the measurable aspects of the quality of life including income and farm production levels, of families in the Rapti Zone; and,
- to improve local demand for, and local control of, national level delivery systems for improved agriculture, health, education, resource management, and family planning.

Within these purposes, there were four broad target areas for the Project. These were:

- Δ to improve food production and consumption quantitatively and qualitatively by households in the Zone;
- Δ to improve and increase income-generating opportunities within the Zone which are accessible to poor farmers, landless laborers, occupational castes, and women;
- Δ to strengthen the capacity of District and Village Panchayats and other local organizations to plan, implement and sustain local development efforts; and,
- Δ to increase the availability and use of national delivery systems in the Zone.

The objectives and activities of the first phase encompassed both productive and social services sectors. However, programs were never implemented in the health sector, and programs in the education sector encountered implementation difficulties and were gradually phased out. In response to the 1983 Mid-Term Evaluation and the 1985 Final Evaluation, the project was gradually modified to focus on productive sectors (agriculture and natural resources) of the Zone. This change grew from implementation experience that recommended: a) a narrower focus to reduce the management complexity of the original multi-sector program, and b) a concentration on activities that would directly contribute to increased production and incomes, thereby enhancing the ability of local institutions to implement and sustain project activities.

B. Project Achievements

Within the four broad target areas of the Phase I Project the achievements are as follows:

- △ To improve food production and consumption quantitatively and qualitatively by households in the Zone.

Using a moving 3-year average, annual production of food grains (rice, wheat, maize, millet, barley) increased from a 174,000 MT annual average in 1978-80 to a 220,000 MT annual average in 1985-87 (26.3% increase), according to statistics of the HMG/Nepal Department of Food and Agriculture Marketing Services. This increase approximately equals the project target of an increase in field crop production by 27 percent. Using HMG/N population growth rates for the Zone, this resulted in a per capita increase of food production from 198 Kg. to 213 Kg. during the 7 year period. These increases transformed the Zone from a chronic food deficit area into an area of moderate food surplus. There has also been important crop diversification, particularly into vegetables and fruits, and household consumption appears to have improved, although household consumption and nutrition surveys have not been conducted.

- △ To improve and increase income-generating opportunities within the Zone which are accessible to poor farmers, landless laborers, occupational castes, and women.

The Project provided technology extension, training, and credit through several programs which were designed to increase income-generating opportunities. The most significant of these was the program of the Agricultural Development Bank of Nepal (ADB/N). ADB/N increased its investment in the Zone from Rs. 3.7 million in 1980/81 to 24 million in 1986/87 in support of the increased agricultural production and established Small Farmer Development Program operations in 25 Panchayats to assist 6,500 small farm households. While incomes have increased in certain target areas, data is not available to determine the broader income and income distribution effects of the Project. However, a household income survey is planned in 1989, which will provide information on changes since the household baseline survey in 1979.

- △ To strengthen the capacity of Panchayats and other local organizations to plan, implement and sustain local development efforts.

The Project facilitated the implementation of the 1982 Decentralization Act and 1984 By-Laws which provide authority to District and Village Panchayats in preparing development plans and approving district programs and budgets. The utilization of project financial resources improved from an expenditure to budget ratio of 30% in 1981 to a ratio of over 80% in 1987. HMG/N offices have become more efficient in their financial and administrative operations and more experienced in dealing with Village and District Panchayats in the formulation and implementation of programs. The Phase II Project is continuing this work with greater emphasis on local institutions, particularly farmer user groups.

- Δ To increase the availability and use of national delivery systems in the Zone.

The Project constructed 41 buildings for HMG/N to improve district operations and 10 sub-district Service Centers to expand extension efforts. HMG/N officer-level staff with project-related agencies was increased from 33 persons in 1980/81 to 80 in 1987/88. To facilitate input supply and marketing in the Zone 180 Kms. of fair weather roads and 163 Kms. of trails and mule tracks were improved and maintained by the Project. Using these expanded facilities the Agriculture Inputs Corporation increased the supply of fertilizer fivefold, to 1.236 MT. (in active ingredients: N,P,K) in 1986/87. The expansion of physical facilities and government services was successfully undertaken, laying a foundation for further development in the Zone.

III. PROJECT INPUTS

A. Project Financing

The 1980 Project Paper cost estimate for the Project was \$33.67 million of which \$26.7 million was to be provided by USAID and \$6.97 million by HMG/N. Primarily because of the progressive devaluation of the Nepalese Rupee vis-a-vis the U.S. Dollar during the Project (from 11 Rs/\$ in 1980 to 21 Rs/\$ in 1987.) but also because of limited expenditures during the initial years, the Project used less funds than planned and was able to be extended by two years without adding new funds.

The total project requirement was reduced because of continuing devaluation of the Nepalese Rupee versus the U.S. Dollar during the life of the project. The other major change between the PP Estimate and the Revised Estimate is due the project accounting system which placed all expenditures through HMG/N agencies in the "Other" category. The expenditures for "Technical Assistance", "Commodities", "Training", and "Construction" present only the USAID direct expenditures for these categories. These types of expenditures were also undertaken using local currency provided through HMG/N implementing agencies.

Table 1 provides the summary financial status of the Project.

Table 1: Summary Financial Status

Item	PP Estimate	% of Total	Revised Estimate	% of Total	Planned to Date	% of Total	Actual Expenditure	% of Expended
USAID Funding	26,700		23,550		23,550		23,333	99%

Tech. Assistance	2,827	8%	5,544	20%	5,544	20%	5,420	98%
Commodities	1,154	3%	1,379	5%	1,379	5%	1,378	100%
Part. Training	2,056	6%	1,623	6%	1,623	6%	1,564	96%
Construction	12,001	36%	1,537 *	6%	1,537	6%	1,537	100%
Other	8,662	26%	13,467	49%	13,467	49%	13,434	100%

HMG/N Funding								

Other	6,974	21%	4,086	15%	4086	15%	4,086	100%

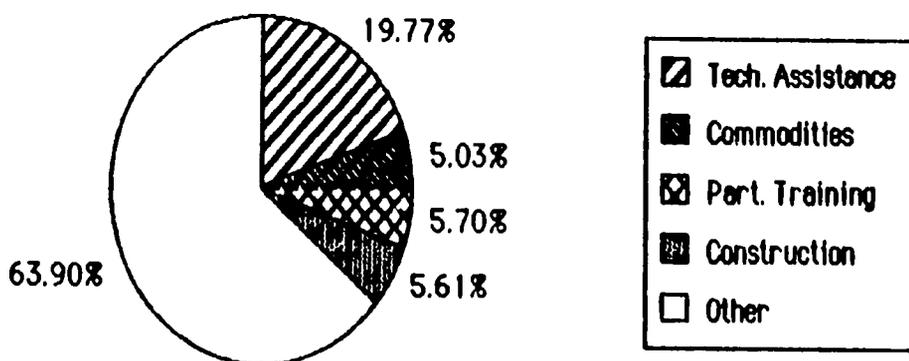
Total Project	33,674	100%	27,636 **	100%	27,636	100%	27,419	99%

* Most of the "construction" funding was shifted to the "other" category because of host country implementation by HMG/N agencies. This includes costs for office buildings, drinking water projects, bridges, and road and trail improvements. Total expenditures were approximately as planned.

** As planned in the Phase II Project Paper, surplus funds have been deobligated from the Phase I Project and reobligated for the Phase II Project--\$450,000 in FY 1988 and the remainder in FY 1989.

Table 2 provides the percentage distribution of costs by category and a breakout of the "Other", or local currency costs through HMG/N agencies.

Table 2: Total Expenditures



Breakout of "Other", Expenditures by Sector through HMG/N Budgets

Agriculture	71,512,710 Rs.
Medium Irrigation	28,218,202 Rs.
Forest & Soil Con.	28,135,062 Rs.
Roads	72,875,084 Rs.
Local Development	73,357,572 Rs.
Other	15,062,629 Rs.
Total	289,161,259 Rs.

B. Technical Assistance

Technical Assistance was a major project input of over \$5.4 million, representing approximately 20% of total expenditures. The percent of Project expenditures going to technical assistance increased from the PP Estimate due to the increased relative cost of foreign exchange expenditures with the devaluation of the Nepalese Rupee and due to the extension of the life of the Project. The Project increasingly used local Nepalese consultants and technical advisors so that overall only 36 percent of total technical assistance was provided by expatriates.

A summary list of total technical assistance is provided in Table 3.

Table 3: Summary of Technical Assistance

<u>Firm</u>	<u>Purpose</u>	<u>Duration</u>	<u>Remarks</u>
PADCO	Support to PCO	792 pm	375 pm expatriate
PRAGMA	Advisors to ATU	78 pm	36 pm expatriate
Louis Berger	Rapti Roads Assessment.	94 pm	24 pm expatriate
No-Frills	Household Production Systems	168 pm	All local staff
CARE/Nepal	Irrigation support to ADBN	40 pm	All local staff
DAI & Devres	Mid and Final Evaluations	9 pm	5 pm expatriate
Sheladia	Analyses for Phase II	8 pm	4 pm expatriate
Local Firms	Special Analyses & Studies	56 pm	All local staff
PSCs	Special Analyses & Studies	143 pm	51 pm expatriate
Total Assistance		1,388	pm 495 pm expatriate

The primary technical assistance contractor (accounting for 80% of total TA expenditure) was Planning and Development Collaborative International (PADCO). The PADCO contract was executed on May 22, 1981 and ran until March 30, 1988. During this period PADCO provided 27 person years of long-term expatriate assistance, 49 person-months of short-term expatriate assistance, and 35 person-year of Nepalese assistance. PADCO provided this assistance for implementation through the Project Coordination Office in the Rapti Zonal capital of Tulsipur. The assistance initially focused on financial and administrative management, engineering, and monitoring; and then, shifted over time to greater emphasis on agricultural and forestry, reflecting the shift in Project focus and the changing function of the Project Coordination

Office. PADCO did a good job of providing appropriate technical assistance and in changing the nature of this support over the life of the Project.

Technical assistance was provided for three years (1981-84) by PRAGMA to start the Appropriate Technology Unit (ATU) under the ADB/N in Tulsipur. This assistance included one long-term expatriate advisor for 3 years and 40 person-months of short term assistance. Louis Berger International prepared the Rapti Roads Assessment in 1985-86, and a Nepalese firm, No-Frills Consultants, started a program for local income generation following the recommendations of the 1983 Evaluation. Technical assistance was also provided by several U.S. and Nepalese contractors for special studies and evaluations.

C. Training

USAID direct expenditures for "Training" were for a Participant Training Program designed to provide skill training opportunities outside the Zone for HMG/N implementing agencies. This program also provided an incentive to attract HMG/N personnel to work in the Zone. Local training in the Project Zone was generally financed using Project funds provided through the PCO and HMG/N implementing agencies. This local training was supported by the primary technical assistance contractor, PADCO.

Table 4 summarizes the training provided under the Rapti Participant Training Program.

Table 4: Summary of Participant Training

Location	Degree Training		Short-Term Training		Total	
	No.	Months	No.	Months	No.	Months
U.S.	8	240	28	62	47	637
Third Country	11	330	152	314	163	644
India	32	1,032	99	467	131	1,499
Nepal	9	396	--	--	--	--
Total	60	1,998	279	843	350	3,176

The Rapti Participant Training Program sent 19 persons for academic degree training at the BSo. and MSo. levels and 180 persons (376 person-months) to short-term training in Third Countries and the U.S. For cost effectiveness, the Project emphasized training in Asia and 82 percent of the participants attended courses in neighboring Asian countries. In addition, since 1985, the Project financed in-country BSo. degree programs at the Institute of Engineering (6 students) and the Institute of Agriculture and Animal Sciences (3 students). The Project also used Indian Currency available under the Special Foreign Currency Program to provide 32 persons (1,032 months) long-term degree training and 99 persons (467 months) short-term training in India. The total number of women participants during the project was 23, or 7 percent of total participants.

The Participant Training Program provided an important incentive to attract qualified HMG staff to work in the Rapti Zone. This incentive was strengthened over the life of the Project as tighter requirements for participants were instituted to eliminate Ministries from nominating candidates not associated with the Project. All Project participants returned to Nepal following their training and most have continued to work with HMG agencies in the general area in which they were trained.

D. Commodities

The major commodities procured for the project were vehicles for contractor and HMG/N implementing agencies, equipment and household furnishings for the contractor and Project Coordination Office, and technical equipment for implementing agencies. Vehicle procurement accounted for 57 percent of the commodity expenditure, for a total of 40 vehicles and 54 motorcycles. This includes 15 replacement vehicles and 17 replacement motorcycles that were purchased after 1985 and are continuing to be used for the Phase II Project. Household and office equipment for the contractor, PCO, and HMG/N implementing agencies accounted for another 43 percent of commodity expenditures.

E. Construction

Under USAID direct contracts there were two building complexes constructed. These were the Rapti Project Coordination Office in Tulsipur and the Agricultural Training Center in Nepalgunj. The Project Coordination Office complex has a 690 sq.m. office building, 320 sq.m. of workshop and storage area, a guest house, and housing for 21 families. The four hectare lot was purchased by HMG/N in March of 1981. Construction started in January of 1983 and was completed in July 1985 at a total cost of \$ 630 thousand. The PCO complex houses a project support staff of approximately 50 persons.

The Agricultural Training Center is located in Nepalgunj next to the Agricultural Research Farm. The Center consists of two buildings that provide 950 sq.m. for classrooms and dormitory accommodations. Construction was started in January of 1983 and completed in February 1985 at a total cost of approximately \$180 thousand.

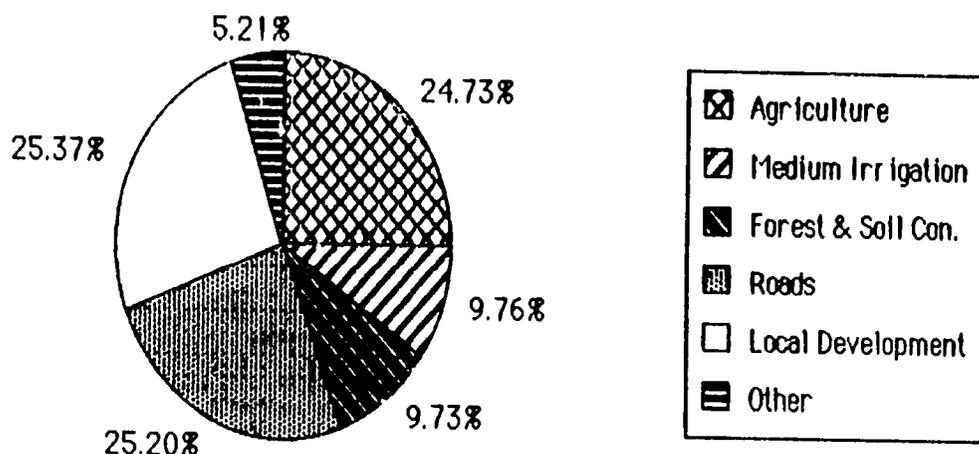
Other project building construction was undertaken directly by the HMG/N. To support expanded HMG staff and programs, there were 41 district level office buildings and 10 subdistrict service centers constructed under the Project. The construction of these buildings cost a total of about 22 million Rs. This was less than 8 percent of total program expenditures through HMG budgets.

The Project also supported a rural works program that undertook 180 kms. of road improvement, 46 drinking water systems, 15 suspension and wooden bridges, 163 kms of mule tracks, and 4 medium and 10 small irrigation systems. These are discussed under the relevant program, below.

F. Other - Local Budget Support

Table 5 provides a summary of major local currency expenditures.

Table 5: Expenditures through HMG/N Budgets by Sector



The Project provided \$17.5 million (64% of total expenditures) for programs that were carried out by HMG/N implementing agencies. This amounted to 289 million Rs. of which approximately 25% was for local development, 25% for roads, 25% for agriculture and livestock, 10% for medium irrigation, 10% for forestry and soil conservation, and 5% for other programs. The major activities and outputs of each program area are further discussed below.

IV. Project Outputs by Program

A. Roads

The Project Paper objective for the Roads Component (25% of Local Budget costs) was to upgrade 200 km of three hill roads to accommodate light trucks. However, this objective was not supported by detailed engineering and design studies, so that the allotted budget was insufficient to achieve the objective. The 1983 Evaluation redefined the objective as upgrading to standards of jeep and tractor haulage. During the project period approximately 180 km were opened to fair weather jeep and tractor traffic. The remaining 28 km section is being completed using a food for work program that was started during the last year of the Project in cooperation with the Department of Roads and the United Nations World Food Program.

The Roads Component also included a road stabilization program for vegetative stabilization of road banks in the most environmentally sensitive areas. This program was implemented in the Pyuthan and Rolpa road sector and provided 93 has. of vegetative stabilization along the road corridors.

With a view towards maintenance and further upgrading of these roads a Rapti Roads Assessment Study was undertaken in 1985/86 by Louis Berger International. This study provided a basis for HMG/N and USAID to review construction costs and standards, to prepare a technically sound package of plans and other documents for seeking international donor financing for further construction, to develop specialized geological and engineering techniques for hill road construction, and to resolve questions of economic feasibility of further construction. This study was of high quality and has served as the basis for the Asian Development Bank to evaluate project assistance for further roads improvement and for the project to expand local road construction using food provided by the the UN World Food Program.

B. Local_Development

The Local Development Component (25% of Local Budget costs) included expenditures for: 1) technical, training, financial, and monitoring support by the Project Coordination Office; 2) district planning and implementation coordination by the Local Development Office; 3) rural works programs involving irrigation, bridges, drinking water, trails, and office buildings and subdistrict service centers; 4) district women in development programs; and, 5) a household production systems program.

1. Project_Coordination_Office_(PCO): The Rapti Project Coordination Office was established to coordinate, guide and support the District and Village Panchayats and the HMG district line agencies in planning and monitoring, financial reporting and accounting, procurement and logistics, engineering and construction, and training. Since the start of the Project, the planning and budgeting process and the project monitoring system has been improved significantly. The financial management and accounting assistance which was provided to all implementing agencies resulted in an increase of expenditures to budget from 30% in 1981 to 80% in 1987. Similarly, the Project tested several monitoring systems and then implemented a comprehensive computerized system of progress and impact monitoring. The PCO Engineering Unit carried out designs and design reviews of a wide range of construction activities and managed several architecture and engineering design contracts. During the Project, the PCO also handled domestic procurement and distribution of constructions materials for 139 school roofs, 46 drinking water systems, 15 bridges, and 10 small irrigation projects. The technical and management capacity of HMG/N agencies was improved through a total of 84 different training workshops and seminars, involving 2,950 officials and local leaders of the Rapti Zone, that were conducted by the PCO during the seven-year Project.

2. Local_Development_Office_(LDO): The Local Development Office is responsible for supervising the district planning, budgeting, and implementation processes and for coordinating the work of district elected officials and HMG/N line agencies. The Project provided technical and administrative assistance, training, infrastructure construction, and technical equipment to improve the capability of the LDOs to plan and manage resources needed to implement District and Village Panchayat development activities. Field Officers were provided by the Project to each LDO to improve the planning and monitoring of field activities.

3. District Technical Office (LDO): The District Technical Office worked as the engineering support office to the LDO to administer the rural works program of the Project. The District Technical Offices undertook the design, cost estimate, and supervision of 46 drinking water systems serving approximately 36,000 persons, 15 suspension and wooden bridges, 163 kms of mile tracks, and 10 small irrigations systems covering 383 has. Ten integrated rural service centers (agriculture, livestock, forestry) were constructed to extend Government services to rural areas. The Project also built 41 office buildings for HMG/N agencies, including offices of approximately 2,000 sq. ft for the DTO in each of the five districts. The effectiveness of the integrated rural service centers as an extension outreach mechanism will be evaluated in 1990 before any Phase II funds are committed to further infrastructure development.

4. Women Development Office (WDO): The Women Development Office was started in 1984 to address the problem of low participation of women in many HMG/N extension activities. Initially the program was an extension of the UNICEF-initiated program run by the Women Development Section of the Ministry of Panchayat and Local Development with credit funding from the commercial banks under the priority sector credit scheme. The WDO organized village women into joint liability groups and helped them obtain loans for small business ventures and agricultural activities. Based on the 1985 Evaluation, this program was redesigned in 1986 to make it a broader program to actively involve women in all project supported activities and is being continued in the Phase II Project. During the Phase I Project 517 women were trained in different skills and 34 credit groups were formed.

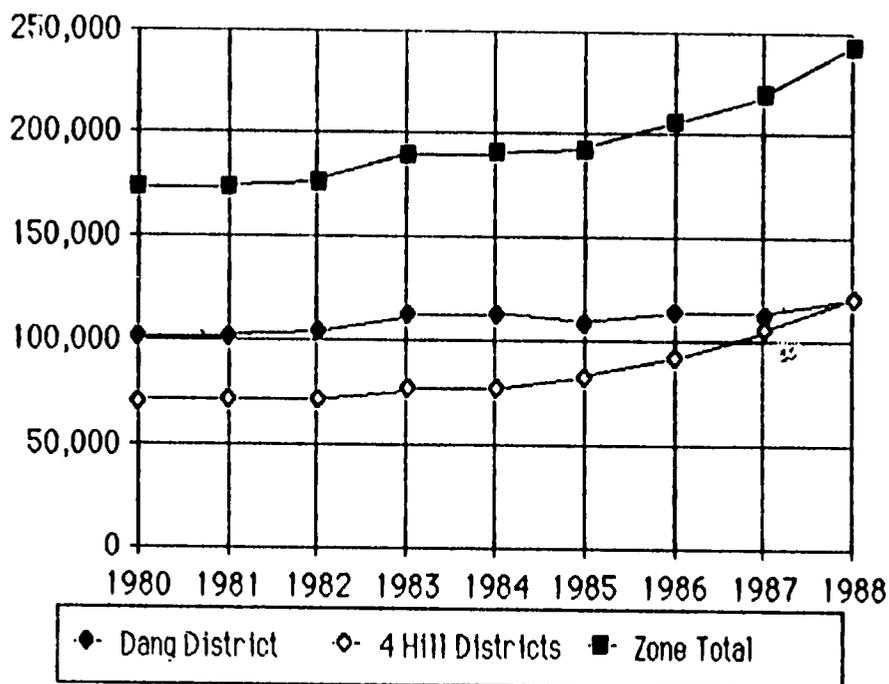
5. Household Production Systems (HPS): The Household Production Systems Program was initiated following the recommendation of the 1983 Mid-Term Evaluation to seek ways to increase local income generation activities of the Project. Surveys of household enterprises were undertaken in selected Panchayats and a program to strengthen and expand most promising enterprises was started in 10 Panchayats in 1985. Assistance to design and implement this program has been provided by a Nepalese firm, No-Frills Consultants. The program has successfully expanded horticulture and cash crops production, processing, and marketing in selected areas and is being continued as the Vegetable, Fruit, and Cash Crop Program in the Phase II Project.

C. Agriculture and Livestock

The Agriculture and Livestock Component (25% of Local Budget Costs) of the Project included support for: 1) District Agricultural Development Offices; 2) Musikot Vegetable Seed Production Center; 3) Nepalgunj Agricultural Station; 4) District Livestock Services Offices; 5) Agricultural Development Bank of Nepal; and 6) Agricultural Inputs Corporation. Project inputs were intended to expand Government services in the Zone in order to increase agricultural production.

1. Agricultural Development Office (ADO): The staff and program of the District Agricultural Development Offices were expanded to include 35 subcenters throughout the Zone to provide better extension focusing on cereal grains production. The most important new program initiated by the Project was a varietal testing program based on understanding and improving the existing cropping system. This Cropping Systems Program established varietal testing sites (rice, wheat and maize) in 30 Panchayats covering most major production areas of the Zone. These technology verification sites also became important production monitoring and extension demonstration sites for the agricultural program. The production of cereal grains increased during the Project from approximately 174 thousand metric tons to 220 thousand metric tons, due to area expansion in the Hills and to the extension of new technology in the Zone. Reflecting the better availability of improved technology, wheat production increased the most, by 46%. Rice production increased by 28% and maize increased by only 15%. The greatest impact was in the Hill Districts where there had been little or no extension program prior to the Project. Cereals production increased by 47.5% in the four Hill Districts of Pyuthan, Rolpa, Rukum, and Salyan, and only by 11.4% in lowland valleys of Dang District. These production increases occurred mainly during the last three years of the Project and have continued in 1988 under the Phase II Project. Table 6 presents the total expansion of cereal production and for Dang District and the 4 Hill Districts.

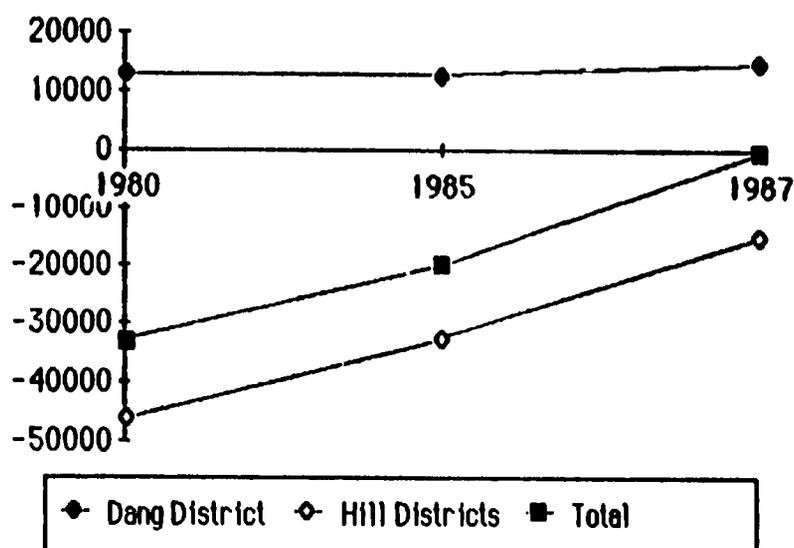
Table 6: Moving 3-Year Average Cereals Production



Source: Department of Food and Agricultural Marketing Services

This expansion in cereals production improved food availability in all five districts, so that the Zone moved from having a 32,000 MT food deficit in 1980 to being self-sufficient in 1987. Table 7 presents this change in the food deficit situation: for Dang, for the four Hill Districts, and for the Zone overall.

Table 7: Change in Food Deficits for the Zone



Source: **EMIS/II Department of Food and Agriculture Marketing Services**

2. **Musikot Vegetable Seed Production Center:** The Musikot Vegetable Seed Production Center had been established in Rukum District in 1976 to produce vegetable seed that would be sold nationally by the Agricultural Inputs Corporation. With the combined support of the Project and the FAO, the facilities of the Center were upgraded, its staff expanded, and its program enlarged to include an outreach farmer training and contract production program. As a result of the Project efforts, the Center was able to produce 17 metric tons of onion seeds and 12 metric tons of vegetables seeds and to prepare 41,000 packages of different vegetable seeds which were distributed through the ADOs to encourage household vegetable production in the Zone.

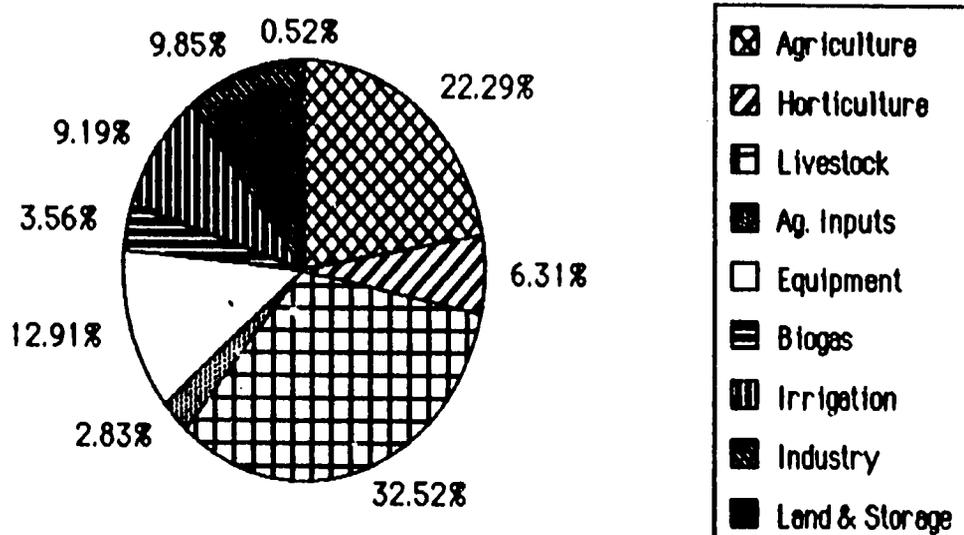
3. **Nepalgunj Agricultural Station:** The Project provided support to the Agricultural Research Station near Nepalgunj to improve its training facilities and to establish better research-extension linkages. Under the Project, 231 ADO extension agents received training. Improved technology that was provided by the Station was limited to lower altitude climatic zones, primarily in Dang District.

4. **Department of Livestock Services (DLS):** Under the Project operations of the Department of Livestock Services expanded from one zonal veterinary office in Dang District to five district veterinary offices and 26 subcenters throughout the Zone. The DLS distributed over a thousand improved animals, vaccinated 274,000 animals, started a fodder production program, and trained over 2,000 farmers in animal health techniques. Meat, milk, egg and wool production all increased about 7 to 8 percent from 1984 to 1987. Production data were not available before 1984.

5. Agricultural Development Bank of Nepal (ADB/N): The Project provided support to the ADB/N to expand its offices and credit facilities in the Zone. With this assistance the ADB/N increased its annual investment in the Zone from 3.3 million Rs. in 1980 to 24 million in 1987, making its total outstanding loan portfolio about 55 million Rs. in 1987. Table 8 presents the distribution of the ADB/N loan portfolio.

The Project also supported two other ADB/N programs, the Small Farmer Development Program (SFDP) and the Appropriate Technology Unit (ATU). Small farmer access to credit was also improved by the expansion of the Small Farmer Development Program from 1 Panchayat Office in 1980 to 25 in 1987, covering approximately 6,500 farm households. These areas became focal points for services from other agencies resulting in substantial production and income gains in many of the sites. The Appropriate Technology Unit in Tulsipur, Dang established 150 bio-gas plants, 61 multi-purpose water turbines, and 137 shallow tubewells. It started local enterprises which have constructed and sold improved woodburning stoves, metal seedbins, rower pumps, cement roofing tiles, and other products. This Unit is being further expanded to promote small and micro enterprise development under the Phase II Project.

Table 8: Distribution of ADB/N Loans



Outstanding Loans at end of NFY 2013/044

	ADB	SFDP	% SFDP
Agriculture	11,319,000	1,433,000	12.66%
Horticulture	3,205,000	1,084,000	33.82%
Livestock	16,510,000	7,655,000	46.37%
Ag. Inputs	1,439,000	354,000	24.60%
Equipment	6,556,000	2,932,000	44.72%
Biogas	1,810,000	12,000	0.66%
Irrigation	4,668,000	1,558,000	33.38%
Industry	5,000,000	1,720,000	34.40%
Land & Storage	266,000	207,000	77.82%
Total	50,773,000	16,955,000	33.39%

6. Agricultural Inputs Corporation (AIC): The amount of fertilizer supplied to the Zone and distributed through AIC branch offices, cooperatives, and private dealers increased fivefold from less than 578 MT in 1980/81 to 3,017 MT in 1986/87. (This equals 1,236 MT of active ingredients: N,P,K.) This increase in fertilizer distribution was achieved by increasing AIC storage in the Zone (Warehouse capacity was increased by 1,500 MT.); expanding AIC staff and offices (AIC staff was doubled and two new offices opened.); and improving the fertilizer distribution system. Based on a 1983 evaluation of agricultural inputs to the Zone, the Project established a program with AIC to expand retail outlets by encouraging private dealers. Despite apparent agreement on reform to improve agricultural input supply in the Rapti Zone, the number of private dealers was not greatly expanded (7 new dealers were established) and fertilizer availability remained an important production constraint in most areas of the Zone. Under the Phase II Project, USAID is continuing to work with HMG/N to develop programs to further stimulate input provisions through private dealers.

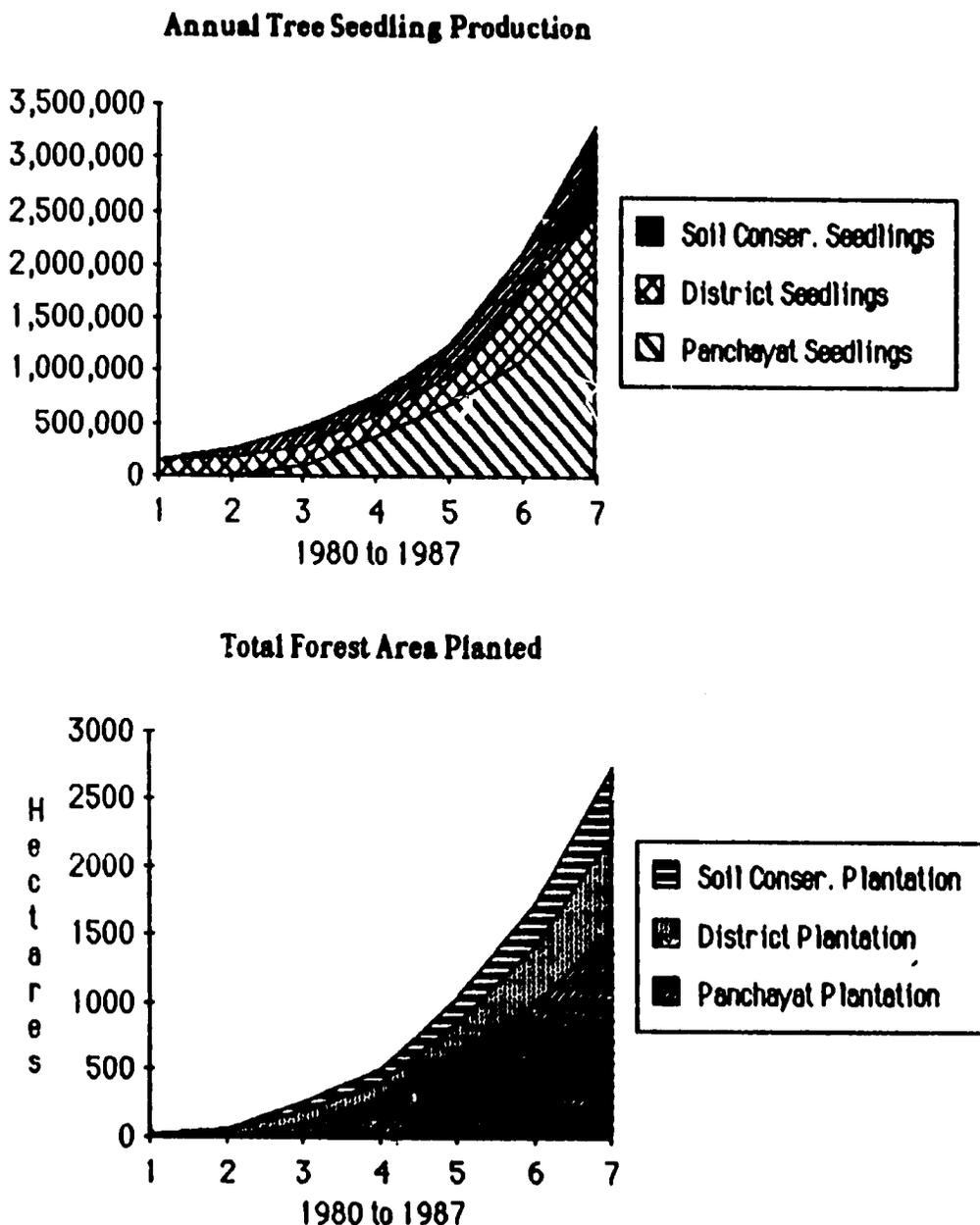
D. Medium Irrigation

The Medium Irrigation Component (10% of Local Budget costs) was implemented by the Department of Irrigation, Hydrology and Meteorology (DIHM). Approximately 1,250 hectares were planned to be irrigated under new or improved irrigation systems. Project funds were provided to support civil works, equipment purchase, DIHM staff training, and to expand the DIHM Office in Tulsipur. Four medium irrigation projects were undertaken--two were rehabilitations of farmer-managed systems and two were new systems. The net irrigable area covered by these four systems is 1,458 has. The Project target for hectares was more than achieved, even though implementation was plagued by problems which arose primarily from DIHM's inability to work effectively with farmer groups. Farmers are now producing two crops of cereals, or one of cereals and then a cash crop, on this area, and some triple cropping is taking place in pockets where water is plentiful. These irrigation projects are maintained and operated by DIHM staff in cooperation with farmer waterusers' associations in all four systems.

E. Forestry and Soil Conservation

Following a slow start and in responses to the 1983 Evaluation recommendations to concentrate more resources on this component, the Forestry and Soil Conservation Component (10% of Local Budget costs) was given high priority during the last few years of the Project. Table 9 presents the expansion of tree seedling production and of area planted under the Project.

Table 9: Forest Seedling Production and Area Planted



Under this component, the Project provided additional staff, staff training, 8 new office buildings, and technical and financial support to the Department of Forestry (DOF) and the Department of Soil Conservation and Watershed Management (DSCWM). By 1987, 74 Panchayat nurseries (versus the Project Paper target of 60) and 7 Department of Forest and 9 Department of Soil Conservation divisional nurseries (versus PP target of 7) had been

established, and these nurseries were producing and distributing approximately 3.5 million trees annually. Following the recommendation of the 1985 Evaluation, the Project continued to expand the forestry and soil conservation program while placing greater emphasis on extension, public education, and working with forest user groups in resource planning and management at the district and village levels. The Phase II Project is continuing this effort, emphasizing community forestry and local resource management.

F. Other

The other programs that the Project supported (5% of Local Budget costs) were for: 1) education; 2) cottage industry, and 3) electricity.

1. Education

Project support for education was intended to expand both formal and nonformal education and literacy programs across all age groups and economic classes in the Zone. This effort included activities to; increase and improve training programs for primary and secondary school teachers; supply resource materials and scholarships to needy children; and, improve physical conditions of schools through roofing, furniture, water taps, latrines, and other facilities. The implementation of education activities did not begin until the second year of the Project, and then progress was impeded by problems involving administrative coordination, financial procedures, and technical support. Based on the 1985 Evaluation recommendation to concentrate on productive sectors only and to discontinue the education program, project support was discontinued from 1986. During the four year period of implementation, 139 school buildings were improved, 409 teacher trainings were conducted, 1,238 student scholarships were provided, and 856 functional and adult literacy classes were conducted.

2. Cottage Industry

The cottage industry program began in Rapti in 1979 under financing from the Rapti Design Project. This program was designed to create jobs and generate income for rural households by providing training and extension services for traditional cottage industries, and by providing accompanying support services (e.g., credit, raw materials, technology, marketing outlets) to household enterprises throughout the Zone. During six years of implementation, the program provided over 2,300 persons with training in areas like: hosiery making, cotton textile weaving, blacksmithing, sewing, carpentry, carpet weaving, and ginger processing. New offices were established in all the districts and a Cottage Industries Emporium office was build in Dang. However, the program was driven by meeting centrally defined HMG targets and was not very successful in generating jobs nor in increasing household incomes. As a result, the 1985 Evaluation recommended that the program be discontinued, and consequently support was terminated after 1985. Support for household income generating activities continued through the programs of ADB/N and through the LDO Household Production Systems program, as described above.

3. Salyan Electricity

An agreement was reached by USAID/N and HMG/N in July 1985 to install a 100 KVA diesel generator at Salyan District Center, Khalanga. Accordingly, USAID/N provided a diesel generator to the Nepal Electricity Authority as a Grant-in-Aid, and also provided manufacturer recommended spare parts and local currency funds for its installation in Salyan. The program has provided electricity to about 150 households in Salyan Khalanga.

V. PROJECT LESSONS

The Project lessons have, for the most part, been noted in other documents and have been incorporated into the design and ongoing implementation of the Phase II Rapti Development Project (367-0155). The major lessons are repeated here.

A. Project Timeframe and Flexibility

The Rapti Rural Area Development Project was designed as a comprehensive rural development effort that was to be implemented by His Majesty's Government of Nepal (HMG/N) with U.S. assistance over a 15 to 20 year period. This long-term vision coupled with adequate flexibility to modify, add or delete activities, or to change procedures, was vital to the success of the Project. Both the 1983 and the 1985 Evaluations were critical of certain aspects of the Project, particularly the initial focus of the Project on physical and social infrastructure and the lack of immediate production results. In retrospect, many of these criticisms were premature in the judgement of success, since the Project achieved equal or better production outputs in many components than targeted by the Project Paper. Importantly, A.I.D. had delegated management of the Project to the USAID/Nepal Mission, so that the two evaluations provided USAID/Nepal the opportunity to reappraise and refocus rural development strategy in Rapti. The Project could not have survived if it had not been for the design commitment for a long-term program of assistance and for the flexibility given to USAID/N mission management to modify the Project based on a firsthand knowledge of the Project and of the development realities in the Rapti Zone.

B. Clearly Articulated Strategy and Focus

The initial project design was propelled by a broad goal (which echoed development concepts of the late 70's) of promoting development to meet the basic needs of Nepal's poor majority. Almost any activity could be justified under this theme. A clear focus and specific strategy mutually understood and agreed to by AID and HMG/N was lacking for integrated rural development in Rapti. This vagueness made it easy for the HMG to see the Project in terms of infrastructure expansion and for evaluators to criticize the discongruity of unintegrated pieces of the program and the poor performance of certain activities. This problem was resolved in the later years of the Project, as AID articulated and HMG/N accepted an emphasis on productive,

income-generating activities. Because of the complexity of Nepalese farming systems and the wide variations of opportunities and constraints within the many different agro-climatic and socio-cultural areas of the Zone, this emphasis did not solve the problem of managing a large complex project. It did permit, however, a clearer mutual understanding of expected outputs and the establishment of a project monitoring system to track impact as well as progress indicators.

C. Well Defined Policies and Institutions for Project Management

The Project was designed as a broad rural area development program for the Rapti Zone. This design involved numerous components and implementing organizations and was based on expectations for an evolving HMG/N rural development policy. At the start of the Project in 1980, only a general policy level commitment for rural development, a high-level Inter-Ministerial Integrated Rural Development (IRD) Board, and individual IRD Projects existed for rural development implementation in Nepal. The regulations and procedures and the institutions capable of directing the Rapti Project had to be developed by the HMG/N, assisted by the Rapti Project and other similar donor-funded IRD projects. Given this nascent environment for rural development management, it was not surprising that the Project Coordination Office focused its attention on its Ministry's (MPLD's) programs and on rural infrastructure programs that had been the traditional focus area of HMG/N rural development. The PCO did not have the authority nor capability to effectively manage a project involving several different Ministries and numerous national and district implementing agencies. In this environment the USAID/N project office had to provide overall management and monitoring of project activities while carefully facilitating HMG/N management and fostering HMG/N and local political ownership and commitment to project purposes and strategies.

Fortunately, HMG/N policy continued to evolve along the general lines anticipated by USAID. The Decentralization Act was passed by the Parliament and approved by the King in 1982, and the By-Laws to implement this Act were similarly approved in December 1984. The Decentralization Act and By-Laws defined a system of decentralized plan and budget preparation, as well as the coordination and supervisory authority of the District Panchayat and its Secretariat, the Local Development Officer (under MPLD).

The policy and procedures for integrated rural development management were gradually established. However, it was not until the start of the Phase II Project in 1987/88 that several of the coordinating mechanisms for project management were established. These included: 1) national planning and budget coordination through the joint HMG/USAID Project Review Committee which has a member from each Department and Corporation involved in the Project; 2) regional management coordination by linking the PCO through normal HMG/N supervisory structures with the Regional Directorates in Surkhet; and 3) regular systematic review of project activities and project contractor performance by the USAID/HMG management team.

D. Strong Host Country and Beneficiary Participation

Successful project implementation depended upon both the commitment of national-level HMG/N development agencies and their ability to provide staff

and mobilize resources for programs in the Zone, and upon the perceptions and demands of local communities and their political representatives. The project needed managers who were both sound administrators of HMG programs and who were savvy politicians concerned for local development and comfortable dealing with the political and cultural interactions of the Zone. Over the life of the Project different strategies and programs were tried to take advantage of evolving decentralization policy to strengthen local beneficiary involvement in all project activities.

The Project relied on existing HMG/N structure and institutions to implement the Project. This approach combined with skill training has helped to develop local HMG/N institutional capacity which should help government agencies to sustain activities supported by the Project. The Project also tried to integrate non-government organizations and the private sector into the Project. Progress in this area has been slow but is occurring as individuals and groups (irrigation wateruser associations, community forestry groups, small farmer (SFDP) groups, vegetable seed producers, livestock management groups, etc.) have gained experience and achieved official recognition of their development role. These groups and their development role still need to be more clearly defined and strengthened to ensure the sustainability of decentralized local development. HMG/N agencies have gradually been improving extension methodologies and skills to better understand and work with farmers and local groups. Further progress is required to develop these interactive skills and the feedback/communication strategies and mechanisms need to be strengthened to assure effective local development. This is a priority area being addressed by the Phase II Project.

E. Testing of Technologies in the Local Context

The agriculture program was led by a cropping systems program (CSP) that systematically tested new varieties of cereal crops in the local agricultural system. This local verification of new technologies was important to determining which technologies were most suitable to which areas of the Zone. The CSP retained and multiplied seeds of the most promising varieties and then provided needed inputs (credit, fertilizer, technical advise, etc.) to farmers for planting these varieties in appropriate high potential production areas (Block Production Program). This methodology was quite successful as cereals production expanded throughout the Zone during a period of declining production in many other parts of the country.

This systematic approach of technology verification in the local context as part of the Project's extension program has also be successfully used for vegetable, vegetable seed, potato, and fruit production activities. The Phase II Project is expanding this approach for use in the community forestry and livestock development activities as part of the farming systems extension orientation of the Project.

F. Support for Appropriate Policy Reforms

As mentioned above, the continuing strong support and field experience of the Project for decentralization helped HMG/N to evolve its decentralization policy and to establish the regulations, guidelines and institutional structure needed to implement this policy. This was possible

because USAID and HMG project managers were sensitive to the broad development needs of Nepal and were closely involved in national policy and program deliberations.

Similarly, the Project initiated several new types of experimental programs that have become models for HMG policy and program reform. The Project initiated small farmer group credit and appropriate technology programs with the ADB/N that have been models for the development of local farmer associations and of rural private enterprise. Private dealers were established as an experimental program to expand fertilizer distribution in Rolpa District and this effort in being continued and expanded in the Phase II Project. To complete planned road construction with limited funds the Project initiated a food for work program with the UN World Food Program that has now become a model for UNWFP assistance in the roads sector in Nepal. Field experience also assisted USAID efforts to promote policy reform to establish clearer regulations and procedures for private and local community management of forestland.

G. Project Monitoring and Evaluation

Sound project management as well as the broader use of project activities to further national development programs and to guide the evolution of national development policies depended upon a strong project monitoring and evaluation system. The Project experimented with several monitoring systems and then finally implemented a systematic and comprehensive system in 1985. The computerized monitoring system which was established in 1985 provided a good database for the 1985 Evaluation and for subsequent project modifications. The system also enabled USAID and HMG project managers to focus on output-related issues in their periodic review of project activities. This system has also become a model for MPLD use in considering its monitoring of the nine other rural development projects that it manages in other parts of the country. Similarly the National Planning Commission is now considering implementation of an impact monitoring system.