

RRP:SRI 27186

ASIAN DEVELOPMENT BANK

**REPORT AND RECOMMENDATION
OF THE
PRESIDENT
TO THE
BOARD OF DIRECTORS
ON A
PROPOSED LOAN
TO THE
DEMOCRATIC SOCIALIST REPUBLIC OF SRI LANKA
FOR THE
NORTH CENTRAL PROVINCE RURAL DEVELOPMENT PROJECT**

August 1996

CURRENCY EQUIVALENTS

(as of 20 August 1996)

Currency Unit	—	Sri Lankan Rupee (SLRs)
SLRs1.00	=	\$0.019
\$1.00	=	SLRs53.10

The Sri Lankan rupee is allowed to float against a weighted average basket of currencies of Sri Lanka's major trading partners. For the purpose of calculations in this Report, a rate of \$1.00 = SLRs50 has been used.

ABBREVIATIONS

BME	-	Benefit Monitoring and Evaluation
CBSL	-	Central Bank of Sri Lanka
EIRR	-	Economic Internal Rate of Return
FO	-	Farmers' Organization
IA	-	Implementing Agency
ID	-	Irrigation Department
IFAD	-	International Fund for Agricultural Development
IIMI	-	International Irrigation Management Institute
IRDP	-	Integrated Rural Development Program
MASL	-	Mahaweli Authority of Sri Lanka
MFAR	-	Ministry of Fisheries and Aquatic Resources
MOPI	-	Ministry of Plan Implementation, Ethnic Affairs and National Integration
NCP	-	North Central Province
NCPC	-	North Central Provincial Council
NGO	-	Nongovernment Organization
NSC	-	National Steering Committee
O&M	-	Operation and Maintenance
PC	-	Provincial Council
PCI	-	Participating Credit Institution
PHD	-	Provincial Highways Department
PID	-	Provincial Irrigation Department
PMO	-	Project Management Office
PPSC	-	Provincial Project Steering Committee
PPD	-	Provincial Planning Division
PRDP	-	Participatory Rural Development Project
RDD	-	Regional Development Division
SIDA	-	Swedish International Development Agency

NOTES

- (i) The fiscal year (FY) of the Government ends on 31 December.
- (ii) In this Report, "\$" refers to US dollars.

CONTENTS

	Page
LOAN AND PROJECT SUMMARY	ii
MAP	vi
I. THE PROPOSAL	1
II. INTRODUCTION	1
III. BACKGROUND	1
A. The Rural Development Sector	1
B. Government Policies and Plans	6
C. External Assistance for Rural Development	7
D. Lessons Learned	7
E. The Bank's Sectoral Strategy	8
F. Policy Dialogue	9
IV. THE PROJECT	10
A. Rationale	10
B. Objectives and Scope	10
C. Cost Estimates	14
D. Financing Plan	14
E. Implementation Arrangements	16
F. The Executing Agency	23
G. Environmental and Social Measures	24
V. PROJECT JUSTIFICATION	25
A. Financial and Economic Analyses	25
B. Environment	29
C. Social Dimensions	30
VI. ASSURANCES	30
VII. RECOMMENDATION	31
APPENDIXES	32

LOAN AND PROJECT SUMMARY

Borrower	:	Democratic Socialist Republic of Sri Lanka
Project Description	:	The Project has been designed to assist the Government in addressing the economic development problems in the North Central Province (NCP), one of the least developed provinces in Sri Lanka. It will support the Government's three-pronged approach in rural development: improved planning and capacity building of provincial governments, broad-based area development, and special efforts to reduce poverty in the poorest villages. The Project will adopt a bottom-up and participatory approach to ensure that interventions at the village level will respond to the needs of beneficiaries. The Project is expected to have a direct and positive impact on irrigation efficiencies, agricultural production, farm income, transportation costs, and rural employment.
Classification	:	Primary: poverty reduction.
Environmental Assessment	:	Category: B An initial environmental examination (IEE) was undertaken.
Rationale	:	NCP has been selected by the Government as a high-priority area for development because of its relative poverty and its economic potential. The Project will address NCP's major problems including low income of the majority of the households, high level of unemployment and underemployment, stagnation of agricultural productivity, deterioration of irrigation and road infrastructure, and inadequate social infrastructure in less developed villages. The Project will provide for more efficient use of land and water resources, better market access through an improved rural road network, and income-generating activities for the rural population. Thus, the Project will contribute toward the Government's goals of poverty reduction and more balanced regional development. It will also promote the Government's devolution efforts toward the provincial and district levels.
Objectives and Scope	:	The objectives of the Project are to (i) raise the incomes of the rural population, and (ii) generate employment opportunities. The target groups are small and marginal farmers, landless laborers, small-scale entrepreneurs in the private sector, women, and unemployed youth. The Project consists of three parts: part A (productive components): (i) rehabilitation and improvement of minor and medium tank irrigation schemes, (ii) inland fisheries development, and (iii) provision of credit for small and medium-scale enterprises; part B (economic and social infrastructure

components): (i) rehabilitation of selected class C and D roads and rural roads, and (ii) upgrading of the social infrastructure in selected poor villages under a village advancement program; and part C (institutional support components): (i) support for Project management and administration; (ii) training and fellowships for selected Project staff, nongovernment organizations (NGOs), private sector institutions and beneficiaries; and (iii) consulting services.

Cost Estimates : The total cost of the Project is estimated at \$31.0 million, of which \$10.0 million (32 percent) is the foreign exchange cost and \$21.0 million equivalent (68 percent) is the local currency cost.

Financing Plan : (\$ million)

Source	Foreign Exchange	Local Currency	Total Cost	Percent
Bank	10.0	10.0	20.0	65
Government	-	6.5	6.5	21
Beneficiaries	-	2.2	2.2	7
Participating Credit Institutions	-	2.3	2.3	7
Total	10.0	21.0	31.0	100

Loan Amount and Terms : The equivalent in various currencies of SDR13,721,000 (\$20.0 million equivalent) from the Bank's Special Funds resources. The amortization period will be 40 years, including a grace period of 10 years, with a service charge of 1 percent per annum. The proceeds of the Bank loan will be made available by the Borrower to the implementing agencies (IAs) through budget allocations.

Period of Utilization : Until 30 June 2004

Implementation Arrangements : As a condition for loan effectiveness, the North Central Provincial Council (NCPC) will have equipped and staffed the existing Project Management Office (PMO), which will be responsible for day-to-day implementation of the Project in cooperation with all IAs, NGOs, and private sector agencies. The Project IAs are as follows: (i) Provincial Irrigation Department (PID), for implementing the improvement of minor tanks outside the major Mahaweli irrigation schemes, in cooperation with the International Irrigation Management Institute (IIMI) and the Provincial Department of Agriculture (DOA); (ii) Mahaweli Authority of Sri Lanka (MASL), for implementing the rehabilitation of minor and

medium tanks within the command of its major irrigation schemes; (iii) Irrigation Department (ID) at the central level, for implementing the improvement of medium tanks outside the major Mahaweli irrigation schemes; (iv) Ministry of Fisheries and Aquatic Resources for implementing the inland fisheries component, in cooperation with the Provincial Ministry of Women Affairs, Environmental Planning and Rural Development, (v) participating credit institutions (PCIs), for implementing the credit component; (vi) Provincial Highways Department (PHD), for implementing the improvement of class C and D roads; and (vii) PMO, for implementing the village advancement program, rural roads, and institutional support components in cooperation with the Divisional Secretariat, Pradeshiya Sabha, and NGOs.

Executing Agency : The Regional Development Division (RDD) under the Ministry of Plan Implementation, Ethnic Affairs and National Integration (MOPI) will be the Executing Agency for the Project.

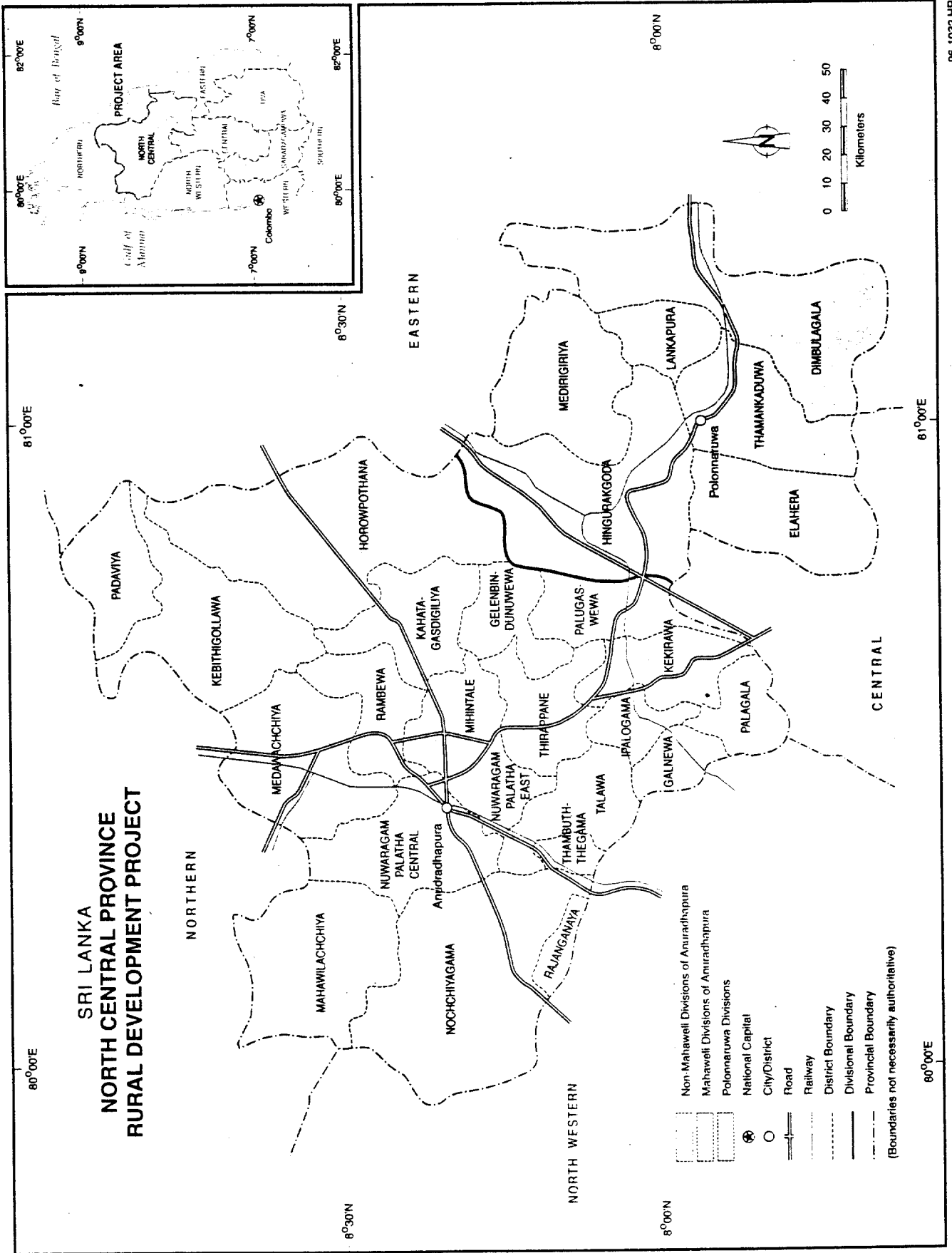
Procurement : The procurement of Bank-financed goods under the Project will be carried out in accordance with the Bank's *Guidelines for Procurement*. Civil works related to the improvement of tank irrigation schemes, C and D roads, and rural roads will be carried out on the basis of local competitive bidding because they are relatively small, simple, labor intensive, and dispersed widely over the Project area. Civil works related to the rehabilitation of tank irrigation schemes within the Mahaweli irrigation schemes will be carried out by MASL through force account. To encourage maximum beneficiary participation, qualified farmers' organizations (FOs) and other village groups will be permitted to carry out simple civil works costing less than \$10,000. Vehicles and equipment required by the Project will be procured on the basis of international shopping procedures, and, in case where their cost is less than \$50,000, through direct purchase procedures acceptable to the Bank.

Consulting Services: About 36 person-months of international consultants and 234 person-months of domestic consultants from qualified consulting firms will be engaged by RDD to assist in Project implementation and to strengthen the institutional, technical, and managerial capacity of IAs. In addition, a total of about 300 person-months of domestic consultants will be engaged by PMO to prepare feasibility studies and detailed designs of the civil works. The consultants will be selected by RDD and PMO in accordance with the Bank's *Guidelines on the Use of Consultants* and other arrangements satisfactory to the Bank.

Estimated Project Completion Date : 31 December 2003

**Project Benefits
and Beneficiaries**

The Project will benefit about 43,000 households, most of whom live at or below the poverty line. The major benefits from the Project will be higher income for farmers, employment generation, poverty reduction in the Project area, enhanced capacity of the Government agencies (provincial, district, and divisional levels), and general improvement of rural and social infrastructure in selected villages. The improvement of tank irrigation is expected to increase farm income by \$106 to \$717 annually, and to result in incremental production of about 15,400 metric tons of farm products annually. The Project will generate employment opportunities of about 5,700 person-years during the construction phase, and 1,000 person-years annually during the agricultural development phase. The economic internal rate of return of the Project is estimated at 15 percent.



I. THE PROPOSAL

1. I submit for your approval the following Report and Recommendation on a proposed loan to the Democratic Socialist Republic of Sri Lanka for the North Central Province Rural Development Project.

II. INTRODUCTION

2. In 1994, the Government of Sri Lanka requested the Bank for assistance to prepare a project aiming at sustainable socioeconomic development, poverty reduction, employment generation, and natural resources management in the North Central Province (NCP). This request led to the preparation of a feasibility study for the proposed Project under a Bank-financed technical assistance (TA).¹ Following the completion of the feasibility study in March 1996, the Government requested the Bank to process the Project further as it had been accorded high priority. Accordingly, the Bank fielded a Fact-finding Mission from 15 to 30 April 1996 and an Appraisal Mission² from 17 to 28 June 1996 to confirm the objectives, scope, cost estimates, financing plan, and implementation arrangements of the proposed Project. This Report is based on the findings of the feasibility study, the work of the Bank Missions, and discussions with prospective beneficiaries, Government officials, nongovernment organizations (NGOs), and major aid agencies involved in the agriculture sector in Sri Lanka.

III. BACKGROUND

A. The Rural Development Sector

1. General

3. Agriculture plays a dominant role in the Sri Lankan economy, contributing about 21 percent of gross domestic product (GDP) and about 22 percent of all export earnings, principally from tea, rubber, coconut products, cinnamon, and spices, and employing some 35 percent of the labor force in 1994. Although the Government has attempted to achieve food self-sufficiency during the past 20 years, it still relies on imports for significant volumes of rice, wheat and flour, sugar, milk and dairy products, and fish. The share of agriculture in GDP has declined from nearly 80 percent in the late 1970s because of stagnation in the production of the principal export crops and the diversification of the economy into tourism, textiles, and other nontraditional sectors.

4. The agriculture sector grew at an annual rate of only about 2.5 percent in the last few years, a level much below GDP growth of 5 percent as a whole. By far the most important contributor to GDP is paddy at over 5 percent, followed by tea at 3 percent, coconut at 1.7 percent, and rubber at 0.5 percent. Yields of the major plantation and irrigated crops are low relative to the technical skills of the farmers and the technologies available. For traditional rainfed and subsistence agriculture, output has been stagnant. To accelerate agricultural growth, the Government has allowed output prices to reach their market equilibrium, and encouraged commercialization of the input supply and output marketing systems.

¹ TA No. 2217-SRI: *Area Development Project in the North Central Region*, for \$600,000, approved on 2 December 1994.

² The Mission consisted of D. Nangju (Lead Agronomist/Mission Leader), T.Q. Canh (Programs Officer), A.T. Loh (Project Economist), and Clare Wee (Counsel).

5. Sri Lanka has a total area of 6.5 million hectares (ha) in three main agro-ecological zones: dry zone - 4.1 million ha (63 percent), intermediate zone - 0.9 million ha (14 percent), and wet zone - 1.5 million ha (23 percent). The wet zone has about 40 percent of the cultivated land and about 75 percent of the population at a density of 700 per square kilometer (km²). The dry zone, with rainfall levels of 1,000 to 1,500 millimeter (mm) per year and extensive irrigation coverage, supports a population density of only 80 per km². There are two wet seasons: maha from November to February, and yala from May to September. Cropping intensity for paddy land ranges from 170 percent in the wet zone to 120 percent in the dry zone.

6. The four basic cropping or production systems are (i) plantation tree crops (tea, rubber, and coconut) - 830,000 ha; (ii) paddy - 840,000 ha; (iii) other field and food crops - 215,000 ha; and (iv) minor export crops, including spices and peppers - about 60,000 ha. Coconuts and most of the crops in the latter two categories are produced on owner-operated smallholdings in a low-input, low-yield scenario that limits farm income. Field crops and some minor export crops are often produced on rainfed farms. Large tea and rubber estates are in the process of being privatized.

7. Irrigation development has been the principal means of increasing crop production, reducing poverty, and developing the less advantaged areas. Seventy-five percent of the Government's investment in agriculture in recent years has been for irrigation. Some 580,000 ha, or 30 percent of the total cultivated land, are irrigated. There are 450 major and medium schemes covering 60 percent of the total irrigated area, and about 22,000 minor schemes commanding the remaining 40 percent. The majority of the minor schemes consist of small tank systems in the dry zone, typified by tanks arranged in a series down the catchment. Of the total irrigated area of 580,000 ha, some 35 percent is in the wet and intermediate zones, and 65 percent in the dry zone.

8. Because tank irrigation schemes¹ were constructed centuries ago, most of them have deteriorated, resulting in the reduction of irrigation efficiency and crop output. Since the mid-1980s, several externally aided projects for rehabilitating and improving the schemes have met with success in encouraging farmers to assume greater responsibility in operation and maintenance (O&M) and water use management. The ongoing Shared Control of Natural Resources Project financed by USAID and implemented by the International Irrigation Management Institute (IIMI) is pioneering a new approach for integrated development of minor tanks on the basis of a bottom-up, participatory approach within a micro-watershed (see para. 61). This approach appears promising in rehabilitating the tank irrigation systems and in developing upland agriculture in the dry zone.

9. According to a Household Income and Expenditure Survey undertaken in 1990/91, about 4.7 million people or 30 percent of the population in Sri Lanka, lived below the poverty line.² Poverty was highest in the rural areas (35 percent), and lowest in the urban areas (18 percent). Among provinces, NCP had the highest incidence of poverty (see Appendix 1). Government policies have placed great emphasis on poverty reduction. Earlier interventions were essentially in the form of welfare programs. In 1991, the Government started the Janasaviya Program (JSP) with the assistance of the World Bank.³ Under this program,

¹ Tank irrigation schemes are irrigation systems based on the use of water supply derived from small reservoirs or tanks.

² Households earning a total annual income of not more than SLRs18,000 (\$360) in 1996 prices are considered to be at or below the poverty line.

³ Credit No. 9316-CO, *Poverty Alleviation Project*, for \$57.5 million, approved in April 1991.

beneficiaries were enrolled in production-oriented work or training programs to be eligible to receive SLRs1,458 (about \$30) per month entitlement, consisting of SLRs1,000 (\$20) in JSP stamps for buying specified consumer goods and SLRs458 (\$10) to be deposited in an individual savings account until it had accumulated to the sum of SLRs25,000 (\$500), at which point it was to be made available as capital or as collateral for a loan to be invested in an income-generating activity. In addition, JSP also financed economically viable projects that were to benefit the poor by creating employment or by developing infrastructure, strengthening the capacity of NGOs in social mobilization, training beneficiaries for self-employment, and feeding malnourished children and mothers.

10. JSP covered about two thirds of the country, excluding the north and the east. Although JSP was effective in reaching the poor, assessing its effectiveness in reducing poverty has been difficult in the absence of a comprehensive monitoring and evaluation system. In 1995, the Government replaced JSP with the Samurdhi Movement and converted the Janasaviya Trust Fund into the National Development Trust Fund (NDTF), with greater emphasis on self-employment and income generation. The resources of NDTF can come from the ongoing World Bank-financed project and other poverty reduction projects. The Samurdhi Movement will cover one third of the entire population who live below the poverty line.

2. Rural Development

11. The Government's interventions in rural development include the devolution of powers and functions to the provincial and district levels, decentralization of the administrative machinery, and creation of an institutional framework for the realization of both social and economic development objectives. The implementation of the integrated rural development project (IRDP) strategy has been one of the main initiatives for achieving these objectives. The IRDP strategy is area-based (rather than sector-based) and multisectoral (but reflecting resource constraints) with focus on the poorer sections of the community. It was designed in the late 1970s to remove key bottlenecks in the district infrastructure and delivery systems. It evolved in response to the view that the projects being implemented by the Central Government at that time (e.g., Mahaweli Diversion Project, Urban Development and Housing Project, and the Greater Colombo Area Investment Promotion Project) did not benefit the less developed districts. The IRDP strategy has been extensively replicated at district level with the objectives of achieving the social and economic well-being of the rural people mainly through the elimination of interregional and intraregional disparities.

12. During the past 17 years, the Government has implemented 20 IRDPs covering 15 of the country's 25 districts (see Appendix 2). IRDPs have been used in executing a number of rural infrastructure development activities, which are an important means to provide employment opportunities and to improve the incomes of the poor. Mobilizing the poor into labor-intensive activities for the construction, rehabilitation and improvement of road and irrigation infrastructure also contributed to the achievement of production and development goals. To promote rural economic diversification and to provide sustainable production capacity at the village level, IRDPs provided innovative credit for small-scale and medium-scale farm and nonfarm enterprises and rural micro-enterprises. To strengthen the capacity of the implementing agencies at the provincial and district levels, IRDPs generally contained a strong institutional support component through provision of training, consulting services and equipment. Evaluation by the Government, the World Bank, and other aid agencies has confirmed that IRDPs, in general, have performed well and have an important role in complementing the Government's development efforts in the rural areas (see Appendix 3).

3. Decentralization and Devolution

13. A policy of involving people in the planning and implementation of development programs was initiated by the Government in 1979. However, only in 1987 did the Government enact the Thirteenth Amendment to the Constitution under which many Central Government development responsibilities have been devolved to provincial councils (PCs). PCs are now responsible for the development of province-based resources and administration of a range of services, including minor irrigation, land development, agricultural support, health, education, and transportation. The Government remains responsible for the formulation of national policy on all subjects and functions and has specific responsibilities for defense, foreign policy, foreign trade, posts and telecommunications, interprovincial rivers and irrigation systems, land development, and roads. The Thirteenth Amendment also lists a number of subjects for which PCs and the Government are concurrently or jointly responsible: higher education, national housing and construction, health, agriculture and agrarian services, irrigation, and fisheries. Further decentralization resulted from Act No. 58 of 1992, under which the Government transferred activities and services from district secretariats to divisional secretariats within a province. Administrative arrangements have been made to make the districts responsible for the supervision and coordination of the work of the divisional secretaries.

14. Decentralization and devolution still face two major problems in the context of development planning and implementation. Firstly, the new political and administrative institutions created at the provincial, district, and divisional levels lack managerial and planning capabilities. This problem is being addressed by the Government through institutional development of the agencies at the provincial and district levels under the ongoing and proposed IRDPs. The second problem relates to fiscal devolution. Even if the human resources, expertise and systems are made available, PCs will still have to find financial resources to fund their establishments and operations. Given that the local independent revenue base is very small and that alternative sources are few and limited, PCs remain dependent on transfers from the Government to finance development programs. Consequently, the Government continues to provide block and matching grants to PCs for financing the development programs as well as routine expenditures. The financial resources allocated to devolved institutions are administered through the Finance Commission, while resources for national programs are channeled through the respective line ministries. The total amount of resources allocated from the Criteria Based Grant and the Decentralized Capital Budget for provinces was SLRs1,565 million (\$31 million) in 1995. To reduce the financial dependence of PCs, the Government is considering amending the Constitution to allow tax-sharing arrangements between it and PCs.

4. North Central Province

15. NCP is the largest province in the country, with 16 percent of the total land area and a population of about 1.0 million, or 7 percent of the total population (see Appendix 1). The province comprises the districts of Anuradhapura and Polonnaruwa, which are subdivided into 21 and 6 divisions, respectively. NCP has been selected by the Government for the development of the natural resource base because of its relative poverty and its economic potential. NCP's contribution to GDP is only 4.2 percent, attributable largely to the subsistence nature of its agriculture, which is the main source of income for about 70 percent of its population. Unemployment and underemployment are substantial, particularly among the educated youth, as opportunities for employment in agriculture, industry, tourism, and commerce are limited. The population growth of 4.4 percent per annum is much higher than the national average of 1.2 percent because of substantial in-migration resulting from irrigation

and settlement schemes implemented by the Government and, in recent years, influx of refugees precipitated by civil disturbances in the North and East. NCP is among the poorest provinces of the country, with nearly 39 percent of the population having a per capita income below the poverty line compared with the national average of 30 percent.¹ Malnutrition is widespread among children and mothers, and malaria and waterborne diseases are major causes of sickness.

16. NCP is in the dry zone of the country, and the productive and sustainable use of its scarce water resources remains a development priority. Centuries-old tanks provide irrigation water to about 45,000 ha of paddy land. Of the 2,835 tanks, 2,750 are classified as minor, 78 as medium and 7 as large.² The major surface irrigation schemes include colonization schemes³ and Mahaweli schemes, which cover a total of 55,000 ha and 50,000 ha, respectively. Although most of the irrigation tanks have been adversely affected by siltation due to depleting forest cover, the major irrigation schemes are generally well-managed and better maintained than smaller schemes.

17. The cultivated area in NCP is about 477,000 ha, comprising about 160,000 ha of paddy land and 317,000 ha of rainfed upland including 900 ha of perennial crops. The average farm size is 0.4 ha in paddy land, and 1.2 ha in rainfed upland. In addition, NCP has about 332,000 ha of forest, and 165,000 ha of grazing land. Agricultural productivity of both paddy land and rainfed upland has been either stagnant or declining because of frequent droughts; inadequate application of farm inputs, particularly fertilizers; widespread deforestation leading to soil erosion; and shortage of improved seeds. To increase productivity and farm incomes, there is an urgent need to rehabilitate the existing tank irrigation system on the basis of a participatory approach, to promote diversification to high-value crops, and to rationalize and strengthen the agricultural support services.

18. The inland fisheries industry has been declining since 1989 when the Government withdrew from the sector because of religious considerations.⁴ However, there is now renewed support from the Government as seen in the formulation of the National Fisheries Development Plan (1995-2000) and the creation of an Aquaculture Development Division under the Ministry of Fisheries and Aquatic Resources (MFAR) in 1995. Increased production in the inland fisheries industry is now expected to play an important role in the national economy by providing affordable animal protein to the rural population, creating employment, and saving foreign exchange. NCP could make a major contribution by developing its 57,000 ha of perennial tanks and 50,000 ha of seasonal tanks for aquaculture, in addition to irrigation.

19. The challenge in the development of NCP is to ensure a reasonable income for the rural population from agriculture, while at the same time avoiding further land degradation

¹ The socioeconomic survey conducted during the feasibility study of the Project showed that the incidence of poverty in the Project area was about 53 percent.

² Tank irrigation schemes in Sri Lanka are divided into three categories as follows:

Category	Size of Command Area (ha)
Large	More than 800 ha
Medium	Between 80 and 800 ha
Small/minor	Less than 80 ha

³ Colonization schemes are irrigation schemes developed for settlers coming from densely populated areas.

⁴ Some religious leaders decreed that fishing was not consistent with the teaching of Buddha, and therefore should not be promoted by the Government.

and encroachment of steeply sloping land in sensitive catchment areas. The Government has adopted a holistic approach toward the management of natural resources to optimize their use in boosting production in the short term and medium term while ensuring protection for sustainable use in the longer term.

B. Government Policies and Plans

20. Before 1984, the Government's development efforts in the agriculture sector focused on the Accelerated Mahaweli Development Program, a major irrigation and settlement scheme designed to expedite implementation of a number of large-scale power and irrigation projects. Attainment of a high degree of self-sufficiency in paddy production was a major objective. The emphasis on paddy production rather than tree crops production resulted in imbalanced development among the subsectors. The Government sought to address these constraints through the adoption of the National Agriculture, Food, and Nutrition Strategy, 1984, which advocated investments in the tree crops subsector. Thus, during 1985-1995, the Government implemented a number of tree crops projects in addition to irrigation projects.

21. As outlined in the Public Investment Program (1995-1999), the major goals in the agriculture sector are to (i) transform the traditional farming sector by raising farm productivity and incomes; (ii) improve processing and marketing (agro-industries) and develop downstream activities to increase value addition, particularly of nontraditional crops; (iii) create an exportable surplus of agricultural products, thereby diversifying the economy and strengthening the balance of payments; (iv) increase the productivity of the tree crop sector; (v) provide greater employment opportunities in rural regions, thereby reducing population pressure in urban areas; and (vi) stabilize and significantly reduce the cost of living of the population as a whole and provide an adequate diet at affordable prices for the poor. The strategy and the policy framework to achieve these goals include the following major elements: (i) elimination of the hidden discrimination against agriculture flowing from the inequitable macroeconomic and trade policies of the past; (ii) elimination of all monopolies in agricultural markets while fostering greater competition; (iii) reorganization of the agricultural research system to make it more responsive to the needs of producers and the market; (iv) strengthening of agricultural support services, especially extension, within the framework of devolution; (v) rehabilitation of the existing irrigation and other agricultural infrastructure facilities (roads, rural electricity, telecommunications, etc.); (vi) removal of the restraints on the leasing of land in agricultural settlement schemes and taking steps to grant freehold title to settlers; (vii) ensuring the adequacy of producer incentives and marketing infrastructure for agricultural commodities by encouraging private investors to establish value-added agro-based activities; (viii) improvement of the efficiency of state-owned plantations by bringing in private sector capital in equity and management; (ix) reorganization and restructuring of the existing farmers' organizations (FOs) into cooperatives or public companies so that they might develop the capacity to manage agricultural activities and related services; and (x) improvement of the delivery of rural credit facilities through appropriate rural financial institutions to provide short- and long-term loans for agriculture, livestock, and fisheries development.

22. To reduce poverty, the Government will continue to implement IRDPs. Given the complexity and magnitude of the socioeconomic problems of the rural sector, the IRDP strategy has the potential to address these problems in a location-specific manner. For 1995-1999, the Government has allocated a total budget of SLRs6.1 billion (\$116 million) for the implementation of IRDPs. With its experience, the Government is committed to expand the IRDPs to cover all the backward districts in Sri Lanka.

C. External Assistance for Rural Development

23. During the past 17 years, the Bank and other aid agencies have financed 20 IRDPs (see Appendix 2). The Southern Province Rural Development Project¹ is the first and only Bank-financed IRDP in Sri Lanka. A midterm review of the project conducted in April 1996 showed that the progress of the Project was satisfactory. The World Bank and the International Fund for Agricultural Development (IFAD) have financed 7 IRDPs, while the governments of Canada, Finland, Germany, Japan, Netherlands, Norway, and Sweden have funded 12 IRDPs. Most aid agencies have provided long-term support to IRDPs over a period of 10-15 years as the initial grants or loans are inadequate to achieve the objectives of the projects, particularly in strengthening the capacity of the agencies at the provincial, district, and divisional levels.

24. The Participatory Rural Development Project (PRDP) financed by IFAD and Swedish International Development Agency (SIDA) is a major IRDP being implemented since 1995 in 15 of 21 divisions in NCP's Anuradhapura district. PRDP covers social mobilization and participatory planning; rehabilitation of minor tanks; development of rainfed agriculture; provision of storage, processing, and marketing facilities; and provision of credit, malaria control, and nutrition programs. The proposed Project has been designed to complement the activities of PRDP.²

D. Lessons Learned

25. Although some of the earlier IRDPs had conceptual and design defects and, as a result, suffered implementation problems, the World Bank found that IRDPs had generally achieved their twin objectives of raising the income and living standards of the country's rural inhabitants, and strengthening the capacity of public and private development institutions at the district level.³ Most of the IRDPs are multisectoral and relatively complex, but the Government's experience with IRDPs has been generally positive, as the decentralized political and administrative structure in Sri Lanka has proved effective in dealing with implementation problems associated with this type of project.

26. A review of ongoing and completed IRDPs financed by the Bank and other aid agencies indicates the following problems: (i) many IRDPs have been characterized by delays and late starts, (ii) institutional arrangements for procurement were inadequate, (iii) the mechanism for beneficiary participation was not well developed, (iv) market support for promoting the growth of micro-enterprises was lacking, (v) monitoring and evaluation arrangements were rudimentary, and (vi) the design of many IRDPs did not specifically target the rural poor (see Appendix 3).

27. To address the above problems, lessons learned from past and ongoing IRDPs have been considered in designing the proposed Project in the following manner:

- (i) The main reasons for late start and subsequent implementation delays were delayed posting of the required manpower in the Project

¹ Loan No. 1128-SRI(SF), for \$38 million, approved on 26 November 1991.

² Bank staff held consultations with IFAD and SIDA on the proposed Project during the feasibility study and processing of the Project.

³ World Bank. 1986. "A Review of Sri Lanka's Rural Development Program."

World Bank. 1989. "PCR on Kurunegala Rural Development Project."

World Bank. 1991. "Staff Appraisal Report on the Poverty Alleviation Project."

Management Office (PMO) and the implementing agencies (IAs), delayed engagement of the consultants, and delayed procurement of vehicles and equipment. Under the Project, the PMO established in August 1996 will be staffed and equipped by the Government, prior to loan effectiveness, and advance procurement actions will be undertaken with regard to recruitment of consultants and procurement of vehicles and equipment. PMO will play an active role in Project implementation, and the project design has been based on a process-oriented planning approach.

- (ii) The delay in the procurement of equipment and vehicles was partly attributed to the centralized procurement procedures of the Government which resulted in slow preparation of tender documents, incorrect specifications, and shortages of spare parts. Under the Project, the procurement of equipment and vehicles will be decentralized so that PMO and IAs will be directly responsible for this activity.
- (iii) The Project provides mechanisms to facilitate beneficiary participation in the improvement of tank irrigation schemes, roads, and village infrastructure. NGOs will organize, prepare, and train beneficiaries to participate in the Project activities under a separate social mobilization subcomponent. An integrated package of services and investments for the poor has been incorporated in the Project, including the adoption of selection criteria to ensure the participation of poor villages.
- (iv) In developing strategies aimed at increasing incomes of the beneficiaries through provision of credit, the Project will emphasize the processing and marketing of agricultural products and the introduction of value-added enterprises.
- (v) Under the Project, a monitoring and evaluation system will be established to monitor not only physical achievements but also Project benefits.

E. The Bank's Sectoral Strategy

28. The prime development concerns in Sri Lanka are unemployment and poverty. Finding solutions to these problems lies at the center of the Government's development agenda and forms the core of the Bank's medium-term operational strategy for the country. The cornerstone of the Government's strategy to reduce poverty and unemployment is to move the economy to a higher growth plane, which the Bank's medium-term operational strategy will support through (i) an accelerated rate of economic growth; (ii) improved access of the poor and underprivileged to productive assets, thus allowing more productive use of their most abundant asset, labor; and (iii) protection or improvement of the environment.

29. Agriculture will remain the principal sector for Bank operations since it is vital in terms of employment and accounts for a significant share of GDP and export earnings. Agriculture is considered the most important point of entry for efforts to reduce poverty and unemployment in the rural areas. The major thrust of Bank assistance in the sector will be to continue the enhancement of policy and institutional reforms begun under the two Bank-assisted program loans, including the rationalization of price, subsidy, and market policies; the removal of export taxes and nontariff barriers on tree crops; the promotion of increased

participation by FOs in the management and operation of selected irrigation systems; the commercialization and privatization of public sector enterprises; and the streamlining of the Government agencies providing support services to farmers. In support of this policy-based thrust, Bank assistance will continue to support integrated area development, fisheries, dairy production, export tree crops, and crop diversification aimed at increasing rural income and employment. In this context, the Project accords fully with the sectoral strategy and is consistent with the Bank's Operational Strategy for Sri Lanka.

F. Policy Dialogue

30. The policy issues in the agriculture sector have been extensively addressed by the Bank since 1989 under the Agriculture Program Loan (APL I),¹ the Second Agriculture Program Loan (APL II),² and the Plantation Reform Project.³ Under APL I, the issues of subsidies on fertilizer and on farm commodities were addressed by encouraging the Government to phase out the subsidies. The fertilizer subsidy was removed by the Government in 1990 but it was reintroduced in late 1994 because fertilizer prices increased markedly. The Government and the Bank are continuing the policy dialogue to find an acceptable formula to eliminate the fertilizer subsidy completely. Under the ongoing APL II, the state plantation sector was restructured by introducing private sector management to improve its performance; export duty and ad valorem sales tax on rubber, coconut and tea were reduced; sugar pricing was rationalized; and some state-owned agricultural companies were privatized. Under the Plantation Reform Project, the 23 regional plantation companies owned by the Government will be fully privatized.

31. Under the Project, the Government and the Bank agreed that the implementation arrangements and institutional support components under the Project are to be consistent with the Government's efforts to devolve powers and functions to the provincial and district levels and to decentralize the administrative machinery. It was also agreed that the Government's policy reforms with respect to the concurrent list⁴ and fiscal devolution will further strengthen the capacity of PCs in planning and implementing the Project. With regard to the concurrent list, the Government agreed to clarify the ambiguity on its responsibilities and those of PCs in the areas of irrigation and agriculture, which has caused disagreements and conflicts between the Government and PCs in the economic development of provinces. With regard to fiscal devolution, the Government has agreed to consider the provision of tax-sharing arrangements between it and PCs as to reduce the dependence of PC on the Central Government in fiscal matters. A new package of devolution to address these issues is being considered by a Parliamentary Select Committee; thereafter, it will be submitted to the Parliament for approval in early 1997. In addition, to sustain fishery development in the Project area, the Government and the Bank also agreed that MFAR must ensure that the cost of fry and fingerlings distributed in the Project area will be fully recovered from the beneficiaries through introduction of a licensing system and sale of fry and fingerlings.

¹ Loan No. 994-SRI (SF): *Agriculture Program Loan*, for \$80 million, approved on 28 November 1989.

² Loan No. 1127-SRI (SF): *Second Agriculture Program Loan*, for \$60 million, approved on 26 November 1991.

³ Loan No. 1402-SRI(SF), for \$60 million, approved on 9 November 1995.

⁴ The Thirteenth Amendment to the Constitution provides the framework for the division of government functions between the Central Government and PC through the provincial list (list of functions handed over to PC), reserved list (list of functions reserved to Central Government), and concurrent list (list of functions carried out by both Central Government and PC).

IV. THE PROJECT

A. Rationale

32. While Sri Lanka has achieved an impressive record in human and social development and the country aims to sustain rapid economic growth, about 30 percent of the rural population still live below the poverty level. NCP has been selected by the Government as the Project area because of its relatively high degree of poverty and its economic potential. The Project will address the major problems in NCP, including the low income of the majority of the households, high level of unemployment and underemployment, stagnation of agricultural productivity, deterioration of irrigation and road infrastructure, and inadequate social infrastructure in less developed villages.

33. In line with the Government's priorities and the Bank's sectoral strategy, the Project will focus on improving the economic and social well-being of NCP's rural population. The Project will support the Government's three-pronged approach in rural development: improved planning and capacity building for PC, broad-based area development, and special efforts to reduce poverty in the poorest villages. The Project will provide for more efficient use of land and water resources, support better market access through an improved rural road network, and create income-generating activities for rural men and women. Thus, the Project will contribute towards the Government's goals of poverty reduction and more balanced regional development. It is consistent with the Government's devolution efforts toward provincial and district levels and the Bank's sectoral strategy in Sri Lanka. The Project has adopted a bottom-up and participatory approach to ensure that interventions at the village level respond to the needs of beneficiaries. This will also ensure that the facilities to be constructed under the Project will be properly operated and maintained by the beneficiaries. In addition, the Project will be implemented on the basis of a process-oriented planning approach so that there is flexibility in Project design.

34. The Project design has taken into account the lessons learned from prior and ongoing IRDPs. During the feasibility study, three workshops attended by Government officials, NGOs, prospective beneficiaries, private sector representatives, and Bank staff were held to discuss the proposed Project. Views expressed in the workshops have been incorporated in the Project design. To enhance the capability of IAs, provision has been made for additional staff, training and consultants. The Project promotes the involvement of NGOs and the private sector in overall development. The Project has been designed to complement ongoing projects in NCP, particularly the IFAD- and SIDA-financed PRDP, which covers 15 of the 21 divisions of Anuradhapura district.

B. Objectives and Scope

35. The objectives of the Project are to (i) raise the incomes of the rural population, and (ii) generate employment opportunities (see Appendix 4). These objectives will contribute to the Government's goals of reducing poverty and promoting regional development. The target groups of the Project are small and marginal farmers, landless laborers, small- and medium-scale entrepreneurs in the private sector, women, and the unemployed youth. The Project area will cover the Anuradhapura and Polonnaruwa districts of NCP. The total number of beneficiaries is estimated at 43,000 households or 185,000 people.

36. The Project will consist of three parts:

Part A (Productive Components)

- (i) rehabilitation and improvement of minor- and medium-tank irrigation schemes,
- (ii) inland fisheries development, and
- (iii) provision of credit to the private sector for small- and medium-scale enterprises.

Part B (Economic and Social Infrastructure Components)

- (i) rehabilitation and improvement of selected roads, and
- (ii) upgrading of the social infrastructure for selected poor villages under a village advancement program.

Part C (Institutional Support Components)

- (i) support for Project management and administration,
- (ii) training and fellowships for selected Project staff, NGOs, private-sector institutions and beneficiaries, and
- (iii) consulting services to assist in Project implementation.

1. Part A: Productive Components

a. Rehabilitation and Improvement of Tank Irrigation Schemes

37. The Project area has 2,835 irrigation tanks, which have all deteriorated after centuries of use. Although many of these tanks have been rehabilitated in recent years, a large number still require improvements before they can play a role in promoting economic growth. During the feasibility study, 50 medium tanks and 500 minor tanks were found to have high potential for rehabilitation. Of the schemes identified, about 10 medium tanks and 90 minor tanks, serving command areas of about 1,500 ha and 1,025 ha, respectively, have been included in the Project. In addition, 40 minor tanks and 10 medium tanks located within the area of responsibility of the Mahaweli Authority of Sri Lanka (MASL) are included. These tanks, which have a combined command area of about 5,000 ha, have a high potential for improvement since they will be able to obtain supplementary water from the MASL schemes during both the maha and yala seasons. Final selection of the schemes for rehabilitation and improvement will be based on predetermined selection criteria. The Project will support the rehabilitation and improvement of the selected tanks, formation and strengthening of FOs by institutional organizers, and provision of extension services. The provision of extension services will include farmers' training and demonstration plots to ensure that farmers will be able to increase crop yields and cropping intensity. The civil works will consist of repair or improvement of bunds, spillways, and sluices; remodeling or lining of main canals and distribution systems; and improvement of drainage and flood control facilities. The rehabilitation of minor tanks will be confined to the six divisions of Anuradhapura district not

covered by PRDP, and the whole of Polonnaruwa district. Rehabilitation of medium tanks (excluded from PRDP) will be carried out in the entire Project area.

b. Inland Fisheries Development

38. The development of fisheries in the Project area is of considerable importance because of the boost that it will give to the rural economy and because of the benefit to most rural families of a major increase in the availability of fish, the cheapest source of animal protein. Since NCP has a high potential for inland fisheries development and most of the fishermen live below the poverty line, the Project will support the rehabilitation of the existing breeding station in Dambulla, adjacent to Anuradhapura district, so that it can provide fry and fingerlings at cost to fishermen in the Project area.¹ The Project will also support the development of models for the establishment of small individual, medium group, or large commercial joint-venture investments in breeding and seed stock supply; provision of training and extension, and formation and strengthening of 50 fisheries cooperatives. Subsequently, the Project's credit component will promote the most profitable models and furnish technical advice and practical assistance to the cooperatives and other private entrepreneurs to bring such models to fruition.

c. Provision of Credit

39. Credit is an important factor in enterprise development, especially in the Project area where average incomes and individual savings are low. In addition to the promotion of a savings program for the beneficiaries, the Project will make credit available to the private sector for a wide range of farm and nonfarm activities such as threshing and storing of crops; upgrading of paddy milling facilities; processing of field crops; and fish production, processing, and marketing. The credit schemes will be linked primarily with the village advancement program, which will be implemented in selected villages. Social mobilizers from NGOs and selected volunteers will ensure a bottom-up approach by (i) carrying out a household benchmark survey and preparing socioeconomic profiles to identify potential village-beneficiaries (particularly women); (ii) organizing and preparing target groups at the village level to enable them to engage in income-generating enterprises and to obtain subloans, (iii) providing skills training activities for target groups to improve their managerial, technical, and business capabilities, and (iv) assisting the village groups and individuals in obtaining credit from the participating credit institutions (PCIs).

2. Part B: Economic and Social Infrastructure Components

a. Road Improvement

40. There are about 1,000 kilometers (km) of intraprovincial roads and 6,200 km of rural roads in the Project area. The intraprovincial roads are classified depending on traffic flow and design speed. Intraprovincial class C and D roads and rural roads have the most direct impact on the rural economy. Their present state makes mobility difficult, adds to cost of inputs, reduces farm-gate prices, and inhibits trading and other economic activities. Under the Project, rural access roads will be provided with gravel surfacing, thereby facilitating year-round use and the marketing of produce to stimulate rural economic diversification. The Project has provided for the improvement of about 465 km of such roads (about 8 percent of

¹ The rehabilitation of this breeding station was recommended by the Project Performance Audit Report for the *Aquaculture Development Project* (Loan No. 648-SRI[SF]).

the total rural roads) in the six divisions of Anuradhapura district not covered by PRDP and in the whole of Polonnaruwa district. Final selection will be based on the specific selection criteria agreed upon between the Government and the Bank.

41. Three bridges and about 125 km of class C and D roads that link the rural access roads to national highways (class A and B roads)¹ will also be improved under the Project following procedures and specifications that have been developed under a Bank-financed technical assistance.² Final selection will be made from among the 307 km of C and D roads that have been prioritized by the provincial government.

b. Village Advancement Program

42. Specific efforts are needed to narrow gaps in the social and economic infrastructure of less developed villages. These villages are characterized by a large concentration of poverty, geographical isolation or remoteness, and the absence of basic amenities such as drinking water, sanitation and housing. Under a village advancement program that will cover about 415 villages, the Project will provide facilities such as drinking water (mainly dug wells), culverts, latrines, health facilities, community halls, nursery schools, seedling nurseries, storage for farm products; postharvest technology; and marketing facilities. The final selection of infrastructure for each village will be based on requirements identified by the organized village groups. The villagers will be required to contribute labor (or equivalent wage cost) toward the costs of subprojects, while the Project will provide only inputs and material needs. The Project will support social mobilization of the beneficiaries: trained social mobilizers (mainly women volunteers) who will reside in the villages will identify and mobilize target groups, create awareness, facilitate beneficiary participation and bottom-up planning, and guide these groups to venture into economic activities that will be financed under the credit component. An allocation of about \$10,000 equivalent per village has been provided under the Project. To complement PRDP, this component will be confined to the six divisions of Anuradhapura district not covered by PRDP and to the whole of Polonnaruwa district.

3. Part C: Institutional Support Components

43. The Project will support capacity building for government agencies, private sector agencies, and NGOs at the provincial, district, and divisional levels to enable them to prepare and refine provincial economic development and public investment programs; maintain and update data base; establish a management information system, and help implement the proposed Project.

a. Project Administration and Management

44. The Project will provide support for the construction of office buildings and staff housing for PMO; procurement of service vehicles, equipment, furniture, and office supplies for PMO and IAs; acquisition of equipment for the laboratory of the National Water Supply and Drainage Board to facilitate monitoring of water quality of surface water and the laboratory of the Provincial Highways Department (PHD) to facilitate the testing of road quality; workshops

¹ Class A and B roads are interprovincial roads under the control of the Central Government, while class C and D roads are intraprovincial roads under the control of PC.

² TA No. 2335-SRI: *Southern Provincial Roads Improvement Project*, for \$600,000, approved on 24 May 1995.

or seminars for annual project planning and review; and incremental operating costs of administering and managing the Project.

b. Training and Fellowships

45. The Project will support (i) provision of training equipment for selected existing vocational and skills training centers in the Project area; (ii) local training for training instructors, FO-elected representatives, agriculture instructors, Grama Niladharis (village-level officials), group organizers, social mobilizers, NGOs, Chambers of Commerce, Samurdhi Movement, branch managers of PCIs, officers of the Central Bank Regional Office in Anuradhapura, and selected Project staff; and (iii) overseas short-term training and postgraduate studies for selected Project staff.

c. Consulting Services

46. A team of international and domestic consultants from qualified consulting firms will be required to strengthen the capacity of IAs in Project implementation and to assist PMO in Project supervision and implementation. A total of about 270 person-months of consulting services will be engaged by the Regional Development Division (RDD) under the Ministry of Plan Implementation, Ethnic Affairs and National Integration (MOPI). In addition, about 300 person-months of domestic consultants will be required to prepare feasibility studies and detailed designs of the civil works under the Project.

C. Cost Estimates

47. The total cost of the Project, including taxes and duties, physical contingency, price escalation, and service charges during construction, is estimated at \$31.0 million consisting of \$10.0 million (32 percent) of the foreign exchange cost and \$21.0 million equivalent (68 percent) of the local currency cost. Table 1 summarizes the cost estimates (see Appendix 5 for details).

D. Financing Plan

48. It is proposed that the Bank provide from its Special Funds resources a loan of \$20.0 million equivalent to finance about 65 percent¹ of the total Project cost, with a maturity of 40 years including a grace period of 10 years, and a service charge of 1 percent to be paid semiannually. The loan will finance the entire foreign exchange cost of \$10.0 million and \$10.0 million of the local currency equivalent (48 percent of the total local currency cost). The Borrower will be the Democratic Socialist Republic of Sri Lanka. Of the remaining local currency cost, about \$6.5 million equivalent will be financed by the Government, about \$2.2 million equivalent by the beneficiaries, and about \$2.3 million equivalent by PCIs. A summary of the financing plan is shown in Table 2 (see details in Appendix 5). The proceeds of the Bank loan will be made available by the Government to the IAs through budgetary allocations.

¹ This financing percentage is explained by the fact that the credit component of the Project will be financed entirely by PCIs. If the credit component is excluded from the cost estimates, the Bank financing percentage will increase to 70 percent of the total Project cost.

Table 1: Cost Estimates
(\$ million)

Item	Foreign Exchange Cost	Local Currency Cost	Total Cost
A. Base Cost			
1. Productive Components			
a. Irrigation Improvement	1.5	4.1	5.6
b. Inland Fisheries	-	0.2	0.2
c. Provision of Credit	-	<u>2.4</u>	<u>2.4</u>
Subtotal	1.5	6.7	8.2
2. Economic and Social Infrastructure			
a. Road Improvement	2.4	5.7	8.1
b. Village Advancement Program	<u>1.6</u>	<u>3.4</u>	<u>5.0</u>
Subtotal	4.0	9.1	13.1
3. Institutional Support Components			
a. Project Administration and Management	1.7	1.9	3.6
b. Training and Fellowships	0.3	0.2	0.5
c. Consulting Services	<u>0.7</u>	<u>0.7</u>	<u>1.4</u>
Subtotal	2.7	2.8	5.5
Total Base Cost	8.1	18.7	26.8
B. Contingencies			
1. Physical ^a	0.4	0.9	1.3
2. Price ^b	<u>0.8</u>	<u>1.4</u>	<u>2.2</u>
Subtotal	1.2	2.3	3.5
C. Service Charge During Construction	0.7	-	0.7
Total Cost	10.0	21.0^c	31.0

^a Physical contingencies: 5 percent.

^b Price contingencies: 2.4 percent for both local and foreign currency costs (1997-2003).

^c Includes taxes and duties of \$0.7 million.

Table 2: Financing Plan
(\$ million)

Source	Foreign Exchange Cost	Local Currency Cost	Total Cost	Percent
Bank	10.0	10.0	20.0	65
Government	-	6.5	6.5	21
Beneficiaries	-	2.2	2.2	7
Participating Credit Institutions	-	<u>2.3</u>	<u>2.3</u>	<u>7</u>
Total	10.0	21.0	31.0	100

49. Sri Lanka's fiscal circumstances warrant continued Bank assistance to meet the local currency costs of development projects, including this Project. In 1995, the Government's aim was to reduce the budget deficit with the assistance of a "peace dividend" expected from the resolution of the conflict in the north and east of the country. Despite signs that promised the achievement of peace in early 1995, the conflict intensified after April 1995. This led to a significant rise in defense expenditures and the corresponding reduced availability of local currency finance for the capital budget. This situation is expected to continue in 1996. The Government has adopted measures to increase domestic resource mobilization, including the raising of electricity tariffs and an increase in the defense levy. Further adjustments in the pricing of Government services and the phasing out of commodity subsidies are required. These matters continue to be the subject of dialogue with the Bank. The Government needs to make stronger efforts, but the pressures it must deal with also merit recognition. More importantly, Sri Lanka remains a Group A country with inherent and structural constraints on stronger resource mobilization efforts, although in South Asia it has made more headway than other countries in this regard. It is considered that the social and economic circumstances of the country warrant continued Bank local cost financing, particularly for development projects that address the key concerns of poverty and employment.

E. Implementation Arrangements

1. Project Management and Coordination

50. RDD under MOPI will be the Executing Agency for the Project with overall responsibility for Project coordination through the North Central Provincial Council (NCPC), which will be responsible for the supervision and implementation of the Project. As a condition for loan effectiveness, NCPC will equip and staff the existing PMO in Anuradhapura (with a suboffice in Polonnaruwa), which will be responsible for day-to-day implementation of the Project in cooperation with all IAs, NGOs, and the private sector agencies (see Appendix 6). The IAs include the following: (i) Provincial Irrigation Department (PID), for implementing the improvement of the minor tanks component outside the major Mahaweli irrigation schemes, in cooperation with IIMI and the Provincial Department of Agriculture;¹ (ii) MASL, for implementing the rehabilitation of minor and the medium tanks within the command of its major irrigation schemes; (iii) Irrigation Department (ID) at the central level, for implementing the improvement of medium tanks component; (iv) MFAR, for implementing the inland fisheries component in cooperation with the Provincial Ministry of Women Affairs, Environmental Planning and Rural Development; (v) Central Bank of Sri Lanka (CBSL) and PCIs, for implementing the credit component; (vi) PHD, for implementing the improvement of class C and D roads; and (vii) PMO, for implementing the village advancement program, rural roads and institutional support components (in cooperation with the Divisional Secretariat, Pradeshiya Sabha,² and NGOs).

51. PMO is headed by a full-time Project Director acceptable to the Bank, who will be assisted by an adequate number of suitably qualified staff (10 percent of whom will be women), and provided with appropriate facilities to perform its tasks. The Project Director, who has been appointed in June 1996 by NCPC in consultation with MOPI, reports to the Provincial Chief Secretary for routine matters of operation, management, and administration of the Project. The Project Director will have sufficient authority and rank to perform the following functions: (i) preparation of the annual work program and draft budget for the Project; (ii)

¹ This agency is responsible for the provision of agricultural extension services in NCP.

² Local elected council at divisional level.

procurement of service vehicles and equipment (with the assistance of RDD); (iii) selection and administration of domestic consultants and training; (iv) implementing, supervising, and monitoring of Project activities; and (v) submission of progress reports, audited financial statements, and reimbursement claims to the Bank.

52. PMO will implement the village advancement program, rural roads and institutional support components and will support other IAs. As the provincial government agencies become stronger and capable of implementing their respective Project components, PMO's role is expected to be reduced during the later part of Project implementation. This matter will be considered by the Government and the Bank during the annual reviews of the Project.

53. At the national level, a National Steering Committee (NSC) chaired by the Secretary of MOPI and consisting of representatives of all concerned Central Government agencies, will be established within six months after loan effectiveness. NSC will be responsible for (i) coordinating Project activities that cannot be coordinated at the provincial level, (ii) resolving implementation problems brought before it, (iii) reviewing the progress of the Project, and (iv) ensuring the general consistency of practices and policies in line with national policies. NSC will meet at least twice a year.

54. At the provincial level, a Provincial Project Steering Committee (PPSC) under the chairmanship of the Chief Secretary, NCP, will be formed within six months after loan effectiveness. PPSC will consist of representatives of the relevant line departments (non-devolved functions) and provincial departments (devolved functions), the two district secretaries of Anuradhapura and Polonnaruwa, the Deputy Secretary for Provincial Planning, and the Project directors of ongoing projects in NCP. Its functions will be to (i) review and approve the annual implementation programs and budget submitted by the Project Director, (ii) review the progress of Project implementation, (iii) resolve any Project-related problems that cannot be resolved at the divisional and village levels, and (iv) ensure the fulfillment of criteria for the selection of irrigation schemes and rural roads. PPSC will meet at least every three months.

2. Poverty Reduction

55. The Project's strategic primary objective of poverty reduction will be addressed through an integrated package of services, activities, and investments for poor small and marginal farmers and other vulnerable groups such as landless laborers, women, and the unemployed in selected villages in the six divisions of Anuradhapura district and the whole Polonnaruwa district. The package will include (i) rehabilitation of minor tanks, including the development of lowland and upland agriculture; (ii) improvement of rural roads; (iii) village advancement program; and (iv) provision of credit for the poor. The total cost of these components is estimated at \$15.8 million or 51 percent of the total cost of the Project.

56. To ensure proper targeting of the poverty groups, a set of criteria will be used in the selection of villages. Any village that meets one or more of the following criteria will be eligible to participate in the Project's poverty reduction activities:

- (i) villages with at least 60 percent of families cultivating 0.4 ha or less of paddy land;¹
- (ii) villages with at least 50 percent of families having no access or limited access to paddy land, and thus cultivating mostly rainfed upland farms;
- (iii) villages with at least 30 percent of families relying on agricultural labor as a major source of income;
- (iv) villages where at least 50 percent of houses have mud walls, mud floors, and thatched roofs with no latrines; and that have limited access to social and physical infrastructure, such as drinking water, electricity, good quality schools, hospitals, post office, and rural banks; and
- (v) villages that are not connected to road infrastructure, and are thus isolated from the mainstream of development activities.

57. Within the selected villages, specific groups of poor people to receive training and rural financial services will be identified through a household benchmark survey and the preparation of socioeconomic profiles. These groups will include women heads of households, unemployed youth, landless laborers, and marginal farmers.

58. During Project appraisal, about 15 percent of the potential villages were identified to verify the validity of the selection criteria and to start the poverty reduction activities during the first year of Project implementation, for which a work program has been prepared. The remaining villages will be identified during implementation through detailed social assessments based on a long list prepared by the Divisional Secretariat in consultation with NGOs operating in those areas. The social assessments will be undertaken by consultants or be contracted out to institutions such as universities and NGOs acceptable to the Bank. The shortlist of villages will be discussed at PPSC meetings. The responsibility for the final selection of villages will rest with PMO.

3. Beneficiary Participation and Social Mobilization

59. To facilitate beneficiary participation and bottom-up planning, a social mobilization subcomponent is included in the village advancement program and constitutes an essential part of the poverty reduction package. This subcomponent has been developed to ensure the involvement of potential beneficiaries in the design, planning, implementation, monitoring, and evaluation of Project activities, thereby promoting commitment and ownership by potential beneficiaries of the development activities.

60. The social mobilization subcomponent will be contracted out to NGOs for implementation. NGOs will operate at the village level as catalysts or change agents to mobilize and train villages to participate in Project activities in planning, design, and implementation; formation or reactivation of FOs and beneficiary organizations; linkage to other services, including credit, and the planning and prioritizing of activities to be funded under the village development program. Village-level social mobilizers will also be engaged and trained

¹ Farm income from 0.4 ha of paddy land ranges from \$115 to \$164 per household, which is below the poverty line of \$360 per household (see Appendix 9). Farm income from a typical rainfed upland farm is much lower than that from paddy land because of lower yields and cropping intensity.

by NGOs to assist with group formation for accessing credit, undertaking income-generating activities, etc. The training of village-level women mobilizers to encourage and ensure women's participation in all Project activities will form an essential part of this component. The contracting of NGOs will be undertaken based on a set of selection criteria acceptable to the Bank to be developed by PMO in consultation with NGOs.

4. Selection Criteria for Irrigation Schemes

61. The rehabilitation of minor tanks will be carried out following the model and approach developed under the USAID-assisted Shared Control of Natural Resources Project, under which tank rehabilitation takes into account water availability and management of both paddy land and upland soils in each of the cascades.¹ In this regard, PID will seek the assistance of IIMI in the rehabilitation of minor tanks. A detailed technical and economic feasibility study for rehabilitation and improvement of each individual tank will be undertaken during Project implementation with the assistance of Project consultants as appropriate. Except as the Bank may otherwise agree, final selection of the tanks will be made by the Project Director in consultation with the concerned ID, PID, or MASL on the basis of the following criteria:

- (i) The majority of the farmer-beneficiaries in a scheme are willing to form a formal FO,² in case none is operational, and agree in writing to contribute at least 10 percent of the scheme cost in the form of labor, cash, or kind, and assume O&M upon completion.
- (ii) A scheme should be environmentally sound and cause no direct or indirect threat to ecologically sensitive areas, such as national parks, wildlife sanctuaries or wetlands of international significance, or to areas of high historical, archeological, cultural, or aesthetic values.
- (iii) A scheme should have reliable water availability for the proposed investment and no negative impact on other users of the same source.
- (iv) A scheme's economic internal rate of return (EIRR) should be at least 10 percent.
- (v) At least 50 percent of the irrigation schemes should be in areas where farmers cultivate an average of 0.4 ha of paddy land.

5. Selection Criteria for Roads

62. The improvement of rural roads will follow technical specifications developed under the Bank-financed Southern Province Rural Development Project to ensure that quality standards are maintained. PMO will not rehabilitate rural roads without obtaining the agreement of the village communities along such roads to contribute to the cost of rehabilitation and improvement work and to O&M cost of the roads. Final selection of such

¹ A cascade is a connected series of tanks organized within a small catchment of the dry zone landscape, storing, conveying, and utilizing water from a small inland valley.

² FOs and other beneficiary groups will be legally recognized entities once they are registered with the Agrarian Services Division.

roads will be made by PMO in consultation with the concerned Pradeshia Sabha based on the following criteria: (i) the roads should provide access to areas of high farm and nonfarm production potential to facilitate the marketing of products and services; (ii) at least 50 percent of the rural roads should be located in areas where the Project's village advancement program will be implemented; (iii) the roads should connect to class C and D roads; and (iv) the routes should avoid big fills over long distances, stretches that are extremely rocky or have sustained lengths of gradient exceeding 10 percent, and areas requiring construction of expensive structures.

63. The selection of class C and D roads for rehabilitation and improvement will be made by PHD on the basis of the following criteria: (i) the traffic flow should be at least 10 trucks, 5 buses, and 15 tractors per day; (ii) the roads provide access to areas of high farm and nonfarm production potential; and (iii) the roads are included in the priority list prepared by NCPC.

6. Credit Arrangements

64. The credit component of the Project will be financed entirely by PCIs using their own resources under memoranda of understanding to be signed by CBSL (on behalf of the Government) and the selected PCIs. Under other components of the Project, PCIs will be assisted in the delivery of credit through (i) identification, mobilization, and training of potential sub-borrowers; (ii) identification of viable and attractive subprojects; and (iii) formulation of measures, safeguards, and policy reforms to reduce credit risks. CBSL will be the apex IA for the credit component. Its Rural Credit Department will periodically review the program of subproject investments and take appropriate steps to see that the overall objective of the credit component is achieved.

65. The lending terms (from PCIs to the sub-borrowers) will include market interest rates¹ and an amortization period of a maximum of 10 years, including a grace period of up to 2 years. The lending terms will be reviewed semiannually and revised as necessary to provide PCIs with an appropriate spread, taking into account their costs, profit margin and perceived lending risks. To reach the poor and other disadvantaged groups, where possible, PCIs will engage NGOs in channeling the credit to Project beneficiaries. PCIs will compensate NGOs for their services by giving NGOs an interest spread of about 3 percent. To facilitate the involvement of NGOs in credit delivery and recovery, PCIs will enter into an agreement with the NGOs on terms and conditions acceptable to the Government.

66. The eligibility criteria for the initial and continuing participation of PCIs include the following: (i) a minimum annual collection ratio for the total portfolio of 80 percent calculated every six months; (ii) a maximum portfolio infection ratio² of 20 percent; (iii) a minimum return on average assets (after tax) of 1 percent; (iv) a maximum long-term debt/equity ratio of 8:1 in compliance with the capital and risk adjusted assets ratio set by CBSL in accordance with the Basle Guidelines for capital adequacy; (v) no arrears or default on any loans or refinancing granted by the Government or CBSL; and (vi) compliance with CBSL's guidelines and Basle Guidelines on covenants for financial soundness in terms of

¹ At present, interest rates charged by PCIs for small sub-borrowers range from 16 to 21 percent per annum, depending on types of subprojects.

² The infection ratio is obtained by dividing the aggregate of loans and leases provided by a PCI with installments past the due date of more than six months by the aggregate of loans and leases provided by that PCI.

capital adequacy liquidity, profitability, and solvency, including compliance with CBSL's limits set for a single borrower and loan to PCI directors, officers, and related interests. On the basis of these criteria, the following PCIs have been selected: Bank of Ceylon, People's Bank, Seylan Bank, and Hatton National Bank.

67. The eligibility criteria to be used by PCIs in selecting sub-borrowers or subprojects for the purpose of obtaining financing under the Project will include the following: (i) the subproject is income-generating, labor intensive, and employment-creating; (ii) the subproject utilizes local raw materials and has provision for the marketing of its finished products; (iii) the subproject has no or negligible adverse environmental impact and is financially viable; and (iv) the sub-borrowers (a) will have participated in training or social mobilization activities for at least three months prior to the subloan; (b) agree to participate in a savings program operated by PCI; (c) have a current income below the poverty line; and (d) in case they cannot provide collateral for the subloan, agree to use a group responsibility for repayment approach.

7. Operation and Maintenance

68. The Government has assured the Bank that it will take appropriate measures and provide necessary funds, manpower, and facilities for proper O&M of all equipment and facilities to be provided under the Project. At the completion of the Project, O&M of irrigation schemes will be undertaken by FOs, O&M of the rural roads and various works under the village advancement program will be assumed by the Pradeshiya Sabha and beneficiary village groups, and O&M of C and D roads will be the responsibility of PHD. Thus, PC will continue to operate and maintain the class C and D roads and, to some extent, also rural roads for which the Government has agreed to provide an adequate budget to be administered by PC.

8. Implementation Schedule

69. The Project will be implemented over a seven-year period from January 1997 to December 2003 (see Appendix 7). At the end of the third year of Project implementation, the Government and the Bank will conduct a comprehensive midterm review to evaluate the Project design and implementation status. The Review will include in particular an assessment of the following: (i) whether the tank irrigation schemes and rural roads have been rehabilitated and improved on the basis of a farmer participatory approach to the satisfaction of the Government and the Bank, (ii) whether the villages included in the village advancement program have been identified and selected following the selection criteria agreed upon by the Government and the Bank, (iii) whether the integrated package of services and investments has been targeted to the poor to the satisfaction of the Government and the Bank, and (iv) whether women have been substantively encouraged to participate in the Project (including an assessment of the number of women retained by PMO, and the number of women social mobilizers recruited under the Project).

9. Procurement of Goods and Services

70. All procurement to be financed by the Bank will be done by PMO and other IAs in accordance with the Bank's *Guidelines for Procurement*. The civil works under the Project are numerous, simple in nature, labor intensive, and dispersed widely, rendering them unattractive to international contractors. In addition, they cannot be packaged into large contracts valued at more than \$500,000. However, capable local civil works contractors are available. Accordingly, the civil works will be carried out by prequalified contractors to be

selected under local competitive bidding procedures satisfactory to the Bank. Civil works related to the rehabilitation of irrigation tanks within the command of Mahaweli irrigation schemes may be carried out by MASL on a force account basis with the participation of the beneficiaries. To encourage maximum beneficiary participation, qualified FOs and other village groups will be permitted to carry out small civil works contracts outside normal bidding procedures, provided that (i) the value of each contract does not exceed \$10,000 equivalent, (ii) the total value of all contracts held by one FO or village group at any time does not exceed \$30,000 equivalent, (iii) the FO or village group has the capacity to carry out the works for a reasonable price, and (iv) the works are located within the scheme or village benefiting the FO or village group. Equipment and vehicles required by the Project will be procured mainly on the basis of international shopping and, in cases where their cost is less than \$50,000, through direct purchase procedures acceptable to the Bank.

10. Consulting Services

71. The services of a team of domestic and international consultants from qualified consulting firms will be engaged by RDD to (i) strengthen the institutional, technical and managerial capacity of the IAs; and (ii) assist PMO in Project supervision and implementation. A total of 36 person-months of international consultants and 234 person-months of domestic consultants will be required in the fields of agricultural planning, environment, sociology, inland fisheries development, irrigation, road engineering, marketing, benefit monitoring and evaluation (BME), agricultural economics, rural credit, training, and agronomy. The terms of reference for international consulting services are shown in Appendix 8. In addition, a total of about 300 person-months of domestic consultants will be engaged by PMO to prepare feasibility studies, detailed designs and tender documents for the civil works, and to carry out social mobilization under the Project.¹ The terms of reference for such consultants will be prepared by PMO in consultation with the Bank. All consultants will be selected by RDD and PMO in accordance with the Bank's *Guidelines on the Use of Consultants*, and other arrangements satisfactory to the Bank.

11. Advance Procurement Action

72. In the past, many IRDPs have been characterized by delays and late start. To avoid these delays and to expedite Project implementation, advance procurement action for the recruitment of consultants and procurement of urgently required vehicles and equipment will be provided under the Project. In this regard, RDD will submit to the Bank for approval a shortlist of consulting firms, draft evaluation criteria and a draft consultant contract by 30 September 1996. In addition, RDD will submit for Bank approval a list of vehicles and equipment to be procured, a shortlist of suppliers from the Bank's member countries, and other relevant documents by 31 October 1996. The Government has been advised that Bank's approval of such advance procurement action will not in any way commit the Bank to approve the Project subsequently.

12. Benefit Monitoring and Evaluation

73. A BME unit will be established by the Government within the Provincial Planning Division (PDD) within three months after loan effectiveness. This unit will be responsible for monitoring and evaluating Project benefits. The BME system under the Project will be

¹ The heavy consultant input is in line with the lessons learned from past IRDPs (see Appendix 3).

implemented in accordance with the Bank's *Benefit Monitoring and Evaluation Handbook*. With the assistance of a BME consultant, the BME unit will perform (i) a benchmark socioeconomic survey during the first year of Project implementation, (ii) a midterm survey at the end of the third year of Project implementation, and (iii) a post-evaluation survey within three months after Project completion. The main indicators to be monitored are the extent of the areas irrigated and harvested during maha and yala seasons; use of farm inputs; crop area, yields, and production; farm income; yields and production of fish in selected tanks; number and size of credit provided to the beneficiaries; savings from vehicle operating costs; women's participation in FOs; and cost recovery of O&M costs of tank irrigation schemes and rural roads. The results of the surveys will be included in the semiannual progress report that will be furnished by the Project Director to the Bank.

13. Disbursements, Accounts, Reports, and Audit

74. To ensure the timely availability of local funds, an imprest account will be established with CBSL by RDD within three months of loan effectiveness. The account will consist of advances from the Bank for eligible expenditures for civil works, incremental administrative and operating costs, training, village advancement program, and domestic consultants. The actual amount to be deposited will be based on an estimate of anticipated expenditures to be incurred in the following six month period. The imprest account will be operated and maintained by the Project Director in accordance with the Bank *Guidelines on Imprest Fund and Statement of Expenditures Procedures*. Full documentation will be sent by RDD to the Bank in support of all withdrawal applications, except for works executed by FOs or village groups and for small contracts individually costing less than the equivalent of \$50,000. For these items, applications will be supported by statements of expenditures (SOEs) certified by the Project Director and accountant of PMO. RDD has had considerable experience in the management of imprest accounts under the ongoing Southern Province Rural Development Project.

75. All IAs will prepare and maintain separate accounts. The PMO will then consolidate those accounts and will have them audited annually by independent auditors acceptable to the Bank or by the Auditor General of Sri Lanka whose continued acceptability to the Bank will depend on his continued good performance. The audited accounts will be submitted to the Bank within 12 months after the end of the fiscal year to which they relate.

76. PMO will furnish the Bank with semiannual progress reports on overall Project implementation. Within three months after Project completion, PMO will submit a Project completion report that will include a review in particular of the Project's impact on beneficiaries and utilization of loan proceeds.

F. The Executing Agency

77. RDD under MOPI is the Executing Agency for the Project. It has executed 20 externally funded IRDPs in a competent manner and therefore is not expected to have problems in implementing the Project. MOPI is headed by a Secretary who is assisted by two Additional Secretaries, one in charge of plan implementation and the other in charge of ethnic affairs and national integration. The Additional Secretary for plan implementation supervises RDD and the Monitoring and Program Review Division. Each division is headed by a Director General. RDD is responsible for executing the IRDPs including the proposed Project. The performance of RDD in these projects has been satisfactory since (i) it has well-trained staff, (ii) it has established and maintained an effective monitoring information system, and (iii) being

directly under the office of the President, it can coordinate Project activities with other agencies effectively, and obtain adequate budget from the Government.

G. Environmental and Social Measures

1. Environmental Measures

78. The Project has been classified under environment category B. An initial environmental examination conducted by the Government concluded that the Project will not cause significant adverse environmental impacts, since it involves mainly the rehabilitation and improvement of existing irrigation and road infrastructure.

79. The Project is expected to benefit wildlife, particularly elephants, because intensification of agriculture will decrease the gradual degradation of wildlife habitat due to agricultural encroachment. Additionally, farmers will be trained in methods for avoiding human-elephant encounters, and a careful reconnaissance will be done on the elephant population prior to Project implementation to identify and protect lands that may be in danger of elephant depredation. The Project will promote long-term soil conservation by introducing protective tree plantations around tanks and water courses. The selection criteria will eliminate tank irrigation schemes with potentially significant environmental impacts, following the Government's screening procedures as set out by the Central Environment Authority. Channels connecting the cascades will be sited to avoid historical and cultural artifacts and other buildings. The Project's extension and training program will focus on environmental conservation, and the Project will cooperate with local environmental NGOs to strengthen conservation activities. The FOs will be trained in the principles of integrated pest management as described in the Bank's *Handbook for Incorporation of Integrated Pest Management in Agriculture Projects* to avoid adverse impacts on downstream water quality due to the potential increase in agrochemicals. Pesticide use will be in accordance with the Bank's *Handbook on the Use of Pesticides in the Asia-Pacific Region*. A Project Environmental Unit will be established in PPD to undertake an environmental surveillance and monitoring program.

80. The improvement of class C and D roads and rural roads is unlikely to cause an adverse effect on the environment because the topography in the Project area is generally flat to gently undulating, and the civil works are relatively simple and small. Specific mitigation measures that have been included in the Project are the construction of drainage facilities and roadside stabilization structures, a long-term road maintenance program, and road side tree planting, where possible.

2. Social Measures

81. An initial social assessment that included a separate gender analysis was conducted under the feasibility study for the Project. This was followed by group interviews with randomly selected potential beneficiaries during loan fact-finding and loan appraisal. The design of the Project includes mechanisms to facilitate beneficiary participation in the planning, design, implementation, monitoring, and evaluation of all project activities. A separate social mobilization subcomponent has been built into the Project to encourage and assist beneficiary participation. It provides for the engagement of NGOs to organize, prepare, and train potential beneficiaries to participate in the Project activities. The social preparations to be undertaken by the NGOs will enable the beneficiaries to identify, plan, prioritize, implement, and monitor Project activities, especially those under the village advancement program.

82. Village-level social mobilizers will also be engaged and trained under the social mobilization subcomponent to assist with group formation for accessing credit and undertaking income-generating activities. The training of village-level women mobilizers to encourage and permit women's participation in all Project activities will form an essential part of this component.

83. Since women are widely involved in farming activities, their involvement in design and implementation of the Project will be encouraged. To achieve this objective, female social mobilizers and institutional organizers will be hired by PMO, where possible, to identify and mobilize target groups, create awareness, facilitate beneficiary participation and bottom-up planning, and guide these groups to venture into economic activities. In addition, women will make up at least 10 percent of the total staff of PMO. Moreover, women are likely to be the main recipients of credit under the Project since they already have a successful record of establishing small enterprises and repaying subloans.

V. PROJECT JUSTIFICATION

A. Financial and Economic Analyses

1. Project Beneficiaries

84. The Project will directly benefit an estimated 43,000 households. With an average household size of 4.3 members the Project will benefit about 185,000 people or about 19 percent of the population of NCP. The benefits will be in the form of employment opportunities, increased incomes and improved living standards.

2. Quantifiable Benefits

85. The Project will support productive on-farm and off-farm activities and rehabilitation of essential economic and social infrastructure, and provide institutional support. The benefits will be in the form of increased incomes and improved living standards of rural households; and improved access to remote villages, which will facilitate movement of agricultural inputs and outputs, and allow access to social services and rural credit facilities.

86. The Project will rehabilitate irrigation tanks to cover a total command area of about 7,525 ha: 1,025 ha served by minor tanks, 5,000 ha by Mahaweli tanks, and 1,500 ha by medium tanks. The increased water availability will enable farmers in the command areas to change their cropping patterns and increase cropping intensities from 93 percent to 135 percent with minor tanks, 105 percent to 143 percent with medium tanks, and 105 percent to 145 percent with Mahaweli tanks. Paddy yields are expected to increase by 10 percent while yields for other crops are expected to increase by 5 to 30 percent because of reduced probability of crop failure. With the expected increase in cropping intensities and yields, the incremental production from the Project is estimated at 12,000 tons (t) paddy, 400 t maize, 380 t dried chilies, and 2,600 t onions. As Sri Lanka has deficit in rice, chilies, and onions, the incremental production is expected to reduce the import of these food items, resulting in foreign exchange savings of SLRs161 million (\$3.2 million) annually.

87. The inland fishery development and credit components of the Project are expected to raise the production of fish from the present 5,600 t to 9,000 t. The credit component is expected to be used for restocking of fish ponds with fingerlings and purchase

of fishing boats and gear. When the Project reaches full development, the incremental production of fish is estimated at 3,400 t per annum valued at an estimated SLRs100 million (\$2 million).

88. The rehabilitation of 125 km of class C and D roads is expected to give rise to both consumer surplus and producer surplus. The consumer surplus estimated from the savings in vehicle operating cost of the existing traffic flow is SLRs20 million (\$0.4 million) per annum. The producer surplus is derived from the increase in farm income as a result of higher output prices, lower input prices, and changes in cropping pattern following improved accessibility. The producer surplus is estimated at SLRs75 million (\$1.5 million) per annum. The benefits from rehabilitation of 465 km of rural roads are quantified from the producer surplus and are estimated at SLRs95 million (\$2 million) annually.

89. The Project is expected to give rise to substantial employment opportunities both during the construction period and at full development. During the construction period, the Project will generate 5,500 person-years of employment for rehabilitation of tanks and roads. In addition, the Project will also generate 200 person-years of employment for construction of offices, buildings, and staff quarters. This level of employment creation is significant for NCP where unemployment stands at 9.5 percent in Anuradhapura and 13.8 percent in Polonnaruwa. The increased cropping intensities at full development will require an additional 1,000 person-years of labor for farm activities, which is likely to be met by farm families themselves. As the farm families currently have excess labor, the additional requirement for labor is likely to reduce underemployment on the farms rather than create employment for outside labor.

3. Nonquantifiable Benefits

90. The Project has many social benefits that cannot be quantified in monetary terms. The formation of FOs for the rehabilitation of tanks will result in better distribution of irrigation water and will have an impact, particularly on the small and poorer farmers in the tail end of the irrigation channels. The improved accessibility following the rehabilitation of roads will enable the extension and social workers to reach remote villages and also enable the villagers to have access to health and other facilities. The village advancement program aims to provide the villagers with clean potable water, better toilet facilities, and other village facilities, thus leading to improved health and living conditions, reduced morbidity, and increased productivity.

91. In the long run, institutional development may be the most important benefit to be generated by the Project. With the devolution of authority and power to the provincial governments, the Project will strengthen the ability of local government agencies to liaise with villagers, plan jointly with participants, and put decisions into action. Other important indirect benefits include improvement in the social status of women, increased linkages and direct involvement between NGOs and the Government, and between NGOs and the participating banks involved in the rural credit component.

4. Financial Evaluation

92. Financial analysis in the form of farm model analysis has been carried out for typical small (0.4 ha), medium (0.9 ha), and large (2.0 ha) farms in the command areas of the irrigation tanks. The models assume that the increased availability of irrigation water will result in increased cropping intensities, changes in cropping patterns, and increased yields for all farm sizes.

93. Farm model analysis indicates that currently only the large farms have farm incomes above the poverty level of SLRs18,000 (\$360) per annum. All farms will enjoy a substantial increase in farm income when the Project reaches full development. The incremental income ranges from SLRs5,331 (\$106) for small farms to SLRs35,875 (\$717) for large farms (see Appendix 9). The Project will raise the farm income of medium farms above the poverty level. Although the income of small farms will be raised substantially, they will still remain below the poverty level. The income-generating effect of the Project will have a significant poverty reduction impact on the population of the Project area where an estimated 53 percent of the families now live below the poverty line.

94. The farmers will be required to contribute 10 percent toward the cost of tank rehabilitation and bear the full cost for the maintenance of the tanks. The required contribution per farm ranges from SLRs855 (\$17) for small farms to SLRs9,256 (\$185) for large farms, most of which is in the form of labor. The actual cash contribution will be small and affordable. The farmers' contribution for tanks maintenance will range from SLRs600 (\$12) for small farms to SLRs3,000 (\$60) for large farms. Again, farmers are not expected to encounter any problems in meeting these requirements because the contributions are insignificant in relation to farm income and can be in the form of labor.

95. A financial cash-flow analysis has been carried out for restocking of a fish pond, which is considered a typical enterprise of the credit component. The cash-flow analysis assumes that 25 fishermen form a cooperative to restock 25 ha of fish pond. The cooperative takes a loan of SLRs700,000 (\$14,000) and puts in equity of SLRs175,000 (\$3,500) for restocking the pond with fingerlings and for purchase of a boat and fishing gear. Fish production is expected to increase from the current 7,500 kilogram (kg) to 30,000 kg after three years. The incremental returns are sufficient to allow the cooperative to service the interest and principal of the loan. Loan repayment can be completed in five years. The venture will increase the fishermen's returns to labor from the current SLRs359 per day (\$7 per day) to SLRs1,000 per day (\$20 per day).

5. Economic Evaluation

96. Economic evaluation used the World Bank's price projections (May 1996) for traded inputs and outputs adjusted for transport, handling, and processing. The prices of non-traded inputs and outputs are converted from financial prices using a standard conversion factor (SCF) of 0.9. Agricultural labor is costed at the prevailing peak season wage rate of SLRs125. Labor wage for construction work is taken at the off-season rate of SLRs100. The shadow wage rate is derived using the SCF (see Appendix 9).

97. Economic analysis has been carried out for the components with quantifiable benefits using all benefits and costs pertaining to the component, but excluding cost for Project administration and institutional support. Economic analysis for the overall Project takes the cost of Project administration and institutional support into consideration, but excludes the cost of the village advancement program, which yields social benefits not easily quantifiable in monetary terms. The results of the economic analysis are summarized in Table 3. The data indicate that the Project is economically viable with an EIRR of 15 percent. The individual components are all economically viable, with EIRR ranging from 19 percent for rehabilitation of minor tanks to 37 percent for rehabilitation of Mahaweli tanks.

Table 3: Summary of Economic Analyses

Component		EIRR (%)
A.	Irrigation Improvement	
1.	Minor Tanks	19
2.	Mahaweli System Tanks	37
3.	Medium Tanks	22
B.	Provision of Credit - Restocking of Fish Tanks	32
C.	Road Rehabilitation	
1.	C and D Roads	23
2.	Rural Roads	27
D.	The Project, Including Institutional Support, Training, and Project Administration Costs	15

6. Sensitivity Analysis

98. Sensitivity analysis has been carried out to indicate the effect of potential adverse changes in key variables. These include a 10 percent decrease in benefits (brought about by declines in output prices or decreases in yields), a 10 percent increase in investment costs, and delays in the realization of benefits. The results of the sensitivity tests are shown in Table 4 (details are in Appendix 9). Analysis indicates that the Project is more sensitive to decreases in benefits than to cost overruns. A one-year delay in benefit realization will reduce the EIRR of the overall Project to 12 percent while a two-year delay in benefit realization will render the Project marginally viable. Switching values have been calculated to indicate the extent of cost overruns and benefit decreases required to bring the EIRR down to a cut-off point of 10 percent. In the case of the overall Project, a cost overrun of 42 percent or a 28 percent decrease in benefits will bring down the EIRR to 10 percent.

7. Project Risks

99. The main Project risk relates to the institutional capability of the Executing and Implementing Agencies to implement the Project. Specific safeguards have been incorporated in the Project design to minimize this risk: (i) the selection and involvement of NGOs to assist with mobilization and participation of beneficiaries in village development activities and in facilitating the rural credit component; (ii) establishment of a strong PMO based in the Project area; (iii) contracting out of services to the private sector and consultants, whenever possible; and (iv) midterm evaluation of the Project to assess performance and, if necessary, introduce corrective actions.

Table 4: Project Sensitivity Analysis

Component	Base Cost EIRR (%)	Benefits Decrease (10%)		Cost Increase (10%)		Both Benefits Decrease and Cost Increase	Delay in Benefits	
		EIRR	Sensitivity Indicator	EIRR	Sensitivity Indicator		1 yr	2 yr
1. Minor Tanks	19	14	2.33	17	0.97	13	16	14
2. Mahaweli Tanks	37	26	2.95	34	0.82	24	29	24
3. Medium Tanks	22	17	2.28	20	0.89	15	18	16
4. Provision of Credit	31	25	2.06	25	1.86	19	20	13
5. Roads								
a. C and D Roads	23 27	21 25	0.95 0.85	21 25	0.86 0.77	19 23	19 23	17 19
b. Rural Roads								
Project	15	13	1.64	13	1.01	11	12	10

100. A second major source of risk is the interest and ability of beneficiaries to participate in the Project. To reduce this risk, specific safeguards have been incorporated into the Project design. NGOs will assist the IAs in organizing beneficiaries into viable and effective groups. As groups they will participate in the planning, design, implementation, and operation of the Project. In participatory village-level meetings, the priorities of the Project activities will be determined by the beneficiaries themselves. Also, the village advancement program will finance certain Project activities identified and to be carried out by the beneficiaries, and the Project will provide funds for training of beneficiaries.

101. A third major source of risk is the late start of and subsequent delays in Project implementation. To avoid these delays, the Project design provides for the (i) establishment of a well-equipped and adequately staffed PMO prior to loan effectiveness, (ii) advance procurement action for recruitment of consultants and procurement of vehicles and equipment, and (iii) decentralization of procurement of vehicles and equipment from RDD to PMO and the IAs.

B. Environment

102. The Project will generally have a positive impact on the environment, as the rehabilitation and improvement of tanks, roads, and villages have been designed to improve environmental conditions in the Project area. First, improvement of drainage and flood control in rehabilitated tanks will reduce waterborne diseases and soil erosion. Second, planting of trees along the canals and the bunds will improve their stability against soil erosion. Third, the introduction of integrated pest management will reduce the use of pesticides in the Project area.

Last, the training to be undertaken by Project staff will improve their capability for environmental screening of subprojects, and for monitoring and evaluating the environmental mitigation measures.

C. Social Dimensions

103. The needs and demands of the potential beneficiaries will be identified through the detailed social assessments to be conducted during implementation. Likewise, the social mobilization subcomponent will assist in preparing the beneficiaries to plan, prioritize, and implement the village-level development activities to be financed under the village advancement program. The major groups targeted under the Project are poor small farmers and other vulnerable groups such as landless laborers, the unemployed, the youth, and women. The Project will make major investments in the productive and economic infrastructure to assist small poor farmers who are cultivating 0.4 ha or less of paddy. Women beneficiaries are targeted for training as social mobilizers, as recipients of credit for on-farm and off-farm income-generating activities, and involvement in village-level decision making, especially with regard to the planning and prioritizing of infrastructure to be funded under the village advancement program.

104. To ensure proper targeting of poverty groups, the Project design includes well-defined selection criteria to be adopted for the selection of villages and groups for Project activities. Poverty reduction will be addressed through the provision of an integrated poverty reduction package of services that includes minor tank rehabilitation, rural roads, rural credit, and village advancement program.

105. The Project will have these positive impacts on the socioeconomic status of the beneficiaries: (i) incremental employment generation of about 5,700 person-years during construction and 1,000 person-days during the agricultural development period; (ii) training of a large number of Project beneficiaries and officials to improve O&M of the irrigation schemes and on-farm roads; (iii) equitable distribution of irrigation water, which will reduce income inequalities by ensuring that tail-end farmers obtain a fair share of water; and (iv) about 4,700 households, or 11 percent of the total households in the Project area, with net incomes raised above the poverty line.

VI. ASSURANCES

106. The Government has given the following assurances, in addition to the standard assurances, which have been incorporated in the legal documents:

- (i) The Government will submit to the Bank draft annual Project work programs, training programs, budget, and staff requirements for the IAs together with the actual staff positions and the recommended division of responsibilities, for review and comments before 30 November of each year.
- (ii) The Government will recruit on a contractual basis for the period of Project implementation any additional staff required by PMO and the IAs for the efficient implementation of the Project.
- (iii) The Government will provide an adequate budget to PHD and Pradeshiya Sabha to enable them to operate and maintain class C and D roads, and

rural roads, respectively. Rural roads will be operated and maintained by Pradeshiya Sabha in cooperation with the beneficiary village groups.

- (iv) The Government will cause PMO to select and utilize NGOs as social mobilizers for the village advancement program.
- (v) The Government, through NCPC, will ensure that all subprojects comply with existing environmental laws and regulations of the Government and the Bank.
- (vi) The Government, through NCPC, will establish a BME unit and a Project Environmental Unit within PPD not later than three months after loan effectiveness.
- (vii) The Government will cause MFAR to recover the cost of fry and fingerlings to be distributed in the Project area.
- (viii) The Government will cause the Project Director to coordinate with the project director for PRDP and to take the necessary steps to avoid duplication between the two projects.

107. As a condition for loan effectiveness, the Government will have (i) equipped PMO at Anuradhapura and the Project Management Sub-office at Polonnaruwa with the necessary furniture and equipment, including telecommunication facilities; and (ii) retained on a full-time basis, the following well-qualified professionals acceptable to the Bank: (a) two deputy Project directors, (b) three assistant directors, (c) three clerical staff, and (d) one accountant.

VII. RECOMMENDATION

108. I am satisfied that the proposed loan would comply with the Articles of Agreement of the Bank and recommend that the Board approve the loan in various currencies equivalent to Special Drawing Rights 13,721,000 to the Democratic Socialist Republic of Sri Lanka for the North Central Province Rural Development Project, with a service charge at the rate of 1 percent per annum and with an amortization period of 40 years, including a grace period of 10 years, and such other terms and conditions as are substantially in accordance with those set forth in the draft Loan Agreement presented to the Board.

MITSUO SATO
President

26 August 1996

APPENDIXES

Number	Title	Page	Cited On (page, para.)
1	Basic Data on North Central Province	33	2, 9
2	External Assistance to Sri Lanka for Rural Development Projects (1979-1996)	38	4, 15
3	Assessment of Integrated Rural Development Projects in Sri Lanka	39	3, 12
4	Project Framework	46	10, 35
5	Cost Estimates and Financing Plan	51	14, 47
6	Organization Chart	54	16, 50
7	Implementation Schedule	55	21, 69
8	Terms of Reference for Consulting Services	56	22, 71
9	Economic and Financial Analyses	65	27, 93

SUPPLEMENTARY APPENDIXES

(available on request)

A	Description of Project Components
B	Financial Performance of the Participating Credit Institutions
C	List of Additional Staff Required
D	Assessment of NGOs in the Project Area
E	Detailed Economic and Financial Evaluation
F	Social Evaluation
G	Institutional Assessment of the Implementing Agencies
H	Tentative Work Program for 1997
I	Summary Initial Environmental Examination
J	Cost Estimate of the Poverty Reduction Package

BASIC DATA ON NORTH CENTRAL PROVINCE

Table 1: Distribution of Poverty Incidence in Selected Districts in Sri Lanka

Province and District	Poverty Incidence (%)
National	30.4
Western	20.1
Colombo	16.4
Gampaha	17.9
Kalutara	31.2
Central	33.5
Kandy	37.4
Matale	36.6
Nuwera Eliya	22.6
Southern	32.6
Galle	30.7
Matara	32.2
Hambantota	36.8
North Western	33.6
Kurunegala	35.3
Puttalam	29.2
North Central	39.0
Anuradhapura	41.1
Polonnaruwa	34.1
Uva	36.1
Badulla	36.8
Moneragala	36.5
Sabaragamuwa	36.4
Ratnapura	31.6
Kegalle	42.2

Source: Household Income and Expenditure Survey, 1990/91, coordinated by the Department of Census and Statistics.

Table 2: Household Data

Name of Division	No. of Villages	Housing Units	No. of Households	Average No. Per Household
Anuradhapura District				
Mahavilachchiya	137	3,648	3,676	4.38
Galenbidunnuwewa	115	8,326	8,374	4.38
Palagala	86	6,301	6,471	4.29
Kahatagasdigiya	112	5,777	5,801	4.46
Kebithigollewa	97	4,487	4,824	4.35
Nuwaragampalatha East	89	16,042	16,170	4.29
Nuwaragampalatha Central	236	11,150	11,401	4.56
Thirappane	97	6,427	6,515	4.43
Mihintale	91	5,201	5,281	4.37
Horowpothana	114	5,552	5,854	4.40
Medawachchiya	118	9,072	9,072	4.51
Padaviya	45	4,510	4,535	4.34
Rambewa	90	6,287	6,540	4.18
Palugaswewa	36	2,406	2,512	4.18
Rajanganaya	30	6,530	6,583	4.15
Nochchiyagama	133	8,831	9,131	4.30
Ipologama	96	7,314	7,356	4.12
Talawa	113	12,096	12,333	4.36
Kekirawa	104	10,046	10,420	4.52
Thambuththegama	59	5,890	6,475	4.33
Galnewa	72	6,431	51,651	4.12
Total Anuradhapura	2,070	155,260	155,260	4.35
Polonnaruwa District				
Hingurakgoda	135	11,963	11,963	4.43
Medirigiriya	131	13,621	13,621	4.49
Dimbulagala	131	21,057	21,057	4.01
Elahera	85	8,286	8,286	4.43
Lankapura	48	6,538	6,538	4.74
Thamankaduwa	125	14,436	14,436	4.43
Total Polonnaruwa	655	75,077	75,901	4.35
Total North Central Province	2,725	75,901	231,161	4.35

Source: Department of Census and Statistics.

Table 3: Paddy Area, Yield, and Production in North Central Province in 1994/95

District	Paddy Area (ha)			Paddy Production (t)			Yield (t/ha)		
	Major Irrigation	Minor Irrigation	Total	Major Irrigation	Minor Irrigation	Total	Major Irrigation	Minor Irrigation	Total
Anuradhapura	71,590	35,900	110,090	267,877	75,197	346,697	3.74	2.09	3.14
Polonnaruwa	83,922	2,552	87,295	368,739	10,033	381,831	4.39	3.93	4.37
Total	155,512	38,452	197,385	636,616	85,230	728,528	4.09	2.22	3.69

Source: Provincial Department of Agriculture, NCP.

Table 4: Area and Production of Other Crops in North Central Province in 1994/95

District	Dried Onion		Red Onion		Big Onion		Green Gram		Cowpea		Black Gram		Groundnut	
	Area (ha)	Prod'n (t)	Area (ha)	Prod'n (t)	Area (ha)	Prod'n (t)	Area (ha)	Prod'n (t)	Area (ha)	Prod'n (t)	Area (ha)	Prod'n (t)	Area (ha)	Prod'n (t)
Anuradhapura	1,890	2,024	3,051	3,587	9,000	10,800	1,890	2,024	3,051	3,586	9,000	10,800	290	430
Polonnaruwa	2,267	3,072	331	2,453	1,023	12,220	1,108	1,517	486	1,750	17	18	1,186	1,849
Total	4,157	5,096	3,382	6,040	10,023	23,020	2,998	3,541	3,537	5,336	9,017	10,818	1,476	2,279

District	Soybean		Sesame		Corn		Finger Millet		Pigeonpea		Sweet Potato	
	Area (ha)	Prod'n (t)	Area (ha)	Prod'n (t)	Area (ha)	Prod'n (t)	Area (ha)	Prod'n (t)	Area (ha)	Prod'n (t)	Area (ha)	Prod'n (t)
Anuradhapura	3,523	4,815	12,050	8,503	18,759	19,268	2,250	1,350	150	150	3,000	11,000
Polonnaruwa	240	333	30	13	1,784	2,573	128	125	22	32	-	-
Total	3,763	5,148	12,080	8,516	20,543	21,841	2,378	1,475	172	182	3,000	11,000

Source: Provincial Department of Agriculture, NCP.

Table 5: Distribution of Households by Size of Landholdings

Ownership Average (ha)	Anuradhapura		Pollonnaruwa		Total	
	no.	%	no.	%	no.	%
1. Paddy Land						
Landless	185	68.5	169	62.6	354	65.5
0-0.2	10	3.7	11	4.1	21	3.9
0.2-0.4	16	5.9	12	4.4	28	5.2
0.4-0.8	14	5.2	21	7.8	35	6.5
0.8-2.0	44	16.3	57	21.1	101	18.7
Over 2.0	<u>1</u>	<u>0.4</u>	<u>0</u>	<u>-</u>	<u>17</u>	<u>0.2</u>
Total	270	100.0	270	100.0	540	100.0
2. Upland						
Landless	92	34.1	90	33.3	182	33.7
0-0.2	101	37.4	96	35.6	197	36.5
0.2-0.4	30	11.1	42	15.5	72	13.3
0.4-0.8	34	12.6	22	8.2	56	10.4
0.8-2.0	11	4.1	17	6.3	28	5.2
Over 2.0	<u>2</u>	<u>0.7</u>	<u>3</u>	<u>1.1</u>	<u>5</u>	<u>0.9</u>
Total	270	100.0	270	100.0	540	100.0

Source: Village Sample Survey, 1995.

EXTERNAL ASSISTANCE TO SRI LANKA FOR RURAL DEVELOPMENT PROJECTS (1979-1996)

	Projects	Financing Source	Loan or Grant Amount (million)		Implementation Period	Location (District)	Remarks
			Amount	Loan/Grant			
1	Kurunegala District Integrated Rural Dev. Project	World Bank	\$55.00	Loan	1979-1986	Kurunegala	Completed
2	Second Rural Development Project	World Bank	\$80.00	Loan	1981-1990	Matale and Puttalam	Completed
3	Third Rural Development Project	World Bank	SDR21.40	Loan	1984-1990	Mannar and Vovunia	Suspended ^b
4	Kalutara District Integrated Rural Dev. Project	FINNIDA	Fmk33.00	Grant	1987-1995	Kalutara	Ongoing
5	Gampaha District Integrated Rural Dev. Project	Japan	Y1,726.00	Grant	1988-1995	Gampaha	Ongoing
6	Nuwara Eliya District Integrated Rural Dev. Project	Netherlands	F35.00	Grant	1980-1998	Nuwara Eliya	Ongoing
7	Ratnapura District Integrated Rural Dev. Project	Netherlands	F26.50	Grant	1984-1998	Ratnapura	Ongoing
8	Kandy District Integrated Rural Dev. Project	Germany	Dm 13.96	Grant	1987-1996	Kandy	Ongoing
9	Matale District Integrated Rural Dev. Project	SIDA	SKr156.60	Grant	1979-1999	Matale	Ongoing
10	Anuradhapura District Integrated Rural Dev. Project	SIDA	SKr3.30	Grant	1992-1995	Anuradhapura	Ongoing
11	First and Second Badulla District Integrated Rural Dev. Project	IFAD	\$28.00	Loan	1983-2000	Badulla	Ongoing
		SIDA	\$1.40	Grant			
		UNDP	\$1.40	Grant			
12	Kegalle District Integrated Rural Dev. Project	IFAD	SDR7.50	Loan	1986-1996	Kegalle	Ongoing
13	Kurunegala Northwestern Dry Zone Dev. Project	IFAD	\$8.85	Loan	1993-1999	Kurunegala	Ongoing
		GTZ	\$3.30	Grant			
14	Participatory Rural Dev. Project	IFAD	\$8.53	Loan	1995-2002	Anuradhapura	Ongoing
		SIDA	\$3.30	Grant			
		WFP	\$1.92	Grant			
15	Hambantota District Integrated Rural Dev. Project	NORAD	Nkr200.00	Grant	1979-1999	Hambantota	Ongoing
16	Monaragala District Integrated Rural Dev. Project	NORAD	Nkr170.00	Grant	1984-2003	Monaragala	Ongoing
17	Human Resources & Institutional Dev. Project	NORAD	Nkr10.00	Grant	1992-1998	RDD	Ongoing
		SIDA	SKr3.00	Grant			
18	Monaragala District Integrated Rural Dev. Project	EEC	ECU5.76	Grant	1994-2001	Monaragala	Ongoing
19	Puttalam District Integrated Rural Dev. Project	UNICEF	\$2.29	Grant	1992-1996	Puttalam	Ongoing
20	Southern Province Rural Dev. Project	ADB	\$38.00	Loan	1991-1998	Galle	Ongoing

- ^a FINNIDA - Finnish International Development Agency
 SIDA - Swedish International Development Agency
 IFAD - International Fund for Agricultural Development
 NORAD - Norwegian Development Agency
 EEC - European Economic Community
 UNICEF - United Nations Children's Fund
 GTZ - German Agency for Technical Cooperation
 WFP - World Food Programme
 ADB - Asian Development Bank
^b Suspended because of security problems in the Project area.

Source: Regional Development Division, Ministry of Plan Implementation, Ethnic Affairs and National Integration.

ASSESSMENT OF INTEGRATED RURAL DEVELOPMENT PROJECTS IN SRI LANKA

A. General

1. A total of 15 districts in Sri Lanka's 25 districts are covered by integrated rural development projects (IRDPs). The first two IRDPs were financed by Scandinavian aid agencies. These were the Matara District IRDP funded by the Swedish International Development Agency (SIDA) in 1979, and the Hambantota District IRDP funded by the Norwegian Development Agency (NORAD) in 1979. Between 1981 and 1986, seven more IRDPs commenced implementation including the Badulla District IRDP in 1982 and the Kegalle District IRDP financed by International Fund for Agricultural Development (IFAD) in 1986. Another three IRDPs were established after that, the Gampaha District IRDP being the latest in 1990 before the Bank financed the Southern Province Rural Development Project¹ in 1991. In addition to these aid agencies, the World Bank, European Economic Community (EEC), United Nations Children's Fund (UNICEF), Netherlands, Finland, West Germany, and Japan also financed IRDPs.

2. All the IRDP projects have been or are being executed by the Regional Development Division (RDD) under the Ministry of Policy and Plan Implementation (now called Ministry of Plan Implementation, Ethnic Affairs and National Integration [MOPI]) with implementation carried out by the line agencies. The overall objectives of the IRDPs were to (i) reduce poverty in rural areas, (ii) improve socioeconomic infrastructure, (iii) increase income, and (iv) raise the living standard of the people in the rural areas. Total annual disbursements of all IRDPs amounted to about SLRs1 billion (\$20 million) in 1994. Disbursements vary greatly between projects ranging from as low as 33 percent to 102 percent (1994) of annual targets with an average of 69 percent. While disbursements in seven projects were picking up in 1994, disbursements of five IRDPs declined to as low as 55 percent.

3. Several other rural development projects focusing on irrigation have been financed by the Bank in Sri Lanka. These include (i) Walawe Development Project,² which a project performance audit report rated as partially successful; (ii) Anuradhapura Dry Zone Agriculture Project,³ which was completed on 22 February 1990; and (iii) North Western Province Water Resources Development Project,⁴ which is ongoing.

4. From an early focus on physical infrastructure development, the IRDP program progressed to place more emphasis on social mobilization, awareness creation among beneficiaries, skills development, and private sector participation in rural development. In addition, it was recently proposed that IRDPs be designed specifically to bridge the gap between the isolated and stagnant rural economy and the national as well as international economies. To achieve this objective, a reorientation from the isolated and localized rural development efforts toward regional development has been proposed. Such strategy would integrate village-based rural development efforts with the long-term perspectives and provide the needed linkages to regional and national economic development programs. In line with these proposals, the traditional rural development projects would be best implemented through Samurdhi organizations, nongovernment organizations (NGOs), and other specifically targeted programs.

¹ Loan No. 1128-SRI(SF), for \$38 million, approved on 26 November 1991.

² Loan No. 16-SRI(SF), for \$7.7 million, approved on 23 October 1969.

³ Loan No. 496-SRI(SF), for \$15 million, approved on 15 December 1980.

⁴ Loan No. 1166-SRI(SF), for \$30 million, approved on 25 June 1992.

B. Review of Bank-financed Projects

1. Anuradhapura Dry Zone Agriculture Project

5. Although the project was executed by the Ministry of Agriculture and is not classified as an IRDP, its design is similar to that of IRDPs. The Project had the following components: (i) minor tank rehabilitation, (ii) agricultural infrastructure, (iii) livestock development, (iv) agricultural support facilities, (v) rural road infrastructure, and (vi) project management.

6. Specific lessons from the project can be drawn from the project completion report (PCR), which was prepared in February 1991. The PCR indicated that project preparation and appraisal reports for this type of project could be improved by (i) a closer examination, review, and verification of technical assumptions for irrigation water availability and irrigation water requirements for the proposed cropping patterns; (ii) a critical review of alternative implementation arrangements that have been adopted for these types of projects, and their strengths and weaknesses; (iii) detailed survey of the institutional capability of the executing agency to manage and implement the project in a coordinated and integrated manner; and (iv) recognition of the need for detailed land use planning as a prerequisite to land development in minor tank rehabilitation program.

7. The PCR report further stated that project implementation would be improved if the political influence in decision making was minimized so that resource allocation decisions were based largely on sound technical analyses and socioeconomic factors.

2. Southern Province Rural Development Project

8. This IRDP included the following components: (i) irrigation and drainage, (ii) fisheries, (iii) private sector support, (iv) farm-to-market roads, (v) village advancement, (vi) women in development, and (vii) institutional support.

9. A midterm review of the Project was carried out in April 1996, confirming the viability of the basic Project design. Specific components performing well were (i) rehabilitation of C,D, and E Class roads (its scope was increased by about 72 percent); and (ii) village advancement program (its scope was increased by 90 villages) and allocation per village was increased from the original of SLRs1.2 million to SLRs1.6 million; village electrification was added). Other changes in Project design include (i) increased emphasis on involvement of the private sector and NGOs in project implementation, and (ii) reallocation of loan savings to well-performing components. Identified issues referred to, among others, are (i) deficiencies in project monitoring and evaluation, and (ii) maintenance of completed infrastructure. It was estimated that the physical progress of the project was about 56 percent against the elapsed time period of 52 percent. Thus, overall progress was satisfactory.

C. Review of Other Integrated Rural Development Projects

10. IRDPs have been implemented in two districts of the Southern Province: in Matara (funded by SIDA) and Hambantota (funded by NORAD). These projects have been under implementation since 1979. The total funds disbursed in the first 11 years were approximately SLRs850 million: SLRs570 million in Hambantota and SLRs280 million in Matara. Both projects have been extended several times and are still ongoing.

11. The two IRDPs follow different program planning approaches. In Matara IRDP, a four-year development program is prepared and then the budget is set (the "blueprint approach"). In Hambantota IRDP, an annual work plan is prepared; it is not subject to any specific budget limits, but individual components have to be justified. This allows greater flexibility and a relatively rapid response to changing circumstances. Since 1990, the Matara IRDP has begun to adopt a more pragmatic process approach since the blueprint plan became outdated. The annual budget of each of the projects in 1991 was about SLRs100 million. The advisors of both IRDPs confirmed that the provision of infrastructure in these projects has outstripped the Government's ability to provide the necessary budgetary support for operation and maintenance (O&M).¹

12. The Hambantota IRDP includes the following components: water supply, irrigation, roads, health, education, fisheries, settlement, and community development. Much of the expenditures has been concentrated on fisheries, irrigation, water supply, settlement and community development, which comprised 74 percent of the 1991 allocation.

13. In the Matara IRDP, the major emphasis during 1988-1992 was on development of social infrastructure (38 percent of total budget estimate of SLRs225 million). This allocation was mainly for development of primary health care and education. A further 38 percent was allocated to an area development program, which included a provision for welfare facilities for estate workers. The program for employment and income generation received only 16 percent of the budget (SLRs7 million). There have been many changes since then, but the basic emphasis remains the same.

14. The target groups for both IRDPs are rural poor and women. The key objective is to encourage full exploitation of resources in the districts and the creation of a maximum number of job opportunities, consistent with the preservation of the environment. Social development programs have been accorded high priority and there has been little pressure to make the overall investment economically justifiable. An in-depth evaluation of the Hambantota IRDP was undertaken in 1991 and some lessons learned are given below.²

15. The process-oriented planning approach of the project was considered more appropriate than the preparation of blueprint plans. To achieve meaningful participation of the people, the planning system had to be extended to the local level. With poverty orientation as the main objective of the project, there was a need to orient activities to small-scale, target-oriented subprojects. On the other hand, there was also a need for a comprehensive district or province perspective. Economic development planning therefore was to be rooted in a regional or sector development concept and plan, which was to combine agricultural development and production increases, marketing, and urban development. It was, however, recognized that process planning may lead to greater management problems.

16. To succeed in the integration and coordination of development activities, the IRDP must be placed within the existing central and provincial organizational structure. However, despite its efforts and its location within the district administrative structure, the project has not been functioning as part of an overall development strategy for the area, nor has it been able to spearhead the formulation of such strategy. A number of reasons contributed to this, including

¹ WS Atkins. 1991. "Southern Province Development Project Main Report." TA No. 1337-SRI. International Giron, Cambridge, UK.

² Chr. Michelsen Institute. 1992. "Evaluation of Hambantota Integrated Rural Development Program (HIRDEP)."

a lack of focus of the institutional development program and lack of an overall regional development strategy at the onset of the project.

D. Performance of IRDPs

17. In a 1994 performance report,¹ MOPI cited several issues affecting project performance. These were (i) inadequate technical staff at Divisional Secretariats (DS) to implement division-level project activities; (ii) rigid subproject selection criteria laid down by multilateral aid agencies, e.g., tank selection in IFAD projects; (iii) inadequate physical monitoring and supervision by the project offices; (iv) lack of adequate staff to run the facilities created by the IRDP; and (v) poor quality design and substandard construction of infrastructure facilities (e.g. education, health, and irrigation infrastructure) because of lack of technical staff at the project office and line agencies.

1. Strengths

- (i) By and large, the IRDPs have succeeded in attaining their two common objectives of raising the income and living standard² of a sizeable section of the rural population and strengthening the institutional capability for development at the level of the district and below.
- (ii) The IRDPs have not only accelerated the process of rural development but also helped in raising the quality of rural investment because of their insistence on stricter investment selection criteria.
- (iii) Operating within a system of decentralized planning, IRDPs have helped in the formation of consultative and coordinating groups of beneficiaries down to the village level.
- (iv) By applying a set of clearly defined investment selection criteria and encouraging close supervision of project works by professional consultants and rural beneficiaries themselves, the project officials have been able to ensure generally high standard of performance while limiting political interference in investment decisions.
- (v) IRDPs have generally strengthened the capacity of the government agencies at the provincial, district, and divisional level to implement investment projects.

2. Weaknesses

- (i) Many IRDPs have been characterized by late starts and delays resulting in extended implementation periods. Delays in procurement of equipment and posting of manpower and consultants needed for implementation have been important reasons for this.

¹ Ministry of Finance, Planning, Ethnic Affairs and National Integration. 1995. "Integrated Rural Development Program Performance Evaluation Report 1994."

² The extent of the increase in per capita terms is however not known.

- (ii) The institutional arrangement for procurement of equipment through a separate procurement office within MOPI has resulted in delays in implementation, preparation of tender documents with incorrect specifications, and shortages of spare parts.
- (iii) While the IRDPs have stimulated some increased beneficiary participation through local committees and village organizations, they have not yet tapped the full potential of village associations and other participating mechanisms.
- (iv) While a variety of activities have been undertaken by each IRDP, provision of market support, which is a key element for growth of microenterprises, has received little attention. Consequently, the full potential of the investments made could not be realized.
- (v) Monitoring and evaluation arrangements have been elementary, ad hoc, and sketchy, concentrating mainly on physical and financial progress reporting. Sometimes this is supplemented by impressions on specific components of ad hoc international consultants in the case of projects financed by bilateral aid agencies. Hardly any significant attempt has been made to systematically monitor project impact on the target beneficiaries.

E. Lessons Learned

1. Project Preparation

18. A prioritized regional development strategy and plan must exist at the onset of an area development project. The project investments should clearly identify their role and interrelation with the regional development effort and plan. A methodology and institutional arrangements should exist for constant updating and coordination. Poverty reduction should not be misunderstood as a welfare program sustaining poverty in remote areas under unsustainable conditions, but rather as targeted investments in the economic growth of people deprived of access to the necessary start-up support. As such, close linkages between carefully targeted investments for poverty reduction and the medium and macro level investments are important and need careful consideration during project preparation.

2. Capacity Building

19. Manpower needs for technical support and implementation capacity (feasibility studies of subprojects, design, construction supervision, construction, community mobilization etc.) should be clearly understood at the onset of the project. Clear differentiation should be made between works of a temporary nature to put projects in place and tasks necessary to sustain projects. For each, the role of the private sector, beneficiary groups, and Government agencies should be clearly understood. To provide the necessary capacity, human resource and institutional development should be carefully focused, and should involve all the three target groups as necessary.

3. Investment Components

20. Investments should be clearly identified and focused including specifically those targeting poverty reduction. The impact of each investment on poverty reduction, increased

income, and employment generation should be clearly understood and demonstrated. The interrelation of investments at the micro, medium, and macro scale should be clearly analyzed.

4. Implementation Arrangements

21. Achievements of physical targets are largely dependent on the implementation arrangements. Being multicomponent projects, IRDPs are complex, which can pose specific problems. The executing agency for IRDPs is usually RDD under MOPI, with overall supervision by a National Steering Committee (NSC). The responsibility for implementation in the provinces usually lies with the Provincial Council (PC) and a Provincial Project Steering Committee (PPSC). The Project Director, who is jointly appointed by RDD and PC, usually reports to the Chief Secretary of PC for the day-to-day operation.

22. Problems have been associated with these implementation arrangements. The line agencies involved in the various project components implemented their own work programs. However, because of capacity limitations they were not able to cope with the added work load for IRDPs. In addition, the Project management office (PMO) lacked the strong support of RDD, and the NSC proved ineffective to resolve implementation problems. Criteria for the selection of subprojects as outlined in appraisal reports were loose or not relevant, while the selection criteria used by the PC were based more on political considerations than on sound technical and economic analyses. Interagency coordination and liaison were negligible, to the extent that command area development around the rehabilitation tanks did not start until several years after rehabilitation work was completed.

23. Other lessons drawn from completed IRDPs are that (i) PMO must have strong authority while PPSC should be limited to an advisory role; (ii) the chairman of PPSC should be a career officer; (iii) the implementation schedule should make appropriate provision for a period to establish PMO and a detailed planning phase prior to the commencement of civil works. Further, the necessary resources for these tasks must be allocated.

24. The ongoing Bank-financed Southern Province Rural Development Project has addressed the above problems by developing strong implementation capacities at PMO. As this duplicates the role of line agencies to some degree, questions were raised as to the sustainability of such super Government office. Recently, at the initiative of the Bank, the Government approved increased contracting to consultancy firms and NGOs of project tasks including social mobilization, project feasibility studies, design, and construction supervision. The recent midterm review of this project has confirmed the viability of this approach, which has now been incorporated in the implementation arrangements for the Project.

5. Project Phasing

25. IRDPs should be carefully planned and implemented. Project implementation should be phased, each phase drawing lessons from earlier implementation periods. The benefit monitoring and evaluation process should have participatory impact assessments, including the necessary institutional arrangements. Clearly defined procedures should enable the Project Director of PMO to adjust project scope and implementation arrangements at predesignated milestones. In the Southern Province Rural Development Project, the Bank has accommodated this approach after the midterm review, with resulting improved performance and disbursements.

6. Sustainability

26. The bottom-up planning methods and involvement of beneficiaries in decision making and planning varied considerably among IRDPs. Taking stock of past experiences, the Government increasingly implements blueprint projects in a flexible manner, adjusting targets and implementation arrangements to performance and changing needs.

27. While the Government seeks to integrate the participatory planning processes of IRDPs into provincial and sector perspective plans to emphasize processes and flexibility, relevant planning capacities and methodologies usually are not in place. Often also lacking is the institutional integration of participatory planning processes with the mainstream budget allocation and disbursement programs of provincial and national agencies. Political interferences can disrupt detailed planning during a project implementation period.

28. Sustainability depends on commitment of beneficiaries and their involvement in project planning and implementation. Recovery of O&M cost and ownership of subprojects should be clearly understood by the beneficiaries. These aspects should be analyzed for the short, medium, and long term. Inherent risks including mitigating measures should be clearly spelled out.

F. Conclusions

29. Evaluations by the Government, the World Bank and other funding agencies have confirmed that IRDPs, in general, have performed reasonably well in Sri Lanka¹ and are important in complementing the Government's development efforts in the rural areas. To achieve project targets and sustainability, specific concerns and lessons learned have been incorporated in the proposed Project. These include the following:

- (i) Instead of depending on the capacity of Government agencies, the proposed Project seeks to make maximal use of the existing capacities of the private sector. For this purpose, appropriate budget allocations for contracting Project activities to consulting firms and NGOs in a flexible manner have been included in the Project design. In addition, a strong capacity development component for NGOs, the private sector and the Provincial Planning Division has been included in the Project.
- (ii) The proposed Project addresses the issues of beneficiary participation, ownership, and sustainability by including a village-based planning process that will be the basis for needs identification and prioritization of detailed investments during Project implementation.
- (iii) The Project has been carefully phased, milestones allowing for re-evaluation and redirection of investment programs have been well defined.
- (iv) Physical infrastructure investments have been limited to a scale where maintenance by Government agencies or beneficiary groups will not pose any problem.

¹ World Bank. 1989. "Kurunegala Rural Development Project." PCR.
 World Bank. 1986. "Review of Sri Lanka Rural Development Program."
 Chr. Michelsen Institute. 1992. "Evaluation of Hambantota Integrated Rural Development Program (HIRDEP)."
 M. Moore et al. 1995. "Moneragala District Integrated Rural Development Program, Sri Lanka (MONIDERP)."

PROJECT FRAMEWORK

Design Summary	Targets	Project Monitoring Mechanisms	Risks/Assumptions
1. Sector/Area Goal			
1.1 To reduce poverty.	<ul style="list-style-type: none"> - The incidence of poverty reduced by 11 percent by 2008. 	<ul style="list-style-type: none"> - Benefit monitoring and evaluation (BME) survey at and after project completion. 	<ul style="list-style-type: none"> - Conditions in the Project area will continue to be favorable for providing benefits envisaged at appraisal.
1.2 To promote balanced regional development.	<ul style="list-style-type: none"> - About 415 poor villages provided with better social infrastructure. - Some 590 km of roads improved by 2003. - About 7,500 ha of tank irrigation schemes improved by 2003. 	<ul style="list-style-type: none"> - Annual survey of a sample of completed subprojects. 	<ul style="list-style-type: none"> - Government's devolution policy is further strengthened.
2. Purpose/Objectives			
2.1 To raise income of rural population.	<ul style="list-style-type: none"> - Farm and nonfarm income increased by \$106-717 per household by 2003. 	<ul style="list-style-type: none"> - Project Performance Audit Report. 	<ul style="list-style-type: none"> - Absence of major problems due to drought. - Prices of inputs and outputs are within the ranges projected in the financial and economic analyses.
2.2 To generate employment opportunities.	<ul style="list-style-type: none"> - About 5,700 person-years of employment created during construction by 2003, and about 1,000 person-years of employment created during agricultural development period. - The economic internal rate of return of the Project is estimated at 15 percent. 	<ul style="list-style-type: none"> - Project Completion Report. - Project Progress Reports. 	<ul style="list-style-type: none"> - The Government continues to support IRDPs including this Project. - Farmers assume the operation and maintenance (O&M) of the completed irrigation tanks and rural roads.

Design Summary	Targets	Project Monitoring Mechanisms	Risks/Assumptions
3. Components/Outputs			
3.1 Minor and medium tanks improved to increase agricultural productivity and to generate employment.	<ul style="list-style-type: none"> About 150 farmers' organizations (FOs) formed and strengthened by 2000. About 90 minor tanks covering 1,025 ha in ten cascades improved by 2003. About 40 minor tanks and 10 medium tanks covering 5,000 ha within the command of Mahaweli Irrigation Schemes improved by 2003. About 10 medium tanks covering 1,500 ha improved by 2003. Crops yields increased by about 5-30 percent and cropping intensity by 30-50 percent by 2008. 	<ul style="list-style-type: none"> Project Progress Reports. Bank Review Mission. Project Progress Reports. Bank Review Missions. 	<ul style="list-style-type: none"> Strengthening of FOs is implemented timely and properly. Beneficiaries are fully involved in all stages of Project implementation and contribute toward the cost of irrigation tanks. FOs take full responsibility for the O&M of completed tanks. Favorable weather continues to prevail. Effective extension, credit and marketing services are provided to farmers.
3.2 Inland fisheries development in selected tanks to increase income and to provide low cost protein to beneficiaries.	<ul style="list-style-type: none"> The fish breeding station at Dambulla improved by 2000. Suitable models for inland fisheries enterprises developed by 2000. About 50 fishermen's cooperatives strengthened by 2001. 	<ul style="list-style-type: none"> Project Progress Reports. Bank Review Mission. 	<ul style="list-style-type: none"> Fishermen and private sector respond favorably to Government's policies on inland fisheries. Fishing rights issued to private individuals and cooperatives. Cost of fingerlings and fry distributed to beneficiaries is recovered by the Government.
3.3 Microcredit provided to the private sector for all types of farm and non-farm income.	<ul style="list-style-type: none"> About 5,600 poor beneficiaries provided with credit to enable them to improve their income and generate employment by 2003. 	<ul style="list-style-type: none"> Project Progress Reports. Bank Review Mission. 	<ul style="list-style-type: none"> Participating credit institutions (PCIs) and nongovernment organizations (NGOs) are able to work harmoniously in the provision of credit to the poor. PCIs provide the necessary credit required by the beneficiaries. The Government provides adequate budget to finance the O&M cost of the completed roads.
3.4 Class C and D roads and rural roads rehabilitated to facilitate the marketing of rural produce and to stimulate rural economic diversification.	<ul style="list-style-type: none"> About 125 km of Class C and D roads and 465 km of rural roads improved by 2003. 		

Design Summary	Targets	Project Monitoring Mechanisms	Risks/Assumptions
3.5 Social infrastructure in backward villages improved to remove significant gaps in the social and economic infrastructure.	<ul style="list-style-type: none"> About 415 poor villages provided with financial assistance to upgrade their economic and social infrastructure. 	<ul style="list-style-type: none"> Project Progress Reports. Bank Review Mission. 	<ul style="list-style-type: none"> The performance of NGOs in social mobilization is satisfactory. Villages are able to prioritize their needs effectively.
3.6 Capacity building of the Government agencies, private sector, NGOs, and FOs.	<ul style="list-style-type: none"> Office buildings and houses for Project Management Office (PMO) staff completed by 1998. Vehicles and equipment provided to PMO and the implementing agencies by 1999. Annual workshops and seminars for Project Planning and Review held to coordinate and strengthen Project implementation. Staff of implementing agencies, beneficiaries, NGOs, and PCIs trained by 1999. About 25 Project staff trained overseas for degree and non-degree programs. About 270 person-months of consulting services provided to assist PMO in Project implementation. 	<ul style="list-style-type: none"> Project Progress Reports. Bank Review Mission. Project Progress Reports. Bank Review Mission. Project Progress Reports. Bank Review Mission. Project Progress Reports. Bank Review Mission. 	<ul style="list-style-type: none"> Trained personnel are not transferred to other assignments. The Government appoints competent Project Director and other key Project staff in PMO, and provides them attractive salaries and benefits. RDD and PMO recruit well-qualified and dedicated consultants on a timely basis. Vehicles and equipment are procured timely. The Government implements the training program according to the agreed upon plan. The Government recruits additional staff required by the Project on a timely basis.

Design Summary	Targets	Project Monitoring Mechanisms	Risks/Assumptions
4. Activities			
4.1 Minor and medium tanks improved	- \$5.6 million	- Project Progress Reports. - Bank Review Mission.	- Farmers are willing to adopt improved technologies to increase crop yields. - There is sufficient rainfall to fill tanks annually for irrigation. - Farmers are fully involved in the rehabilitation work.
4.2 Inland fisheries development	- \$0.2 million	- Project Progress Report. - Bank Review Mission.	- Fishermen are willing to buy fry and fingerling at cost from the breeding station. - Extension services are effective in promoting new technologies.
4.3 Provision of Credit	- \$2.5 million	- Project Progress Report. - Bank Review Mission.	- PCIs are willing to involve NGOs in social mobilization and credit delivery. - Competent NGOs exist to assist in Project implementation. - Potential beneficiaries are well motivated to participate in the credit and savings program.
4.4 Road Improvement	- \$8.1 million	- Project Progress Report. - Bank Review Mission.	- Completed roads are properly maintained by Provincial Highway Department and Pradeshiya Sabha.

Design Summary	Targets	Project Monitoring Mechanisms	Risks/Assumptions
<ul style="list-style-type: none"> - Surveys and design undertaken for the selected roads. - Civil works constructed according to detailed design and specifications. 			<ul style="list-style-type: none"> - Selected contractors are capable to rehabilitate the roads according to detailed design and specifications.
4.5 Village Advancement Program	<ul style="list-style-type: none"> - \$4.8 million. 	<ul style="list-style-type: none"> - Project Progress Report. - Bank Review Mission. 	<ul style="list-style-type: none"> - PMO is able to select the villages on the basis of agreed upon criteria. - The villagers are able to reach a consensus on their priority needs, and are willing to contribute their labor toward the cost of the village facilities.
<ul style="list-style-type: none"> - Selection of 415 backward villages through social assessments of the existing villages. - Social mobilization of selected villages by NGOs. - Identification of priority needs of beneficiaries. - Civil works constructed according to approved village advancement program. 		<ul style="list-style-type: none"> - Project Progress Report. - Bank Review Mission. 	
4.6 Capacity building of Government agencies, private sector, and NGOs.	<ul style="list-style-type: none"> - \$5.2 million. 	<ul style="list-style-type: none"> - Project Progress Report. - Bank Review Mission. 	<ul style="list-style-type: none"> - There are no delays in the construction of office buildings, staff houses; procurement of vehicles and equipment; and in the engagement of consultants. - The Project Director is able to provide strong leadership in Project implementation supervision, coordination and monitoring. - PMO is effective in assisting the implementing agencies in Project implementation. - Trained personnel are not transferred to another location.
<ul style="list-style-type: none"> - About two office buildings, two guest houses, and five staff houses constructed for PMO. - Vehicles, equipment, furniture, and office supplies procured for PMO and implementing agencies. - Domestic and overseas training conducted for Government officials, private sector, and NGOs. - International and domestic consultants engaged by PMO. 	<ul style="list-style-type: none"> - Contingencies: \$4.4 million. - Total cost: \$30.9 million. 	<ul style="list-style-type: none"> - Project Progress Report. - Bank Review Mission. 	

COST ESTIMATES AND FINANCING PLAN

**Table 1: Project Cost Estimates
(\$'000)**

Item	Foreign Exchange	Local Currency	Total Cost
A. Productive Components			
1. Irrigation Improvement	1,450	4,123	5,573
a. Cascade Development	268	672	940
b. Mahaweli Tanks	617	1,569	2,186
c. Medium Tanks	460	1,146	1,607
d. Agricultural Support Services	41	166	208
e. Strengthening of Farmers' Organizations (FOs)	36	323	358
f. Water Resources Studies	28	248	275
2. Inland Fisheries	36	150	186
3. Provision of Credit	0	2,453	2,453
Subtotal (A)	1,486	6,726	8,212
B. Economic and Social Infrastructure			
1. Road Improvement	2,381	5,734	8,115
a. C and D Roads	1,279	3,090	4,369
b. Rural Roads	952	2,294	3,249
c. Bridges	90	210	300
d. Office Buildings	60	140	200
2. Village Advancement Program	1,551	3,430	4,981
Subtotal (B)	3,932	9,164	13,096
C. Institutional Support Components			
1. Project Administration and Management	1,641	1,947	3,588
a. Civil Works	133	311	444
b. Operating and Administration Cost	148	1,009	1,157
c. Vehicles and Motorcycles	813	542	1,355
d. Office and Construction Equipment	547	85	632
2. Training and Fellowships	337	150	487
3. Consulting Services	747	710	1,457
Subtotal (C)	2,725	2,807	5,532
Total Base Cost	8,143	18,697	26,840
Physical Contingencies ^a	407	890	1,297
Price Contingencies ^b	767	1,399	2,166
Service Charge ^c	657	0	657
Total Cost Including Contingencies	9,974	20,986^d	30,960

^a Physical contingency is 5 percent of total base cost.

^b Price escalation calculated using 2.4 percent per year for both foreign and local cost.

^c Service charge is 1 percent per annum.

^d Includes approximately \$0.7 million in taxes and duties.

**Table 2: Annual Project Cost
(\$'000)**

Component	1997	1998	1999	2000	2001	2002	2003	Total
A. Productive Components								
1. Irrigation Improvement	103	216	1,061	1,056	1,111	1,112	913	5,573
2. Inland Fisheries	18	49	50	19	19	19	10	186
3. Provision of Credit	<u>123</u>	<u>245</u>	<u>368</u>	<u>491</u>	<u>491</u>	<u>736</u>	<u>0</u>	<u>2,453</u>
Subtotal (A)	244	510	1,479	1,566	1,622	1,868	923	8,212
B. Economic and Social Infrastructure								
1. Road Improvement	0	1,571	1,271	1,171	1,367	1,367	1,367	8,115
2. Village Advancement Program	<u>75</u>	<u>897</u>	<u>569</u>	<u>579</u>	<u>979</u>	<u>953</u>	<u>931</u>	<u>4,981</u>
Subtotal (B)	75	2,468	1,840	1,749	2,346	2,320	2,298	13,096
C. Institutional Support Components								
1. Project Administration and Management	2,212	534	180	165	165	165	165	3,586
2. Training and Fellowships	236	83	86	24	24	24	11	488
3. Consulting Services	<u>503</u>	<u>439</u>	<u>170</u>	<u>106</u>	<u>86</u>	<u>80</u>	<u>74</u>	<u>1,458</u>
Subtotal (C)	2,951	1,056	436	295	275	269	250	5,532
Total Base Cost	3,270	4,034	3,754	3,611	4,243	4,457	3,471	26,840
Physical Contingency	134	198	185	178	210	221	172	1,297
Price Contingency	13	87	173	271	454	607	562	2,166
Service Charge	<u>11</u>	<u>36</u>	<u>64</u>	<u>90</u>	<u>119</u>	<u>152</u>	<u>184</u>	<u>657</u>
Total Cost Including Contingencies	3,428	4,356	4,176	4,150	5,026	5,437	4,388	30,960

Table 3: Financing Plan
(\$'000)

Component	Bank		Total	Govt. of Sri Lanka	Benefi- ciaries	PCIs	Total Cost
	Foreign Exchange	Local Currency					
A. Productive Components							
1. Irrigation Improvement	1,450	2,451	3,901	1,115	557	0	5,573
a. Civil Works	1,184	1,731	2,915	692	557	0	4,164
b. Studies and Design	189	401	590	253	0	0	843
c. Support Services	41	104	145	62	0	0	207
d. Strengthening of FOs	36	215	251	108	0	0	359
2. Inland Fisheries	36	94	130	56	0	0	186
3. Provision of Credit*	0	0	0	0	491	1,962	2,453
Subtotal (A)	1,486	2,545	4,031	1,171	1,048	1,962	8,212
B. Economic and Social Infrastructure							
1. Road Improvement	2,381	3,300	5,681	2,029	406	0	8,115
a. Civil Works	2,095	2,904	4,999	1,737	406	0	7,141
b. Surveys and Design	286	396	682	292	0	0	974
2. Village Advancement Program	1,551	1,936	3,487	996	498	0	4,981
Subtotal (B)	3,932	5,236	9,168	3,025	904	0	13,096
C. Institutional Support Components							
1. Project Administration and Management	1,641	849	2,490	1,098	0	0	3,588
a. Civil Works	133	178	311	133	0	0	444
b. Operating and Administration Costs	148	546	694	463	0	0	1,157
c. Vehicles and Equipment	1,360	125	1,485	502	0	0	1,967
2. Training and Fellowships	337	4	341	146	0	0	467
3. Consulting Services	747	419	1,166	291	0	0	1,457
Subtotal (C)	2,725	1,272	3,997	1,535	0	0	5,532
Total Base Cost	8,143	9,053	17,196	5,731	1,952	1,962	26,840
Physical Contingency	407	408	815	277	102	103	1,297
Price Contingency	767	595	1,362	463	171	172	2,166
Service Charge	657	0	657	0	0	0	657
Total Cost Including Contingencies	9,974	10,056	20,030	6,471	2,225	2,237	30,960
Percent Financing			65%	21%	7%	7%	100%

* Since the subloans are generally small and in local currency, this component will be entirely financed by Participating Credit Institutions (PCIs) and, to some extent, also Project beneficiaries.

```

graph TD
    NSC[National Steering Committee] --- DSA[Ministry of Public Administration, Home and Parliamentary Affairs and Plantation Industry]
    NSC --- DFR[Ministry of Fisheries and Aquatic Resources]
    NSC --- DCE[Ministry of Irrigation, Power and Energy]
    NSC --- DPC[Ministry of Plan Implementation, Ethnic Affairs and National Integration]
    NSC --- DCM[Ministry of Cooperatives, Provincial Council, Local Government and Indigenous Medicine]

    NSC --- PPS[Provincial Project Steering Committee]
    PPS --- DSA
    PPS --- DFR
    PPS --- DCE
    PPS --- DPC
    PPS --- DCM

    PPS --- CS[Chief Secretary Provincial Council]
    CS --- PMO[Project Management Office in Anuradhapura]
    PMO --- Consultants
    PMO --- DP[Deputy Project Director PMO Sub-Project Office in Polonnaruwa]
    PMO --- PradeshiyaSabha[Pradeshiya Sabha]
    PradeshiyaSabha --- InstitutionalSupport[Institutional Support]
    PradeshiyaSabha --- Mobilization[Mobilization and Beneficiary Participation]
    PradeshiyaSabha --- VillageAdvancement[Village Advancement Program]
    PradeshiyaSabha --- Rehabilitation[Rehabilitation of Rural Roads]

    PPS --- ProvincialIrrigation[Provincial Irrigation Department]
    ProvincialIrrigation --- Mahaweli[Mahaweli Authority of Sri Lanka]
    Mahaweli --- RehabilitationMinorTanks[Rehabilitation of Minor Tanks within MASL Schemes]
    Mahaweli --- RehabilitationMediumTanks[Rehabilitation of Medium Tanks]
    ProvincialIrrigation --- RehabilitationMinorTanksCascades[Rehabilitation of Minor Tanks within Cascades]

    PPS --- ProvincialHighways[Provincial Highways Department]
    ProvincialHighways --- RehabilitationClassCandD[Rehabilitation of Class C and D Roads]

    PPS --- DistrictSecretariat[District Secretariat]
    DistrictSecretariat --- DivisionalSecretariat[Divisional Secretariat]
    DivisionalSecretariat --- DistrictFisheries[District Fisheries Extension Office]
    DistrictFisheries --- InlandFisheries[Inland Fisheries Development]
    DivisionalSecretariat --- ProvisionCredit[Provision of Credit]
    ProvisionCredit --- SamurdhiProgram[Samurdhi Program]
  
```

PMO = Project Management Office

IMPLEMENTATION SCHEDULE

Activity		1997	1998	1999	2000	2001	2002	2003
1.	Irrigation Improvement							
1.1	Surveys, Feasibility Studies, and Hydrology Studies							
1.2	Selection of Tanks and Detailed Design							
1.3	Strengthening of Farmers' Organizations							
1.4	Improvement of Tanks							
1.5	Extension Services							
2.	Inland Fisheries							
2.1	Strengthening of Fisheries Cooperatives							
2.2	Rehabilitation of a Breeding Station							
2.3	Fisheries Development							
3.	Provision of Credit							
3.1	Selection of NGOs by PCIs							
3.2	Social Preparation and Skills Training of Beneficiaries							
3.3	Provision of Credit							
4.	Road Improvement							
4.1	Surveys, Selection and Design							
4.2	Improvement of Class C and D Roads and Bridges							
4.3	Improvement of Rural Roads							
5.	Village Advancement Program							
5.1	Village Assessment and Selection							
5.2	Training of Social Mobilizers							
5.3	Social Preparation and Group Formation of Beneficiaries							
5.4	Needs Analysis and Prioritization							
5.5	Improvement of Village Facilities							
6.	Institutional Support							
6.1	Establishment of PMO							
6.2	Construction of Project Offices and Staff Houses							
6.3	Procurement of Vehicles and Equipment							
6.4	Training and Scholarship							
6.5	Consulting Services							
6.6	Benefit Monitoring and Evaluation							

NGO = Nongovernment Organization

PCIs = Participating Credit Institutions

PMO = Project Management Office

TERMS OF REFERENCE FOR CONSULTING SERVICES

A. Objectives

1. The objectives of the consulting services are to (i) enhance the capacity of the implementing agencies (IAs) in the North Central Province (NCP) in planning, implementing, monitoring, and evaluating the proposed Project; and (ii) assist the Project Director in the implementation, supervision, and monitoring of the project.

B. Scope of Work

2. The consultants will work closely with the Project Management Office (PMO). The consulting services will include, but will not be limited to the following:

- (i) to assist PMO and IAs in the supervision and implementation of the Project;
- (ii) to carry out feasibility studies and specific studies and to prepare tender documents for the irrigation and road improvement works to be undertaken under the Project;
- (iii) to assist PMO in strengthening the capacity of IAs at the provincial, district, and divisional levels through training, workshops, and other procedures; and
- (iv) to carry out other assignments as required by the Project Director of PMO.

C. Consulting Services

3. The consultants required by the Project are listed below.

Expertise	(person-months)		Total
	International Consultants	Domestic Consultants	
1. Agricultural Planning Specialist/Team Leader	24	66	90
2. Environment Specialist	6	12	18
3. Training Specialist	-	18	18
4. Road Engineer	3	21	24
5. Irrigation Engineer	-	21	21
6. Agronomist	-	14	14
7. Agricultural Economist	-	12	12
8. Marketing Specialist	-	21	21
9. Rural Credit Specialist	3	14	17
10. Inland Fisheries Development Specialist	-	6	6
11. Benefit Monitoring and Evaluation Specialist	-	12	12
12. Sociologist	-	17	17
Total	36	234	270

D. Terms of Reference**1. Agricultural Planning Specialist**

- (i) Study the present system of planning and implementation of development projects and programs in NCP especially in the light of recent devolution of functions at the provincial level, including the Thirteenth Amendment to the Constitution.
- (ii) Propose improvements to the present institutional framework for efficient planning, implementation, and monitoring of projects, programs, and policies.
- (iii) Assist in the initial implementation of the framework devised above.
- (iv) Devise improved methodology for identification, preparation, and rapid appraisal of subprojects.
- (v) Assist in the formulation of training programs for the staff in planning, implementation, and monitoring of projects.
- (vi) Advise PMO on implementation, monitoring, and evaluation of the Project.
- (vii) Provide guidance on planning at the district secretariat (DS) level to the local level planner.
- (viii) Assist in establishing a management information system (MIS) for the Project.
- (ix) In cooperation with other consultants, prepare and refine a provincial economic development program and a public investment program for NCP taking into account the ongoing and proposed projects in the area.

2. Environment Specialist

- (i) Assist the provincial government in the establishment and operation of the Project Environmental Unit (PEU) within the Provincial Planning Division.
- (ii) Carry out studies and investigations of management and protection measures for the catchments of the rivers/streams supplying water to irrigation schemes, including land use surveys and watershed quality surveys based on readily available maps/photos and other data, supplemented with field surveys.
- (iii) Carry out surface and groundwater quality investigations in the Project area.
- (iv) With regard to tasks (i) and (ii) above, prepare a detailed work plan for local staff and provide periodic reviews of results.

- (v) Investigate the environmental impacts that could result from the Project, especially the irrigation and road improvement works in the Project area.
- (vi) Work with local staff in developing environmental guidelines geared especially to the type of work to be undertaken under the Project. After drafting the guidelines, direct local staff in applying the guidelines by screening and assessing the environmental impacts of the Project.
- (vii) Develop procedures for involving local nongovernment organizations (NGOs) in environmental matters related to the Project.
- (viii) Formulate measures for the management and protection of the catchments associated with the Project that will fit within the overall provincial economic development program.

3. Training Specialist

- (i) Prepare and organize a training program for training of trainers, social mobilizers, leaders of villagers with the objective of transforming the farmers organizations (FOs) into strong and self-reliant institutions that can gradually undertake a whole range of activities (e.g., credit and marketing) aimed at improving the quality of the agricultural and economic life of people in the Project area. The program, to be designed for intensive and systematic implementation over a period of seven years, will place special emphasis on monitoring, follow-up, and feedback as inputs for continuous modifications in training methods and course content.
- (ii) Assist subject specialists in designing courses that are to be taught in the training programs.
- (iii) Organize periodic reviews with subject specialists, master trainers, trainers, trainees, leaders of FOs, staff and officials of IAs, focusing on the adequacy and suitability of those courses and arranging for modifications to be made in the courses from time to time.
- (iv) Prepare a training calendar for each quarter and each year of Project implementation.
- (v) Supervise the conduct of training at training institutions as well as in the field.
- (vi) Organize and supervise reviews of training, and ensure effective follow-up so that shortcomings that are identified are expeditiously rectified.
- (vii) Supervise implementation of management information system (MIS) to monitor performance at all levels of the training program.
- (viii) Develop a training cell at each of the Divisional Secretariats and Pradeshiya Sabha in the rural areas.

- (ix) Improve the training capacity of the Management Development and Training Unit (MDTU).
- (x) Develop a cadre of trainers through a training of trainers program.

4. Road Engineer

- (i) Assist in carrying feasibility studies and selection of class C and D roads and rural roads to be improved under the Project, including the preparation of guidelines.
- (ii) Identify data needed for detailed studies and final design, and review all reports prepared by the Provincial Highways Department (PHD).
- (iii) Identify surveys needed for implementation of civil works.
- (iv) Review detailed designs of selected roads.
- (v) Review cost estimates and construction programs for roads, giving special emphasis to cost effectiveness.
- (vi) Formulate optimal procedures for reduced vehicle operating cost.
- (vii) Coordinate training programs for technical staff in construction management, rehabilitation, and maintenance of roads.
- (viii) Supervise construction, improvement, restoration, and rehabilitation work.
- (ix) Review the progress of Project implementation and recommend measures to avoid delays.
- (x) Prepare annual work programs and budgets.
- (xi) Assist PHD in the establishment of a soil and aggregate testing laboratory.

5. Irrigation Engineer

- (i) Assist in feasibility studies and selection of medium and minor tank schemes for improvement, rehabilitation, and restoration including preparation of guidelines.
- (ii) Identify data needed for detailed studies and final design, and review all reports prepared by the Irrigation Department (ID), Provincial Irrigation Department (PID), and Mahaweli Authority of Sri Lanka (MASL).
- (iii) Review detailed studies and detailed designs of the irrigation schemes.
- (iv) Review cost estimates and construction programs for the irrigation schemes, giving special emphasis to cost effectiveness.

- (v) Formulate optimal operation and maintenance (O&M) procedures for irrigation schemes for improved water management.
- (vi) Carry out detailed hydrological and water balance studies for selected catchment areas or cascades.
- (vii) Coordinate training programs for staff and for farmers in construction management, system O&M, and water management.
- (viii) Assess the progress of irrigation component implementation and recommend measures to avoid delays.
- (ix) Prepare annual work programs and budgets.

6. Agronomist

- (i) Advise the Project Director on all matters relating to agronomy and agricultural practices during Project implementation, with special emphasis on the introduction of crop diversification in selected irrigation schemes.
- (ii) Work closely with the irrigation engineer and the agricultural economist in the selection and preparation of minor and medium tanks to be included in the Project.
- (iii) Supervise and review the training courses in agricultural matters.
- (iv) Supervise and review all soil and land use investigations needed in connection with the feasibility studies of selected irrigation schemes.
- (v) Assist in the preparation of scheme feasibility reports and the associated surveys, particularly those on the following specific matters: soil limitation (salinity, drainage, crop suitability, etc.), water quality (possible biological and/or chemical contamination), recommendations for farmer adoption of optimal cropping patterns; farm management constraints related to paddy and secondary crop production, and production input requirements; and establishment of demonstration plots and adaptive research at selected sites.

7. Agricultural Economist

- (i) Advise PID, ID, MASL, and the Department of Agrarian Services (DAS) on how to collect through field surveys data needed for economic and financial analyses of the irrigation schemes included in the Project, review and refine the collected data.
- (ii) In consultation with the agronomist, prepare the most suitable cropping patterns for with-Project and without-Project situations.
- (iii) Estimate the economic costs and benefits and their time distribution for each scheme over its life in line with the implementation schedule and the anticipated rates of buildup of agricultural production and benefits;

quantify the direct economic benefits, showing detailed calculation of the net value of crop production under the future with-Project and without-Project situation.

- (iv) Carry out economic analysis of the schemes by computing economic internal rates of return; perform sensitivity analysis of the schemes, considering adverse changes in key factors.
- (v) Prepare a report on the economic and financial analyses for each of the irrigation schemes; and assist PMO in the selection of the irrigation schemes that will be implemented under the Project.
- (vi) Prepare guidelines for use of the staff of PID, ID, and MASL for carrying out economic and financial analyses of minor and medium irrigation schemes.

8. Marketing Specialist

- (i) Coordinate the proposed income-generating activities (IGAs) under the credit component of the Project, including determination of the area to be covered by each participating organization, identification of potential local sources of information on diversification of IGAs and the types of IGAs appropriate to the Project.
- (ii) Identify the types of handicrafts that are being successfully marketed to tourists and develop a marketing strategy for accessing the market for these products.
- (iii) Identify markets within and outside the district for products that can be produced by IGAs.
- (iv) Identify market outlets for the major crops from the Project area and develop linkages to these markets.
- (v) Investigate the potential for the promotion of "outgrower farming systems" similar to those being promoted by the Mahaweli Business Centres.
- (vi) Keep the Project staff informed of changes in market conditions as the process of market liberalization continues (certain crops or products may cease to be viable as competition from imports increases).

9. Rural Credit Specialist

- (i) Assist in the refinement of subloan criteria based on a whole-needs approach to small enterprise credit.
- (ii) Assist in the formulation of proposals for improving credit delivery and collection through participating credit institutions (PCIs) and nongovernment organizations (NGOs).

- (iii) Assist in the refinement of evaluation criteria for subprojects and the development of improved loan processing, supervision, and recovery procedures for PCIs and NGOs.
- (iv) Assist in the organization and supervision of baseline data collection through PCIs, and with the periodic collection of additional data that will allow analysis of subloan impacts.
- (v) Assist in the design, development, and implementation of a PCI performance monitoring system.
- (vi) Formulate an effective and viable credit insurance scheme and other measures and safeguards that will reduce the risks of PCI in providing credit to small sub-borrowers.
- (vii) Identify viable and attractive subprojects that could be financed by PCIs and NGOs.
- (viii) Assist in the implementation of the PCI performance monitoring system throughout the Project period, and provide PMO with regular performance reports.

10. Inland Fisheries Development Specialist

- (i) From results of a study of available documentation and on-site evaluation, draw up a work program to undertake pilot-scale projects in suitable locations in the Project area to investigate the feasibility of measuring the productivity and greater involvement of fisheries cooperatives.
- (ii) Prepare, as appropriate, a suitable design for specific technology for review and finalization before conducting the pilot projects.
- (iii) Propose sites for the pilot projects and prepare designs and specifications to be put in place with due regard to environmental considerations.
- (iv) Propose a sampling of (a) the appropriate environmental parameters, (b) growth and production, and (c) cost and incomes from the pilot projects.
- (v) Analyze and evaluate the results of the pilot projects and propose as appropriate further actions for the Ministry of Fisheries and Aquatic Resources (MFAR) to take.
- (vi) Work closely with MFAR and its officers in NCP in the promotion of inland fisheries in the Project area.

11. Benefit Monitoring and Evaluation Specialist

- (i) Prepare an inventory of the data needed for benchmark, midterm, and post-evaluation surveys. This should be done with respect to the Project

objectives of raising incomes and employment in the rural areas in general and among disadvantaged groups in particular.

- (ii) Collect available published and unpublished agroeconomic and socioeconomic data as required for the Project area at the provincial, district, divisional, village, and household levels from Government departments, research institutions, etc., at the beginning of the Project to form part of the benchmark survey.
- (iii) Identify data gaps and conduct a field survey to collect missing data. The main indicators to be monitored are the extent of the areas irrigated and harvested during maha and yala seasons; use of farm inputs; crop area, yields, and production; farm income; yields and production of fish in selected tanks; number and size of credit provided to the beneficiaries; savings from vehicle operating costs; women's participation in FOs; and cost recovery of O&M costs of tank irrigation schemes and rural roads.
- (iv) Scrutinize the completed questionnaires and process the data.
- (v) Prepare a benchmark survey report by integrating information collected from both primary and secondary sources, and submit the same to the Project Director within six months of the commencement of the assignment.
- (vi) Collect data and submit a report on the midterm evaluation of the Project to be undertaken at the end of three years and at Project completion. The report should evaluate the performance of the Project, analyze reasons for shortfalls if any, and make suitable recommendations.
- (vii) Carry out a survey within three months of Project completion to evaluate the impact of the Project on beneficiaries and utilization of loan proceeds.

12. Sociologist

- (i) Design and implement arrangements to mobilize, organize, register, train, and involve FOs in (a) determining the design and layout of schemes to be improved, (b) participating in and supervising the construction, (c) registering FOs, and (d) coordinating construction activities to ensure that they are properly integrated and synchronized with the activities of FOs.
- (ii) Select, train, and supervise FOs in keeping with the Government AMA program¹ and Govijana Kendra.²
- (iii) Design and implement suitable training programs that will enable FOs to keep system records about the economic activities they undertake.

¹ The AMA program is an integrated participatory process for agricultural development recently operationalized by the Ministry of Agriculture, Lands, and Forestry under the National Agricultural Development Strategy.

² Govijana Kendra are Agrarian Development Councils which replace the Agrarian Services Centers.

- (iv) Refine and finalize the criteria for selecting villages/target groups for Project activities to ensure appropriate poverty targeting.
- (v) Design the detailed social assessments for the final selection of the targeted villages.
- (vi) Review and evaluate the proposals of consultants/institutions/NGOs to be contracted for conducting the detailed social assessments.
- (vii) Coordinate and supervise the village social assessments.
- (viii) Analyze the data obtained through social assessments, ensuring that the final selection of the targeted villages is consistent with the selection criteria.
- (ix) Review and evaluate the proposals of NGOs to be contracted for conducting social mobilization under the Village Advancement Program.
- (x) Facilitate the participatory methodologies of the Project design.
- (xi) Monitor the poverty orientation of the Project.
- (xii) Assist the Project Director with the social aspects of the Project.

E. Reporting

4. The consultants will prepare an inception report, semiannual reports, completion report, and any other reports required by the Government and the Bank, including the preparation of training and workshop materials:

ECONOMIC AND FINANCIAL ANALYSES

1. The objective of this evaluation is to assess the economic viability of the Project and to indicate the increase in farm income resulting from it. Economic evaluation is carried out for minor, medium, and Mahaweli tanks, the credit component; the rehabilitation of class C and D roads and rural roads; and the overall Project. Financial analysis for tank rehabilitation is in the form of farm model analysis that indicates the incremental farm income and labor requirement. A financial cash-flow analysis is carried out for restocking of fish ponds which is taken as a typical subproject for the credit component.

A. Methodology

2. In the economic analysis for tank rehabilitation, crop budgets for the with- and without-project situation are estimated for the three kinds of tanks. The incremental benefits resulting from the yield increases and cropping intensities are taken as the benefit stream for the three components.

3. The stocking of ponds with fingerlings is a typical subproject for the credit component. The incremental economic benefits are derived from the increase in fish catches after stocking with fingerlings.

4. The Bank's *Guidelines for Economic Analysis* (May 1996) has been used in the economic evaluation of roads. In this methodology, the benefits from roads accrue to consumer surplus or producer surplus, or a combination of both. The consumer surplus approach, estimated from the savings in vehicle operating cost, is used for roads that have heavy existing traffic flows and where the traffic flow is expected to increase greatly. In the case of the rural roads or village access roads where traffic flow is light, the producer surplus approach is used. The producer surplus is derived from the increase in net farm income as a result of a decrease in input prices, increase in output prices, and change in cropping pattern because of the accessibility offered by roads. A study in Bangladesh¹ has attributed a 32 percent increase in agricultural output to rural roads.

5. Classes C and D roads have heavy traffic flows at present despite their poor condition, and there are substantial savings in vehicle operating cost for the existing traffic flow. In the absence of projections for future traffic flow, the savings in vehicle operating cost underestimate the benefits of these roads. A proportion of the producer surplus is taken to capture the full economic benefits from these roads. For the rural roads, the benefits are derived from producer surplus only.

B. Assumptions

- (i) Project implementation period is seven years.
- (ii) The Project period is assumed to be 25 years, which is the economic life of the irrigation structures and roads. The subprojects of the credit component are assumed to have an economic life of 10 years.

¹ Ahmed, R. & M. Hossain. 1990. "Development Impact of Rural Roads and Infrastructure in Bangladesh." Research Report 83. Washington: International Food Policy Research Institute.

- (iii) The benefits and costs estimates are in 1996 constant terms.
- (iv) The import parity prices of traded outputs (rice and maize) and inputs (fertilizers) are derived, using the World Bank's commodity price projections¹ adjusted for transport, handling, and processing charges.
- (v) Prices of nontraded outputs and inputs are based on prevailing prices in Anuradhapura and Polonnaruwa. The financial prices of nontraded goods and services are converted to economic prices using the standard conversion factor (SCF) of 0.9.
- (vi) The wage rate of SLRs125 per person-day for the peak agricultural period is used in the crop budgets for estimating production cost. The off-season wage rate of SLRs100 per day is used for construction work. The shadow labor wage is estimated using SCF of 0.9.
- (vii) The cost of tank rehabilitation is based on recent experience in the rehabilitation of tanks. The average cost per hectare (ha) of command area is estimated at SLRs41,000 (\$780) per ha for minor tanks (cascades), SLRs19,000 (\$360) per ha for Mahaweli tanks, and SLRs49,000 (\$930) per ha for medium tanks. The survey and detailed design cost is taken at 12 percent of construction cost.
- (viii) Yields of the main crops are expected to increase with the Project because of improved water availability and distribution as well as the effect of extension and training inputs. The increases in yields are expected to vary with location and soil fertility of the subprojects. Paddy yields are expected to increase by about 10 percent. Yields of other crops cultivated during the yala season are expected to increase by 5 to 30 percent because of the reduced probability of crop failure. This level of increase in yield is considered achievable.
- (ix) Increased availability of water following rehabilitation of the tanks will result in increased cropping intensities as well as changes in cropping patterns. Although returns from high-value crops such as chilies and onions are substantial, farmers are reluctant to put more land to these crops because of the high risks of crop failure during the yala season. It is expected that with the increased availability of water, more of the cropped area will be planted to higher valued crops. The cropping intensities are expected to increase from 93 percent to 135 percent for minor tanks, 105 percent to 145 percent for Mahaweli tanks, and 105 percent to 143 percent for medium tanks. These increases in cropping intensities are considered realistic.
- (x) As farmers take time to adjust their cropping pattern and input levels, the increases in yields and cropping intensities are expected to build up over four years after completion of the construction.

¹ May 1996.

- (xi) Although the credit component is expected to give rise to different subprojects, including cottage industry, livestock, and inland fishery, the stocking of fish ponds with fingerlings is taken as the representative subproject in estimating the benefits of the credit component.
- (xii) Stocking of a pond with fingerlings is assumed to be undertaken as a group activity, with 25 farmers forming a cooperative to stock a 25-ha pond. The fish yield is expected to increase from the present 300 kilograms (kg) per ha to 1,200 kg per ha over a three-year period. It is assumed that the fishermen harvest only once a year.
- (xiii) The cost of road rehabilitation (including survey cost) is estimated at \$30,000 per kilometer (km) for class C and D roads and \$5,000 per km for rural roads. Maintenance cost is taken at SLRs75,000 (\$1,500) per km for class C & D roads and SLRs25,000 (\$500) per km for rural roads.
- (xiv) For class C and D roads, the savings in vehicle operating cost is based on the existing traffic flow comprising 6 buses, 12 trucks, 6 cars, 25 tractors, 50 two-wheeled tractors, 100 motorcycles, and 100 bicycles per day. The producer surplus is estimated using a conservative 15 percent increase in net farm income and a zone of influence extending over 5 km on either side of the road. Only 30 percent of the producer surplus is attributed to road rehabilitation.
- (xv) The producer surplus for rural roads is estimated using a 15 percent increase in net farm income and a zone of influence extending over 3 km on either side of the road. Only 25 percent of the producer surplus is attributed to the roads.

C. Crop Budgets

6. Crop budgets were prepared for paddy, maize, chilies, green gram, cowpea, and onions. The crop budgets are prepared for the different kinds of tanks, i.e., minor, medium, and Mahaweli tanks for both with- and without-project situations, using both financial and economic prices. The crop budgets using financial prices form the basis for farm model analysis, while those using economic prices form the basis for the economic analysis.

7. Currently the most profitable crops are high-value chilies and onions. Both crops have risks of crop failure and are susceptible to drought. Conservative yield levels have been used to average out the yields for good years and drought years. The next most profitable crop is paddy.

D. Financial Evaluation

8. Financial analysis in the form of farm model analysis is carried out for typical farms in the command areas of minor, medium, and Mahaweli tanks. Financial analysis is also carried out for a typical cooperative stocking a 25-ha pond with fingerlings.

1. Rehabilitation of Irrigation Schemes

9. Farm models are prepared for typical farms in the command areas of minor, medium and Mahaweli tanks. The baseline survey indicates that the average farm size in the

Project area is 0.4 ha. Three farm models representing typical small farms (0.4 ha), medium farms (0.9 ha), and big farms (2.0 ha) are prepared for each type of tank rehabilitated. The actual cropping pattern and cropping intensity will vary according to location and soil fertility. Generally, it is assumed that the small farms will have higher cropping intensities than the medium farms and the medium farms will have a higher cropping intensity than big farms. The small farms are assumed to be more risk-averse, seeking to fulfil the family food requirements and less likely to grow the high-value crops that are also associated with high risks. It is assumed that the Mahaweli tanks will have better probability of retaining water throughout the year and during drought years because they will be able to obtain supplementary water from the Mahaweli Irrigation Scheme. Farms in the command area of these tanks will have higher cropping intensities. In addition, relatively more of the area will be planted to high-value crops such as chilies and onions. Off-farm income and income from livestock are not included in the farm model analysis.

10. The baseline survey in the Project area indicates that the average monthly family income is SLRs2,500 (\$50). Income distribution is uneven, with the poorest 40 percent receiving only 16 percent of income. The survey indicates that NCP has the highest incidence of poverty, with 56,000 families living below the poverty line defined as SLRs1,500 per household per month (\$30 per month) or SLRs18,000 per year (\$360 per year). On this basis, it is estimated that 41 percent of families in Anuradhapura and 34 percent of families in Polonnaruwa are living in poverty. Altogether there are about 56,000 families below the poverty line in NCP.

11. The results of the farm model analysis summarized in Table 1 indicate that all small and medium farms currently have farm incomes below the poverty line. All the big farms have income above the poverty level. With the Project, all farms regardless of size will experience a large increase in farm income ranging from SLRs5,331 (\$106) in small farms to SLRs35,875 (\$717) for big farms as a result of the increase in cropping intensities and yields. In fact, farm income for all farms will almost double when the Project achieves the full benefits after four years. The incremental income increases with farm size, but the increment per hectare decreases with increase in farm size. The Project will raise the farm incomes of medium farms above the poverty line. The small farms will still remain below the poverty line, although at a higher income level. As most of the farms in the Project area are small, the Project is expected to have a significant impact on poverty reduction.

12. The farm models indicate that current annual farm labor requirement ranges from 39 person-days on small farms to 197 person-days on big farms, which is way below the available labor of 520 person-days (2 family members available to work full-time, for 260 days a year). The change in cropping pattern and increase in cropping intensity are expected to increase the farm labor requirement to 59 person-days on small farms to 320 person-days on big farms. However, all farms are expected to be able to meet the increased labor requirement out of family labor and little employment opportunities are expected to be created.

13. The farmers are required to contribute 10 percent toward the cost of tank rehabilitation. Table 1 indicates that farmers' contributions range from SLRs855 (\$17) to SLRs1,851 (\$37) for small farms, SLRs1,923 (\$38) to SLRs4,165 (\$83) for medium farms, and SLRs4,275 (\$85) to SLRs9,256 (\$185) for big farms. The farmers' contribution for rehabilitation of Mahaweli tanks is about half the required contribution for minor and medium tanks because of the lower cost for rehabilitating of Mahaweli tanks. The required contribution is substantial in relation to existing farm income, particularly in the case of small farms. However, farmers are not expected to encounter any problems because the contribution can be in the form of labor which is available in the farm families. In addition, farmers are expected to bear the full cost of

operation and maintenance (O&M) ranging from SLRs600 (\$12) on small farms to SLRs3,000 (\$60) on big farms. Table 1 shows that farmers will have no problems in meeting O&M cost.

2. Rural Credit

14. A cash flow for restocking a fish pond is prepared to illustrate the financial returns from rural credit. In this model, a fishing cooperative comprising 25 fishermen is assumed to borrow SLRs700,000 (\$14,000) for restocking a 25-ha pond with tilapia and for purchase of a boat and fishing gear. The fishermen will contribute equity of SLRs175,000 (\$3,500) toward the total cost. The loan will have an interest rate of 20 percent and a five-year maturity period, including a grace period of two years. The economic life of the subproject is assumed to be 10 years, coinciding with the economic life of the boat.

15. The cash flow indicates that fish production will increase from the current 7,500 kg to 30,000 kg after three years. At peak production, the income of the cooperative will reach SLRs456,750 (\$9,100) from the current SLRs1,000 (\$20). The returns to the fishermen's labor will increase substantially from the present SLRs359 per day (\$7 per day) to SLRs1,000 per day (\$20 per day). The cooperative will need to capitalize the interest during the first year but will be able to service the interest in the second year. The cooperative will be able to complete loan repayment by the fifth year. The venture is financially viable, with a financial rate of return of 34 percent.

E. Project Benefits

16. At full development, the Project is expected to increase production by 12,000 metric tons (t) of paddy, 400 t of maize, 380 t of dried chillies, and 2,600 t of onions. In addition, the Project is also expected to increase the production of other field crops such as green gram (20 t) and cowpea (280 t). As Sri Lanka is deficit in rice, chillies, and onions, the incremental production will reduce the import of these three commodities, resulting in foreign exchange savings of SLRs161 million (\$3.2 million) per annum.

17. The Project is expected to give rise to substantial employment opportunities. During the construction period, the rehabilitation of tanks and roads is expected to generate 5,500 person-years in employment. An additional 210 person-years of employment is expected to be created for construction of staff housing and other buildings. This level of employment creation is significant for NCP where unemployment stands at 9.5 percent in Anuradhapura and 13.8 percent in Polonnaruwa. At full development when farmers have adjusted their cropping pattern and intensity, an additional 1,000 person-years will be required annually for farming activities. However, as most farms have excess labor, the additional labor requirement for farm activities is unlikely to create any employment opportunities.

18. In addition, the Project will give rise to social and other benefits that cannot be easily quantified. The rehabilitation of irrigation tanks and formation of farmers' groups or organizations will result in better distribution of irrigation water, and this is expected to benefit the small and poorer farmers. The rehabilitation of roads will improve the accessibility of remote villages, enabling extension and social workers to reach these villages as well as enabling the villagers to gain access to health and other social services. The benefits of the village advancement program include the supply of clean potable water to villagers and better sanitation, leading to improved health, reduced morbidity, and increased workdays.

Table 1: Summary of Farm Models Analysis

	Farm Size (ha)	Cropping Intensity			Net Farm Income			Incremental Income Per Farm (SLRs)	Per ha (SLRs)	Available Labor (person – days)/4	Labor Requirement			Farm Contribution O&M (SLRs)	
		Without Project		With Project	Without Project		With Project				Without Project		With Project		
		(%)	(%)	(%)	(SLRs)	(SLRs)	(SLRs)				(SLRs)	(person – days)	(person – days)		(person – days)
Minor Tanks															
1. Small Farms	0.40	103	145	5,787	11,118	5,331	13,328	520	39	60	1,851	600			
2. Medium Farms	0.90	98	133	12,508	22,885	10,377	11,530	520	85	125	4,165	1,350			
3. Big Farms	2.00	93	128	26,331	49,165	22,834	11,417	520	180	270	9,256	3,000			
Mahaweli Tanks															
1. Small Farms	0.40	106	153	8,215	16,395	8,181	20,452	520	43	71	855	600			
2. Medium Farms	0.90	98	145	17,623	35,818	18,195	20,217	520	93	155	1,923	1,350			
3. Big Farms	2.00	93	135	37,361	73,236	35,875	17,938	520	197	320	4,275	3,000			
Medium Tanks															
1. Small Farms	0.40	107	151	7,223	14,380	7,157	17,892	520	40	59	1,851	600			
2. Medium Farms	0.90	102	141	15,740	31,004	15,264	16,960	520	87	125	4,165	1,350			
3. Big Farms	2.00	97	133	33,333	60,445	27,111	13,556	520	185	270	9,256	3,000			

F. Project Viability

19. Economic evaluation has been carried out to assess the viability of the rehabilitation of minor tanks, Mahaweli tanks, and medium tanks; rehabilitation of class C and D roads; and the credit component. Analysis for the credit component is based on restocking of fish ponds. The economic evaluation of the Project has taken into consideration the cost of institutional support crucial for the successful implementation of the Project. The cost of the village advancement program is excluded from the evaluation because the component gives social benefits in the form of improved health and better quality of life which are not quantifiable in monetary terms.

20. The economic internal rate of return (EIRR) for the components and the overall Project are as follows :

	<u>EIRR (%)</u>
Minor tanks rehabilitation	19
Mahaweli tanks rehabilitation	37
Medium tanks rehabilitation	22
Provision of credit	31
Rehabilitation of C and D roads	23
Rehabilitation of rural roads	27
Project	15

The Project and all the components are economically viable, with EIRR above 10 percent, the opportunity cost of capital. The rehabilitation of Mahaweli tanks has the highest viability, followed by the credit component. The rehabilitation of minor tanks is the least attractive economically.

G. Sensitivity Analysis

21. Sensitivity analysis has been carried out to indicate the resilience of the Project under adverse conditions. The analysis considered increase in Project cost and decrease in Project benefits (as a result of decreases in output prices and delay in realization of Project benefits). Sensitivity indicators are calculated to show the extent to which changes in these parameters affect the viability of the Project. The results are summarized in Table 2.

22. The sensitivity indicators show that the components are generally more sensitive to decreases in Project benefits than to cost overruns. Delays in benefit realization will reduce the EIRR significantly. Nevertheless, the EIRRs remain above 10 percent, indicating the viability of the components under adverse conditions.

23. Sensitivity analysis indicates that the Project is sensitive to both cost overruns and decreases in benefits, however, it is more sensitive to decreases in benefits than to cost overruns. A one-year delay in realization of benefits will reduce the EIRR substantially, but the EIRR remains above 10 percent. A two-year delay in benefit realization, however, will bring the EIRR down to about 10 percent, the cutoff point for projects.

Table 2: Project Sensitivity Analysis

Component	Base Cost EIRR (%)	Benefits Decrease (10%)		Cost Increase (10%)		Both Benefits Decrease and Cost Increase	Delay in Benefits	
		EIRR	Sensitivity Indicator	EIRR	Sensitivity Indicator		1 yr	2 yr
1. Minor Tanks	19	14	2.33	17	0.97	13	16	14
2. Mahaweli Tanks	37	26	2.95	34	0.82	24	29	24
3. Medium Tanks	22	17	2.28	20	0.89	15	18	16
4. Provision of Credit	31	25	2.06	25	1.86	19	20	13
5. Roads								
a. C and D Roads	23	21	0.95	21	0.86	19	19	17
b. Rural Roads	27	25	0.85	25	0.77	23	23	19
Project	15	13	1.64	13	1.01	11	12	10

24. Sensitivity analysis indicates that the Project is resilient in the face of adverse conditions such as cost increases and benefit decreases. However, the Project is vulnerable to delays in benefits, with a two-year delay being sufficient to render the Project marginally viable.

25. Switching values are calculated to indicate the percentage of cost increases or benefit decreases required to bring the Project EIRR down to 10 percent. The switching values presented in Table 3 indicate that the Project can sustain a 42 percent increase in cost before it becomes economically nonviable. A 28 percent decrease in benefits is sufficient to render the Project nonviable. Switching values analysis confirms the results of the sensitivity analysis - that the Project is more sensitive to decreases in benefits than to cost overruns.

Table 3: Switching Values

Component	Percent Increase in Cost	Percent Decrease in Benefits
Minor Tanks Rehabilitation	60	19
Mahaweli Tanks Rehabilitation	200	25
Medium Tanks Rehabilitation	90	22
Provision of Credit	43	27
Rehabilitation of C and D Roads	100	40
Rehabilitation of Rural Roads	140	58
Overall Project	42	28