

RURAL INDUSTRIALIZATION IN ASIA : SRI LANKA

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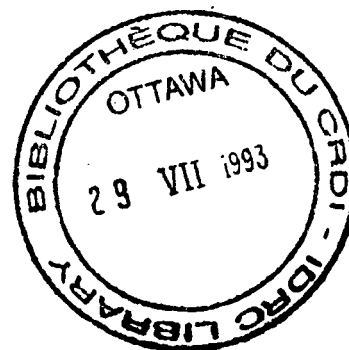
International Development Research Centre, Canada

and

Mahaweli Authority of Sri Lanka

October 1991

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338.6(548.7-22)

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ACKNOWLEDGEMENTS

We would like to place on record our sincere appreciation to the International Development Research Centre (IDRC), Canada and to the Mahaweli Authority of Sri Lanka (MASL) for accepting our proposal and providing the necessary funding to undertake this Study.

We especially appreciate the keen interest, support and encouragement extended to us by Dr. Randy Spence of IDRC, Singapore.

The assistance and advise given to us by Prof. R. Shand is also acknowledged and deeply appreciated.

Our sincere gratitude and thanks are extended to Ms. Indrani Wijesinghe, our Research Assistant and to Ms. Yvonne Dias, Secretary to the Study. There were many others who contributed in many different ways, including our enthusiastic Field Investigators, who cannot be mentioned individually. It is necessary to state that without their unstinted co-operation this Study would not have been possible.

We are also grateful to the officials attached to the Planning and Monitoring Unit of the MASL in extending their fullest co-operation in completing various activities scheduled under this Study.

Finally, we wish to extend our sincere appreciation to Ms. Jennifer Fox, Ms. Rohanthi Perera and Ms. Harshini Rodrigo for their support and co-operation in the preparation of the Final Report of this Study.

INTRODUCTION

1.1. Rural Industrialization and Non-farm Employment

Rural non-farm employment can broadly be defined as all employment that is generated and sustained beyond the production of crops and trees and raising of livestock in the farms and homesteads. Thus, any non-agricultural activity or activities undertaken in the farm household or employment in any activity outside the farm can be taken as non-farm employment. These activities generally comprise of the provision of consumer, non-durable and durable goods and services for the local market, processing and production of agricultural outputs, transport, distribution and trading activities, rendering of public services and manufacture of goods for the internal and external markets. These may include selling of labour in the local market, seasonal migration or circulation for the sale of labour.

However, all these activities are not synonymous with rural industrialization. Rural Industrialization include all other non-agricultural industries in rural areas. The term rural is confined to all areas outside urban regions. Urban areas are administratively defined in the Sri Lankan context. Thus rural regions include not only villages but small towns, market centres and suburbs that are not defined as urban and are interspersed within the village and estates of Sri Lanka.

Since rural industrialization is being considered as a vehicle for the generation of employment and income for the rural masses, rural industrialization cannot be strictly confined to rural areas, as many people who physically live in rural areas commute to urban regions for non-agricultural employment.

In colonial times rural industrialization was considered to be synonymous with cottage industries and micro-enterprises found in the villages. In the present context rural industries include all activities within rural regions other than agricultural activities and cover all types, sizes, technologies, labour and capital intensities. Thus, self-employment through micro, small, medium and large scale enterprises found in rural areas are a part of the process of rural industrialization though they may not have any direct linkages with agricultural or the rural economy.

Our study area i.e. the region coming under the Mahaweli Authority of Sri Lanka, is rural and has over 80 per cent of the population engaged in agricultural activities. Small towns and market centres are unevenly dispersed within 10 to 15 miles. However, the Mahaweli region is a special case, since the land is equally distributed among the settlers each receiving 2½ acres of lowland and ½ acre of homestead or highland. Thus the base for equal distribution was laid during the time of first settlement. Therefore rural industrialization in the context of the Mahaweli region should mean increasing diversification of the rural economy through multiplier and linkage effects of a high productivity agricultural system.

This includes the generation of a host of agro-based processing industries, introduction of better technology, promotion of entrepreneurship, attraction of capital for investment in non-agricultural activities including export industries. The process has to encompass the local market at the outset and integrate with the local and international markets with increase in the level of income and higher saving ratios.

1.2. The Role of Rural Industries in Employment and Income Generation

Rural industries and non-farm employment existed at a basic level in many South Asian countries for a long time. In the Sri Lankan context, textile and handloom industry has existed as a cottage industry even in the Vijayan times. However, farming remained the main occupation of the people and any

industry that existed was either related to farming activities (mainly agricultural implements, textiles etc) or to martial or war activities.

However, the caste system segmented the population and limited the number of entrepreneurs by their caste origin, except for farming which was available to everybody. Full time non-farming activities were limited by the numerical strength and distribution of the castes. Nevertheless, part time non-farming activities were fairly common especially after the coming of the Europeans.

Long term trends did make part time non-farming more popular. The first was, the increase of population and the scarcity of available land especially after the eradication of Malaria. The second major force was, the long time decrease in agricultural profits especially with the escalation of cost of production. The third was, the increase in income of a substantial part of the population and demand for non-agricultural goods and services. Finally, the younger generation of people preferred non-agricultural employment as against farm work.

The result was the increase in part time farming and growth of non-agricultural production of goods and services. This has taken various forms, such as the expansion of public sector employment, military services, casual labour and migration abroad. Those who have taken to non-farm activities are two types:

- (a) the majority who have adopted it as a survival strategy and get a wage which is equal or less than agricultural wage and,
- (b) those who have taken to it through strength and are earning higher wages than from agriculture

There are strong reasons why rural industrialization should be promoted in Sri Lanka. One is the fact that many South East Asian countries have successfully developed rural non-farm activities which have helped to reduce rural-urban inequality as well as intra distributional inequality of income.

The second major reason is the growing unemployment in the rural regions, together with scarcity of land and changing aspiration of youth preferences on employment.

The third is to make employment available in the villages to female labour who are less mobile and decrease urbanward migration. This is specially the case in Sri Lanka as a decrease in welfare measures may induce urbanward migration in the long run.

Finally to maximize exploitation of resources available in rural areas to satisfy the local demand for goods and services that arise from increase in family income.

1.3. Rural Industrialization : General Overview & Trends

The combined factory based small scale sector and the rural cum informal sector is important both in terms of employment generation and value added in manufacturing. The 1982 industrial census showed that, of the 10,3846 units listed, 99% belonged to the category of less than 50 persons employed.

Within these units, food processing is by far the most dominant activity accounting for nearly 1/3 of the enterprises. Textiles, wearing apparel and leather follow with over 20%. The other important groups accounting approximately more or less around 10% are non-metallic mineral products, chemical, rubber, plastic products and wood and wood products.

In Sri Lanka, ARTEP 1986 showed that in rural regions, 24% of the industrial units lacked both water and electricity and 31% has access to water only and 88% to electricity only. However in 1977 only 14% had access to both facilities compared to 30% in the ARTEP 1986 survey.

Rural small enterprises are home-based with two thirds operating in residential units while only 27% of the semi-urban units were in residential units. Almost 90% of the rural units are owned fully or partly by the people who are engaged in them. One quarter of the rural units estimated the value of their investment in fixed capital excluding land and buildings to be less than Rs. 1,000/-, and almost three quarters of the units have the capital investment of less than Rs. 10,000/-. The sub-urban has 28.7% with values of over Rs. 1,000/-The value added of less than Rs. 10,000 per year is reported in a number of enterprises and value added varies with different enterprises. Low averages are reported mostly for more traditional activities such as coir, pottery and musical instruments. On the higher end of the scale are food processing, light engineering, furniture, tiles and bricks manufacturing. The incidence of hired labour (43%) is lower than the semi-urban (77%) regions. Female employment is 38% in the semi-urban sector compared to 28.% in the rural sector. They are more in part-time and casual categories of the workforce and dominate in pottery, coir and food processing industries.

Generally the workforce is more skilled in plastic, light engineering, pottery, furniture, garment and coir industries while unskilled labour is more dominant in food processing, tiles and bricks manufacturing. Over 85% of the skills development is from non-formal channels such as from friends, relatives or as on-the-job trainees. The level of schooling is 6 years. One of the revealing facts is that the level of education is generally higher among the unpaid workers than among the paid workers at all levels of skill.

It is sometimes suggested that small industries are a gradually disappearing phenomenon in the process of industrialization. In the rural sector 54.3 percent were in existence for over 10 years while the

total number of enterprises that was established during the preceding years was 2.7 percent. When comparing 1977 and 1986, a few revealing observations can be made. It is seen that the rural sector displayed somewhat more dynamism in 1977 than in 1986. The percentage of newly established industries in 1977 was 10.6% as compared to 2.7% in 1986. The growth momentum which the sector possessed before 1977 thus appeared to have slowed down. The 1977 report lists wood, leather, bricks, tiles, cement, personal services and chemicals as the sectors which have grown rapidly while in 1987 only plastics, bricks and tiles sectors have established new enterprises. In the semi-urban sector only garments have had a high establishment rate. It can be said that the modern activities which were the most dynamic in 1977 still exhibit a faster growth than other sectors. None of the traditional activities such as coir, pottery, brassware and crafts have attracted new enterprises. The growth pattern of employment is better in terms of creation of new employment and may be comparatively larger than old units. The explanation of this phenomenon is two fold.

1. More recently created employment is in the categories of activity which have higher than average unit size such as furniture, bricks, tiles and garments.
2. Secondly, there are traditional sectors in which a tendency towards operation on a larger scale can be observed on namely coir and brassware.

The pattern of employment growth in the semi-urban sector is different from the rural trend. The average size of business increases with age for all categories of employment reflecting growth of the existing enterprises. At the same time one can observe the absence of any substantial new employment through the creation of new establishments. The rural sector shows signs of new growth and the semi-urban sector an enlargement of existing industries. In terms of growth, 49% of rural and 46% of semi-urban reported an increase of sales, while half of the enterprises reported stagnant sale. Among the growth industries were food processing, plastics, light engineering, furniture, garments, brick and tiles. Only 9% of the rural and 19% of the semi-urban registered an increase of

the workforce during last 3 years. Further, in small industries employment seems to be inelastic in respect of the changes in sales.

The rural survey ARTEP 1986 reveals a clear trend suggesting that the performance increases with increasing of size. The demand for food does not depend on size of enterprise suggesting that different size groups of units cater to different types of customers or markets.

Since 1977 economic liberalization has been predominant in Sri Lanka. The main findings of the 1986 report was that small industries have failed to take advantage of the opportunities opened up by the liberalization in many cases. First, it was agreed that the import of raw material and capital equipment which eased the supply constraint helped the larger than small scale industries, who had to depend on intermediation of traders. Secondly, small firms were unable to respond to the pressure of competition for a number of reasons, especially the upgrading of technology. Thirdly, overall shift to export industry did not take place and sub-contracting to larger firms did not materialize and industries that lead in export garments and petroleum had very little backward linkage. Fourthly, higher interest rates turned out to be harmful for small industries.

Among the rural industries hit hard were handloom, pottery, treacle and jaggery making. However a positive impact was found on rice milling, handicraft, carpentry, bricks and tiles. ARTEP (1987) report states that only 4% reported increased competition from abroad while 16% reported increased competition from domestic scale products.

1.4. Impact on Rural Industries

By far the most severely effected by the reforms is the handloom industry. The number of looms decreased from 111,000 to 15,000 after liberalization. The people classified as weavers increased to 60,000 during the early 70's. Besides handloom, Beedi manufacturing and agro-based industries such

as jaggery are declining due to low profitability and competition from imported goods. Another product that has been declining is pottery which is being replaced by aluminum products.

However, rice milling has grown with the import of machinery and equipment. Another area of rural industries which has made progress is in construction related tile and brick industries and furniture. The number of carpenters increased from 50,000 to 89,000 in 1981.

It should be noted that small industries benefitted less than large industries. Small industries in particular hardly benefitted from the expansion of textile, garment, rubber or chemical industries. In fact the share of small industries in manufacturing value added has declined over time, and there has been a price decline as in pottery and handloom. Progress in wood, bakery products, handicrafts and some agro-industries is seen after liberalization through import of capital, equipment, raw material or export orientation.

Another feature is the re-employment of labour away from the rural areas towards the semi-urban free trade zones. Further, overall industrial employment has declined (Islam, 1987), although the organized part of the sector now provides greater employment than before 1977. The total industrial employment has declined (Islam, 1987). In the organized sector, employment increased substantially in textile, garment, and non-metallic mineral industries. Employment has increased in trade and construction. Finally, some of the major industries are foreign owned and only part of the value added is retained.

In the case of non-farm activities and employment, Senanayake (1987) states that the agricultural production base as existing at present offer only limited non-farm employment opportunities in terms of forward linkages. Production of non-food grain commodities and agricultural raw materials is at very low levels leading to excess capacity even in the agro-based industries so far established. The production organization in the plantation sector, preoccupied with specialization in mono-cropping

does not play a catalytic role in this respect. The role that was played by State Plantations in diversification is marginal and lagged much behind their competitors abroad in terms of yields obtained and processing technologies used. Even in paddy production where a break through did take place, the increase in production did not have a multiplier effect on other sectors of the domestic economy because of the inability of the consumption goods manufacturing sector to supply consumer goods of acceptable quality and prices. Here again employment generated was in trade, personnel services, repairs and construction activities.

The value of industrial production rose from Rs. 8,852 million in 1987 to Rs. 54,063 million in 1988. Value of industrial exports rose from Rs. 1,891 million in 1971 to Rs. 22,674 million in 1988.

Although the response to economic liberalization was positive with higher capacity utilization and growth in years immediately following 1977, the rate of growth has shown to decline from 1979. Yet another feature was that the bulk of export products such as garments, petroleum, textiles and diamonds are industries in which the raw materials are imported. Therefore their value added is marginal, and the share of manufacturing in GDP actually declined from 14.6% in 1977 to 13.9% in 1984.

1.5. A Review of Literature of the Mahaweli Settlements

An analysis of the conditions prevailing in the Mahaweli Settlements indicates very significant characteristics relevant to rural industrialization. A study (Abeysekera and Hanneson, 1986) of System H revealed that population density increased from 60 to 225 per sq. km while household size declined from 5.9 to 4.7 during 1970 to 1986 period. Agriculture was the chief occupation with 78.5% gainfully employed, while production/transport involved 7.4%. Sales and services together covered 7.2%. In 1971, 7% were outside agriculture whereas in 1986, 22% were identified as being in non-agriculture activities. In 1986, 25% of the gainfully employed indicated secondary occupations.

However, most of the secondary employment was in agriculture and livestock related activities. In 1986 the gross income of Mahaweli H was around Rs. 39,000/- while that of the non-Mahaweli was of Rs. 27,000/- with better income distribution among the Mahaweli. The expenditure on food was about Rs. 12,000 and Rs. 9,000 for non-Mahaweli in 1986. When comparing 1974 and 1986 of a section of System H, one finds that cement floors increased from 13.6% to 22.4% and tile roofs from 11.9% to 12%. The number of males over 14 who owns a bicycle increased from 1:5.3 in 1974 to 1:2.4 in 1976 in System H.

Generally between 3,000 to 6,000 hrs of work per year is devoted to work in the irrigated farms depending of the amount of land cultivated. All members of the family contribute to irrigated farm labour. Where more than one adult male is found in the household, the contribution of sons is greater than that of the household chief. Secondly, female labour mainly enters in the case of specialized farming operation. Irrespective of the size of the plot and size and composition of the family, all members in the sample hired labour and offered their services on hire during field operation period.

About 700 to 1,400 hrs of labour per year is utilized in the homestead and about 1,500 to 4,500 hrs utilized at household work. Although labour comes from all family members, the housewife does most of the work. The time spent on travel and transport varied from 280 to 6,500 hrs, leisure time varied from 300 to 400 hrs and seemed to be related to socio-economic status.

1.6. Major Issues Arising from the Literature

Non-farm employment and rural industrialization have received increasing attention among Sri Lankan researchers in the 1980's (see Selected Bibliography). This reflects a concern among planners, policy makers and researchers about growing unemployment and increasing poverty in the rural sector in spite of rural led agriculture based development strategies adopted by successive governments in the post independence era. Some major points emerging from this literature are listed below in summary form.

1. This rural led, agriculture based growth strategy was consistent with the sectoral composition of the economy (GDP) and population, domestic resource endowments and perhaps comparative advantage internationally.
2. Successive governments adopted a wide range of policies geared towards industrialization (both urban and rural) but with relatively low impact on the sectoral composition of the GDP and employment.
3. By contrast the agriculture policy was more consistent over time and was successful in the generation of a high level of output (i.e. self sufficiency in some of the basic agricultural products) and labour absorption.
4. In spite of this increased output and labour absorption, rural unemployment and low farmer income levels in general are on the increase. In the irrigated land settlement schemes, the settlers are better off compared to their pre-project existence, yet a significant self sustained growth has not been experienced in these areas and as such farm incomes stagnate. Employment is not available for the second and third generations of the original settlers.
5. A variety of explanations are offered for such disappointing performance. Among them, the following are the most interesting.
 - Profits and surpluses realized at farm level are low due to increasing costs of production and stagnating commodity prices;
 - New technologies, particularly for rice have few forward linkages, while much of the backward linkages benefit areas outside the rural sector (often foreign developed countries)

- Due to the above reasons, re-investment in the rural sector is low, hence the lack of a self-sustained growth.
6. The country is already nearing the limits to the development of water resources and the expansion of the area cultivated.
 7. Even the highest conceivable rate of growth in the industrial sector (urban), cannot make a significant impact on the employment and poverty due to its relatively small contribution to the GDP as at present. Further, bias of the present technology towards capital has reduced its labour absorption capacity.
 8. In the earliest land settlement schemes (dating back to 1930's) the present ratio of off-farm jobs to farm employment is very high (more than 1.1). However this has taken a long time to materialize. This natural rate of non-farm employment and income generation is too low, relative to the annual addition to the labour force in the country and increasing incidence of poverty.
 9. The egalitarian land ownership and income distribution pattern in land settlement schemes coupled with the high intensity of social and physical infrastructure makes such settlements better growth centres than other traditionally evolved rural communities.
 10. Further, the non-farm activities in these settlements are predominantly service based such as trade, transport etc. ,with little local value added and requiring little capital investment within the area. Hence, resulting growth impulses are of low intensity.
 11. There is a general consensus on the need for state intervention in rural industrialization and non-farm employment generation. However, the manner of intervention (whether direct or indirect) is controversial. Some advocate a limited role for the state, i.e. getting the

prices right and attending to market imperfections and distortions. Others call for direct intervention in investment etc.

In general, the extant literature deals with broad macro issues related to off-farm employment and rural industrialization with a strong academic bias, and is therefore of limited value for strong implementation purposes. In particular, the types of industries/activities consistent with the resource endowments of rural areas, their formation and management, and the optimum package of government intervention in their promotion are issues which need to be resolved.

1.7. Definition of the Problem

The development of land and water resources of the nation for intensive agriculture and new land settlement has been a major economic development strategy in Sri Lanka. The Mahaweli Development Project is the largest of such projects and has been identified as a "lead project" in the post 1977 era. This project is aimed at the development of some 900,000 acres of land and the new settlement of more than 200,000 families for intensive agriculture in small holdings. While employment creation and increased agricultural production were the direct benefits of the irrigation component of the project in the short run, the indirect effects were expected to be substantial in terms of increased farm incomes, regional development as well as the contribution to the national economy. The generation of 540 MW of hydro power was the other objective but this is a marginal interest in the research proposal outlined below.

Human settlement under this project commenced in mid 1970's and currently the number of farmer families settled is in excess of 55,000. These settlers depend on irrigated agriculture with new high yielding varieties of crops for their livelihood. Although the crop yields are high, the farm incomes of these settlers are lower than expected due to their small farm size (1.2 hectare each) and the rising costs of production. This has adverse implication on future prospects for the establishment of a self-

sustained development process in the area. Furthermore, direct employment opportunities in agriculture are insufficient to accommodate the second generation of the current settlers with cultivable land being the major limiting factor. The problems of low farm incomes and the resulting relatively low savings and investments to spark off a self sustaining growth process together with the problem of accommodating a large second generation has created concern among all levels of project management. As a result a programme for Employment, Investment and Enterprise Development (EIED) within Mahaweli Areas, was initiated in 1986 in order to increase the incomes of settlers through diversified agriculture and off-farm economic activities in newly developed areas, and to provide employment for the second generation of settlers, thus facilitating a broad based development of these areas. The commencement of this programme reflects the current view that agriculture alone cannot yield rural development. Off-farm sources are becoming increasingly important sources of rural incomes and the natural growth (in the absence of government intervention) of such sources is too slow.

To date neither within the Mahaweli Project nor elsewhere in the country is there any clear understanding of the forms of government intervention required and types of activities to be promoted to enhance rural household employment and income levels.

1.8. Relevance of the Problems

It should be noted at the very outset that these problems are not special to Mahaweli Project areas, rather they are common to the entire rural sector of the Sri Lankan economy. What is special about the concern about the Mahaweli Project is that it represents a massive development effort both in terms of the extent of deliberation in planning as well as in the implementation. At the peak of the construction period (1979-1985), the project accounted for about 30% of the public investment, 4% of GDP, 10% of the total imports and 18% of the export earnings of the country. Up to the end of 1990 over Rs. 50,000 million has been invested in this project. Thus the project represents a major national asset and a large "sunk cost".

In addition, the project area represents the most advanced rural community in the nation in terms of physical infra-structure such as roads, irrigation systems, power supply and telecommunications as well as social infra-structure such as schools, hospitals etc., together with a well structured and organized management system. Thus the Mahaweli Project area represents an ideal pilot project area for experiments to be carried out and then replicated elsewhere. Given the sheer size of the problem at national level, and the scarcity of resources, a phasing of a national programme is essential. Further, if the creation of off-farm employment and the promotion of rural industrialization programme in the Mahaweli Area is successful in addition to the agriculture, then these areas can be truly expected to perform as regional growth centres.

1.9. Research Objectives

In general, the proposed research programme will enhance the understanding of the nature of the problem, explore means for the alleviation of it and recommend specific courses of action to the relevant authorities.

Following are the specific objectives of the research.

1. Determine activities (production of goods and services) consistent with:

- a) rural resource base including land, labour, capital and entrepreneurship, and
- b) local, national and international demand for goods and services in a manner that will generate high local (project area) value added with significant labour absorption and promote re-investment of surplus within the area for a self-sustained growth in the future.

2. Identify constraints to the adoption of activities which satisfy the conditions outlined above.

3. Learn from the experience of rural industrialization and the development of rural non-farm economic activities in the South and South-East Asia Region.
4. Finally, generate specific recommendations to the Mahaweli Authority of Sri Lanka for the effective implementation of EIED activities.

1.10. Research Methods

The focus of the proposed research programme is the development of practical solutions to the current problems of rural unemployment and low household incomes in the Mahaweli areas.

In this study, available secondary data sources will be utilized to the maximum. However, the initial literature search and data exploration have shown that primary data collection will be necessary in certain areas in order to achieve the stated objectives of this research.

These primary data collection activities will involve :

- a) A study of the various types of non-farm employment activities in the area with special focus on linkages and multiplier effects within the project area and outside. This will be based on a survey of a representative sample of 100 activities/enterprises. This analysis will attempt to quantify the multiplier effects for representative activities while depicting the flow of these by diagrams;
- b) A consumer finance survey of 100 representative households in the project area over a period of 12 months. This activity will provide information on household income levels, their distribution, consumption pattern and income elasticities of demand;
- c) A summary of constraints operating in the area in relation to the expansion of non-farm activities.

This survey will cover the following;

- 50 key informants such as officials, NGO representatives, etc.
- 100 small, medium and large scale entrepreneurs
- 100 individuals who have received entrepreneurship training at least 3 months prior to the date of interview and some who have experienced failures in their ventures.

The important sources of secondary data are :

- i) The census of Mahaweli Systems H and C taken by the Planning and Monitoring Unit of MASL (1986) for demographic data;
- ii) The listing of all non-farm activities being currently prepared by field level officers responsible for enterprise development;
- iii) National consumer finance survey data, publications of the Sri Lanka Business Development Centre, Sri Lanka Export Development Board, Ministry of Rural Industrial Development etc. and
- iv) Data on physical and rural resources in the project area maintained by the Planning and Monitoring Unit.

STUDY AREA, RESOURCES AND PRESENT STATUS

2.1. The Accelerated Mahaweli Development Project

Sri Lanka in the latter half of the 1970's presented a sad spectacle of a stagnant economy, a distressingly low growth rate of 1.3% per annum, an unemployment figure of over a million and marginal growth rates in agricultural and industrial production. Importation of food and food products accounted for over a third of the foreign exchange earnings. Shortages of essentials and severe cutbacks on industrial and other investments were created both by the shortage of foreign exchange and the unrealistic exchange rates. Existing industries were starved of essential raw materials and infrastructure facilities deteriorated severely.

Basic food items were in short supply, domestic, urban and rural industries were crippled by regular power cuts, educated unemployed youth stood in queues outside the employment exchange and massive landlessness became the order of the day. This indeed presented a depressing scenario of frustration and hopelessness.

In an attempt to retrieve the nation from this disastrous plight, the new government which came into power in 1977 adopted a number of remedial measures. While liberalizing the economy the government embarked on an ambitious programme of development. Some of the specific measures taken by the government in this attempt were - the unification of the dual rate of exchange that prevailed and devaluation to a more realistic level, liberalization of imports, abolition of price controls, provision of adequate support prices for agricultural products, reduction or elimination of the monopoly of the public sector and the reduction of consumption subsidies. In the new development programme of the government high priority was given to the Mahaweli Ganga Development Project.

The Mahaweli Development Programme proposes to harness the waters of the Mahaweli Ganga, (River) the longest river in Sri Lanka. It starts in the central highlands and flows across the Dry Zone of Sri Lanka, where most of the land for agricultural development lies but experiences inadequate and unreliable rainfall for large scale development of agriculture. The innumerable reservoirs of varying size and the extensive network of irrigation canals constructed during the early period of Sri Lanka's history bear witness to the recognition of this constraint by Sri Lanka's early rulers. In this context tapping the waters of Mahaweli Ganga for irrigation appeared to have been recognized as an ideal solution by these rulers.

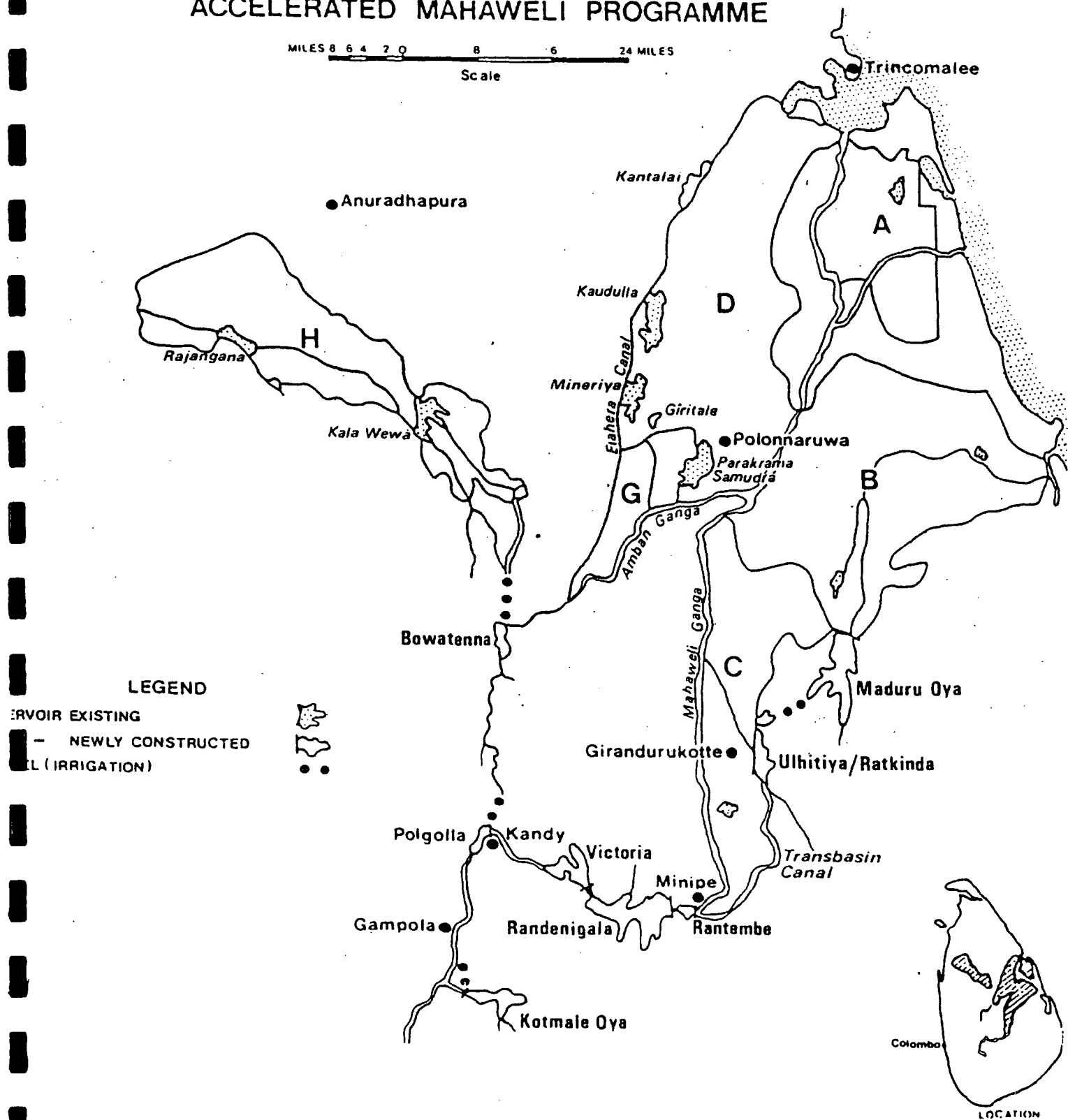
It is therefore not surprising that the Mahaweli Ganga obviously attracted the attention of the modern day scientists and policy makers as a viable source of water to be tapped to irrigate the Dry Zone. In the early 1950's the Irrigation Department studied the feasibility of utilizing the water of the Mahaweli Ganga for this purpose. This was followed by a more indepth study (1958-1962) by the United States Operations Mission. A feasibility study was done by a UNDP/FAO/Sri Lankan Team in the period 1964 - 1968 on the possibility of developing approximately 360,000 hectares of land using the water resources of the Mahaweli Ganga, its tributaries and the adjacent rivers. Under the proposed development programme 15 reservoirs were to be constructed, 11 of which were to be multi-purpose projects. The installed capacity of the proposed power stations was to be 508 MW.

Under the Mahaweli Master Plan, the development of the land and water resources of the Mahaweli Ganga was phased out to be implemented over a thirty year period. In 1977, however with the decision to accelerate, the implementation of the major part of the programme was telescoped to a relatively short period of six years.

The Accelerated Mahaweli Development Programme was specifically undertaken with three main objectives: the creation of greater employment opportunities, increasing crop production and the generation of hydro power.

ACCELERATED MAHAWELI PROGRAMME

MILES 8 6 4 2 0 8 6 24 MILES
Scale



The project envisaged the development of about 250,000 hectares of irrigable land. It was estimated that each hectare opened for double cropping would provide approximately 3 units of labour directly and a further 2 units in agricultural support activities, such as tractor operation, maintenance and repairs, agro-industries, transportation and marketing of agricultural products.

The government also anticipated a significant increase in crop production, which in turn would enable import substitution of commodities such as rice, wheat flour, sugar, cotton and other food crops and the export of some of these commodities.

Further, the Accelerated Mahaweli Development Programme was to generate over 450 MW of power between 1984 and 1987.

However, in spite of the desire, enthusiasm and commitment, the government found itself up against heavy obstacles. On the one hand there was domestically, a lack of massive financial backup, manpower management skills and equipment stared in its face, and on the other, critics and agents of doom dismissed it as a suicidal project. Nevertheless, in the face of such massive odds the government decided to forge ahead.

In spite of all the criticism and cynicism, the Accelerated Mahaweli Development Programme was successful in capturing the attention of international donors to such an extent that the actual cost of the programme to the domestic economy is significantly less than the total cost incurred. About 60 percent of the total cost was met by foreign sources, half of that amount being received in the form of outright grants.

The major components of the Accelerated Mahaweli Development Programme are firstly, the headworks projects of Kotmale, Victoria, Maduru Oya, Randenigala and Rantembe, secondly, downstream engineering works and thirdly, settlement and agricultural production.

All the headworks projects of the Programme have been satisfactorily completed and are in operation. The Kotmale Hydro-Power Project provides regulation of the water flow at the upstream part of the Mahaweli. Financial assistance for the project has been provided by the Government of Sweden. The project work commenced in February 1979 and includes the construction of a reservoir with storage capacity of 174 million cubic metres, 4½ mile tunnel leading to an underground power station with an installed capacity of 3 units of 67 MW each. Commercial power generation commenced in June 1985.

The Victoria Project which was inaugurated in March 1980 consists of a reservoir with a storage capacity of 722 million cubic metres and a power station with a capacity to generate 210 MW of power. The Project was financed by the Government of the United Kingdom and was commissioned in April 1985. Specifically the new programme was launched with four goals in focus :

1. to increase per capita income of the Mahaweli settlers.
2. to increase off-farm employment opportunities
3. to increase private investment, and
4. to accelerate the rate of archeological changes in the Mahaweli areas

There were other factors which influenced and motivated the launching of this programme.

The Randenigala Project which is situated downstream of the Victoria Reservoir will regulate the discharges from the Victoria Reservoir for power generation. This is the largest reservoir in the Mahaweli System with a storage capacity of 860 million cubic metres. The power station has an installed capacity of 122 MW. Work on the Project was completed in 1986 and financial assistance was provided by the Government of the Federal Republic of Germany.

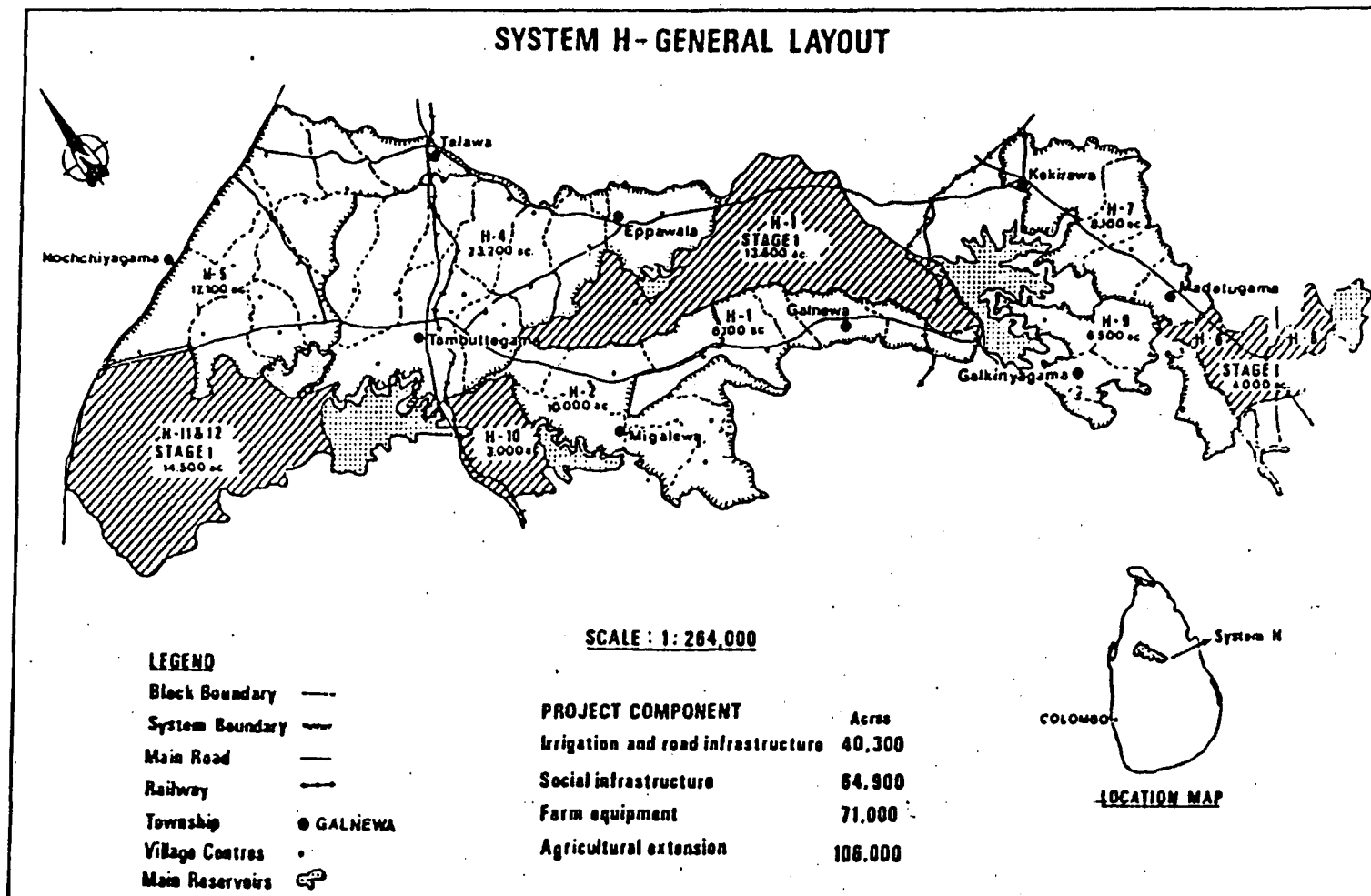
The Rantembe Project located immediately below the Randenigala Project serves as an after bay regulation of waters released from the Randenigala Project and for regulation of the water resources of the Uma Oya (Stream). The power house has the capacity to generate 55.2 MW of power and was completed in 1989. This project too was funded by the Government of the Federal Republic of Germany.

The Maduru Oya reservoir located on the eastern side of the Mahaweli Ganga will regulate the water resources of its own catchment and is augmented by the water of the Mahaweli Ganga conveyed by the Minipe Right Bank Transbasin Canal and the link tunnel to irrigate approximately 36,000 hectares in System B. The storage capacity of the reservoir is 555 million cubic metres. The project was financed by the Government of Canada and was completed in July 1983.

The annual water issues from the above reservoirs irrigate approximately 130,000 hectares of land. Transbasin diversions and conveyance canals from headworks to major tanks serves the downstream areas and irrigation systems served by main, branch, distributory and field canals carrying water to the newly opened lands.

The two main diversions are located at Polgolla and Minipe. At Polgolla, Mahaweli water is diverted to the Amban Ganga and from Bowatenna to Kala Wewa (Lake) to irrigate System "H". Amban Ganga water diverted at Elahera is also used to provide water to irrigate System "G". At Minipe, Mahaweli water is diverted through a 31 kilometer Right Bank Transbasin Canal to Ulhitiya - Ratkinda reservoirs to irrigate System "C" and to Maduru Oya reservoir through a 5.6 kilometer link tunnel to provide irrigation water to System "B".

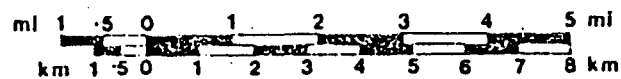
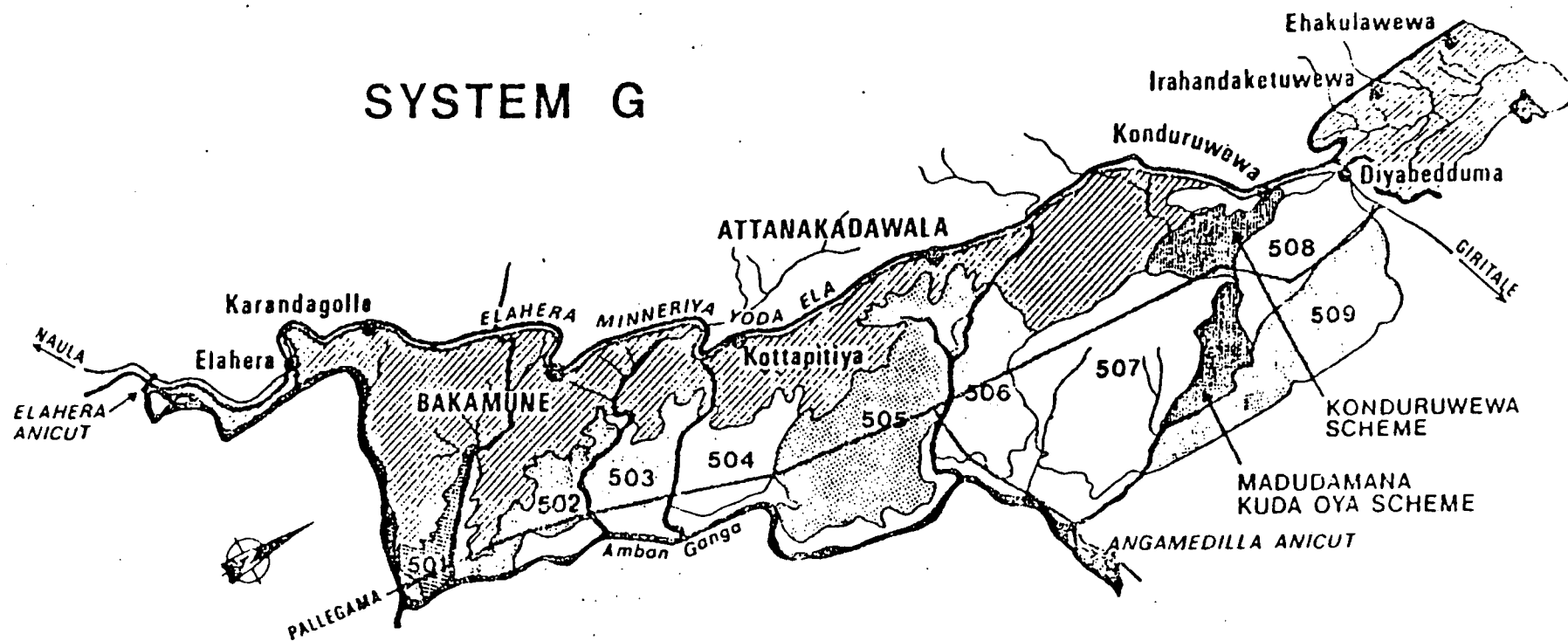
The 10.9 kilometer Ulhitiya Left Bank Canal and 17.35 kilometer Ratkinda Right Bank Main Canal feed lands under System "C". The 53 kilometer Maduru Oya Left Bank Canal provides water to the System "B" Left Bank. The canal network made up of Main, Branch, Distributory and Field canals adds to cover 6,000 kilometers of irrigation canals.



Source: MECA, MEA

PMU/MASL

SYSTEM G



Main Road

River

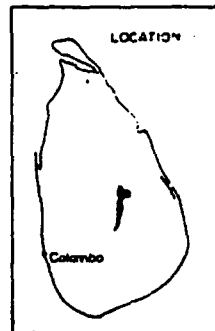
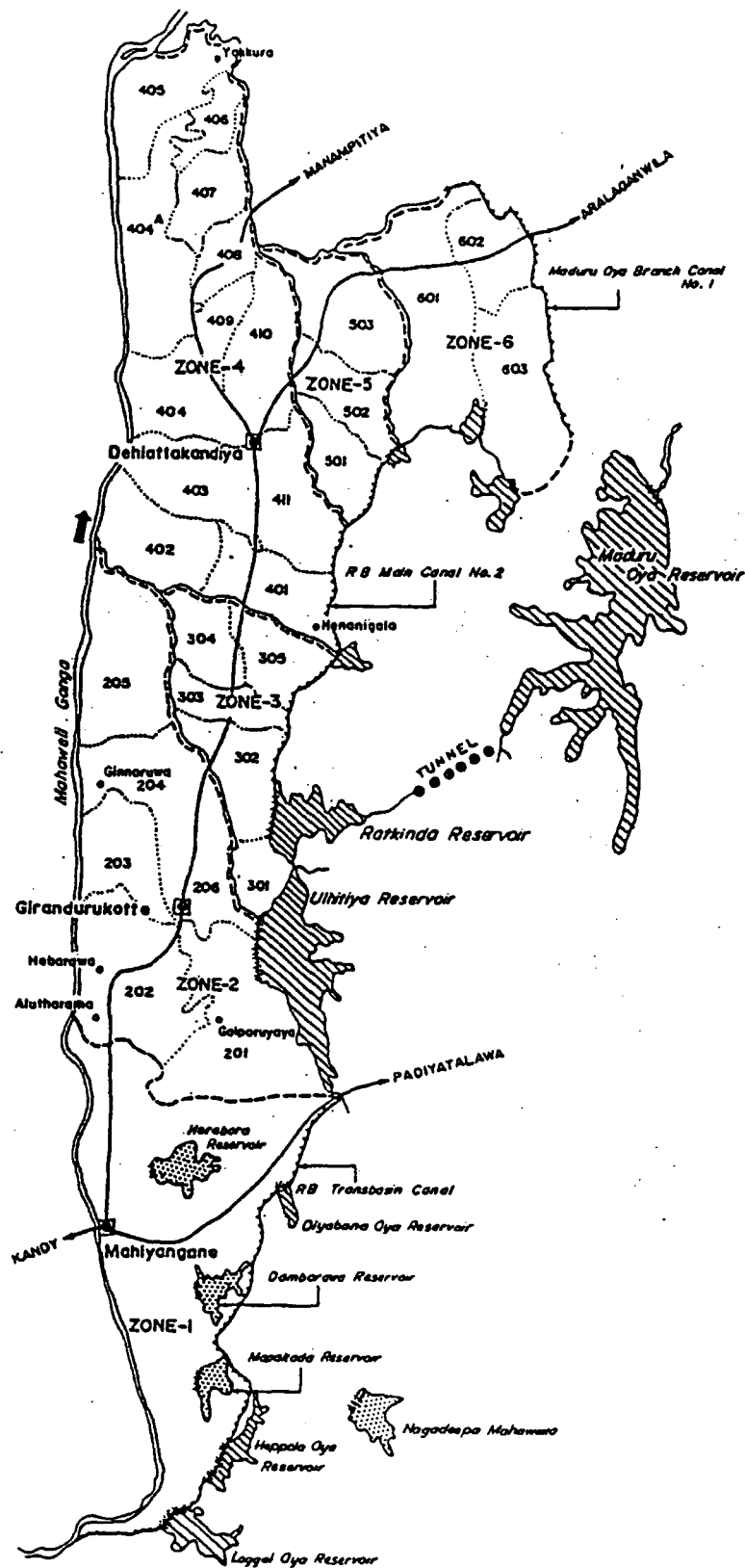
Block Area

Developed Area

Existing Agricultural Schemes

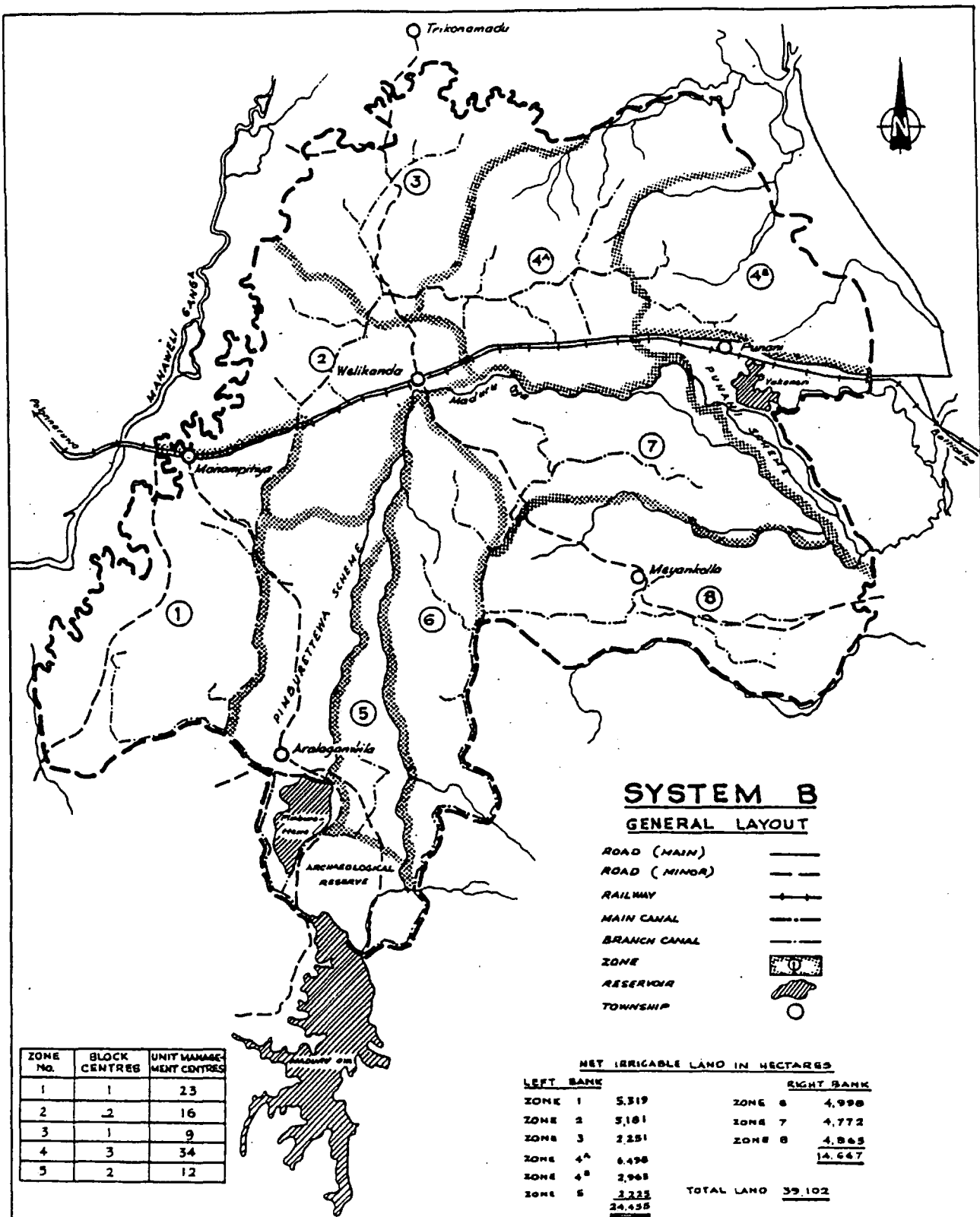
Main Canal





LEGEND

	Road
	Canal
	Stream
	Zone Boundary
	Block Boundary
	Tunnel
	Purana Village
	New Township
	Old Reservoir
	New Reservoir



The irrigation facilities provided have helped the development of 79,000 hectares of land for irrigated agriculture, in System "H", 23,000 hectares in System "C", and another 23,000 hectares in System "B" Left Bank.

Land development under the programme were allocated to three groups of people - first, to those already living in the newly developed areas, second, to those families dislocated due to other development works such as the construction of reservoirs, power houses, canals and roads and finally, to the landless poor chosen on an electoral basis. These were young families with an agricultural background. Squatters in the Wasgamuwa National Reserve were also given land in the Mahaweli areas. Where lands earmarked for development were owned by individuals, such lands were acquired and compensation paid to the owners. All project areas have been gazetted as special areas of responsibility under the Mahaweli Authority Act.

The ribbon type of settlements set up in the earlier settlement projects were abandoned and a cluster type of settlement was implemented under the Mahaweli Programme. The cluster settlements facilitate better communication and social cohesion and the addition makes the provision of services and amenities easy. Each farmer family is given 1 hectare of irrigable land and .2 hectares of land as a homestead. The irrigable lots are usually located less than 2 kilometers away from the hamlets.

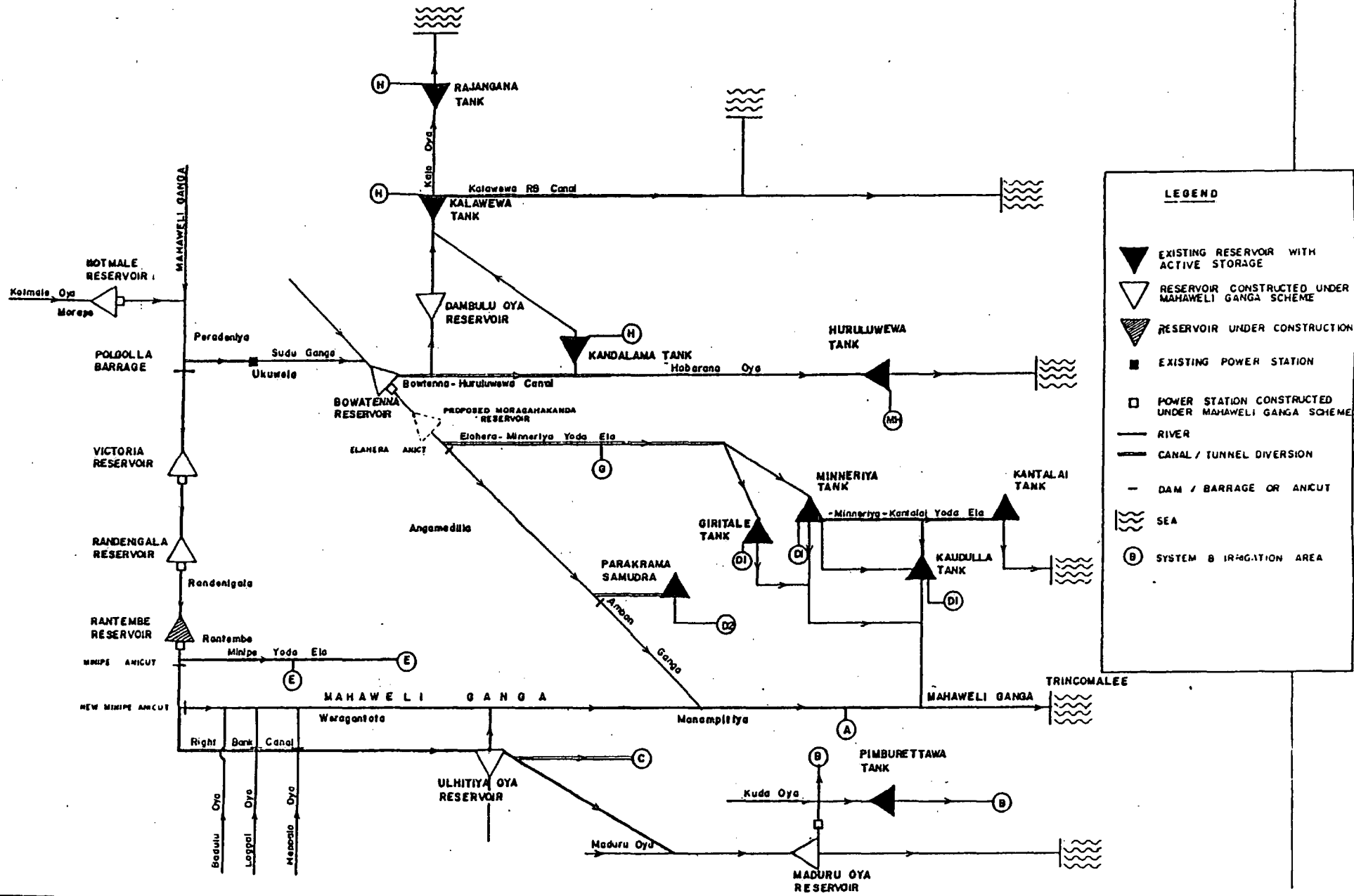
All settlements are provided with the basic infra-structure facilities and are established in a tiered pattern. A hamlet which accommodates about 100 to 200 families is at the lowest level of the hierarchy of settlements. Each hamlet is provided with the basic infra-structure facilities such as a cooperative store, a post box, a day care center and wherever necessary a primary school. Eight to ten hamlets are provided with a village primary school. At these centers a higher level of facilities are provided. Facilities at a village center include a rural bank, a registered cooperative, a community training and development center, a junior school, a sub-post office and a weekly fair and commercial allotments for the sale of consumer goods. In addition, to meet the daily needs of the settlers, land

is provided to those with special skills and technical aptitudes to set up smithies, tractor and bicycle repair shops and small scale rice mills.

At the highest level in the hierarchy of service centers are the townships which serve two to five village centers. The services provided at a township cover a wider range and are also at a higher level. In addition to the normal commercial services, a township has a rural hospital, banks, a secondary school, a marketing department store, cooperatives, fisheries stall, a cooperative complex, a fuel station and all other services needed for the proper functioning of a rural town. Facilities are improved and strengthened as the population in the settlement area increases. Land has also been set apart for industrial development and investors and entrepreneurs are provided with land and basic services to set up enterprises and industries. All the settlement and service centers are connected by an intricate network of hamlet, village, market and main roads.

One of the main objectives of the Accelerated Mahaweli Development Programme was to increase food production. This was to be achieved by bringing more land under cultivation and also by providing additional supplies of water to that there could be more than one cultivation season. By an intricate system of storage, regulation, transportation and strict water management the use of Mahaweli water was to be maximized. The schematic diagram displays vividly the complexity of the water storage and flow pattern. A Central Water Panel seasonally determines the water distribution pattern on the availability of water. Each Project Manager decides on the area to be cultivated and the crops to be cultivated. For each cultivation season an Operational Plan is drawn up and is strictly adhered to. The participation of the farmers in these activities is noteworthy. Extension work including the supply of necessary inputs is handled by the Mahaweli staff with the assistance of technical staff seconded by the Department of Agriculture. Where financial assistance is needed facilities have been made available for farmers to obtain agricultural loans from banks operating in the project areas.

SCHEMATIC DIAGRAM OF THE LAYOUT OF MAHAWELI GANGA SCHEME



At the end of the first quarter of 1991, 63,057 farmer families and 17,735 non-farmer families have been settled in System "H", "C", "B", and "G".. To provide the necessary services to this settler population, 14 town centers, 202 village and hamlet centers and 26 area centers have been set up. 240 schools, 202 health centers, 82 post and sub-post offices and 197 post boxes, 156 cooperative stores, 38 Banks and 6 development centers are among the multitude of social infra-structure facilities provided at the 242 service centers established within the Mahaweli areas. It is also important to note that the Mahaweli Hydro Power Stations account for 54.8 percent of the power used in Sri Lanka.

2.2. Recent Trends with Emphasis on Enterprise Development

Almost after a decade of operation the Mahaweli programme has, to a large extent completed the construction of basic infra-structure facilities and settlement. Roads, hospitals, schools and service centres have been built. An effective irrigation network together with a highly motivated and pioneering settler community is in place.

The Mahaweli has thus arrived at a critical stage of consolidation and stabilization of the huge investment of over Rupees 55 billion. The stage was set to embark on a concerted programme of productivity. Productivity was seen as a key to achieving the goal of return on investment and overall economic and social well being of the Mahaweli development areas and the country at large.

Although the construction and settlement activities are still in progress, Sri Lanka has undertaken and largely completed a huge capital investment for infra-structure in the Mahaweli. This kind of investment in power, road transportation, schools, hospitals, training facilities and residential and commercial buildings - is the foundation needed for economic development in any area.

Following rapidly in the heels of the infra-structure investment in each of the Mahaweli development areas has been the settlement of people on the newly cleared and irrigated farm land. These are not

perhaps, ordinary people. These are entire families who, entirely by choice, have chosen to cut their traditional roots and become Sri Lanka's present day pioneers clearing land, building houses and forging new communities. Eventually to number over a million people, the Mahaweli settlers represent a force to be harnessed for new business and industrial development.

One of the ultimate goals and objectives of the Accelerated Mahaweli Programme is employment generation and business development. It was felt that making optimum use of resources and implementing an integrated and balanced economic development programme, would ensure greater employment opportunities in the Mahaweli areas. Thus in the early 1980's a new and an exciting thrust was made to see private investors joining forces with settler families and the government to generate greater benefits through industrialization of the resources of the Mahaweli areas.

Although the physical infrastructure facilities provided in the Mahaweli areas were of a fairly high standard, the attraction and the retention of personnel to provide the associated services, specially those connected with education, health and other amenities, had become a serious constraint. There were many influencing factors. The remoteness of the Mahaweli areas from Colombo and other major urban centres, the absence of a mix of social and economic classes inhibiting social interaction, the absence of recreational and entertainment facilities were significant among them.

It was thus felt that the attraction and influx of new investors and entrepreneurs, especially the influx of personnel at the managerial level would fill in this void and promote a change in the social economic structure of the population. It was felt that such a change would necessitate, encourage and push for the provision better amenities. This line of thinking prompted to create a new interest in enterprise development and give a thrust to the promotion of non-farm activities in the Mahaweli areas.

Once the basic concepts regarding enterprise development and investor promotion were accepted by the Senior Management, the Mahaweli Authority of Sri Lanka established a Strategy Team with the Director, Planning and Monitoring Unit in the Chair to develop the programme. The Strategy Team commissioned seven studies on specific aspects of investor promotion, enterprise development and employment generation. The studies undertaken dealt with the following :

1. Prospects for crops and agro-industries
2. Selection of crops and value added products for the development in the Mahaweli region based on comparative advantages and analysis of relevant market information.
3. Recommendations for Mahaweli small and medium scale enterprise/human resource development plan.
4. Incentives to encourage private investment in the Mahaweli.
5. Nucleus farm approach to agro-industry investment in the Mahaweli settlements.
6. Information system for the strategy.
7. A promotional strategy.

Once the seven draft reports were submitted the Consultant Groups, the Strategy Team and Senior Officials of the Mahaweli Authority of Sri Lanka had a weekend workshop in order to integrate concept structure realistic programmes and to begin a process to synthesize the material presented in the various reports for presentation. The USAID and MASL provided the needed funds for this critical exercise. As an immediate outcome of the deliberations at this workshop an action programme for employment generation and enterprise development was finalized. Specifically two specific targets were set :

1. To increase the real per capita income in Systems G and H by a factor of two in five years. Although there were many estimates of per capita income they were mostly around a figure of Rs. 3000/- per annum.

2. To accelerate and expand development in Systems B and C through new initiative in resource and manpower development leading to the establishment of agro-industries and at least five nucleus enterprise.

In the action programme three target groups were identified.

1. Present and future settlers,
2. The second generation of settlers, and
3. Business investors.

A number of mechanisms were to be employed to achieve these targets. Land alienation policies to guarantee settler and investor security were to be streamlined. An incentive programme was to be implemented for the benefit of both large and small investors who were innovative. These were to provide for land acquisition and financial support and infra-structure investment and intensified extension, training and adaptive research efforts. These in turn would help increase household incomes. It was also proposed that procedural mechanism should be implemented and policies established to expedite the private investment decision making process.

At this stage it was felt that if the programme was to be a success it must be fully integrated with the marketing and credit facilities and must contribute to the successful implementation of new initiative in these two critical areas.

The programme was designed for five years and provision was made for a mid term evaluation in 1988.

2.3. Enterprise Development Strategy and Action Programme

2.3.1. Development Strategy

The Mahaweli Authority in its endeavour to meet the challenge of private sector investment, promote the inflow of managerial level personnel to Mahaweli areas and create jobs for the Mahaweli settlers, committed itself to provide a specific programme over a five year period. It was felt that setting a time limit to the programme of action would promote and encourage investors and entrepreneurs to take advantage of the resources offered rather than postpone decisions. Although Systems "A" and "D" were also targeted for development, no specific time frame was set for development. The Authority recognized four corner stones in the Mahaweli Enterprise Development Strategy. Each was considered critical, but if the programme was to be success all had to forge ahead together. The four critical items of focus dealt with policy changes, financial incentives, infra-structure development, and the creation of a suitable investment climate and institutional support.

2.3.2. Policy

There were a number of lapses and drawbacks in the existing policy structure. Changes that would create a positive and a stimulating impact on investment decisions were needed. The focus was on these policy areas, namely national land policy, financial policy and investment approval policy.

Existing land policy had to be altered to provide for longer lease periods and to allow for lease of larger extents of land than was currently authorized. It was anticipated that such amendments to the existing land policy would create conditions to promote and encourage long term commitments by investors, and encourage investment in projects and crops that require a long gestation period and ensure economic stability.

Changes related to fiscal policy deal with tax relief, concessionary loans and investment action grants that would encourage and stimulate selected capital investments especially during the critical start up period. These are very specific, one time only financial concessions that were regarded as essential if the investment promotion programme were to achieve any degree of success.

The last important policy matter focussed on the investment approval procedures to be installed. An assessment of the current situation, even at national level highlighted the need to establish a streamlined and centralized approval system. The objective was to consolidate approval policy into a "one-stop shop", which would avoid the prospective investor facing the hazard of wasting valuable time and the harassment of being made to visit innumerable offices to see an investment proposal arrive at approval stage.

2.3.3. Financial Incentives

The ultimate success of the Investment Promotion and Entrepreneurship Development Project depended on the ability of the Mahaweli Authority to attract a sufficient number of investors, both foreign and local, and large and small to the Mahaweli areas. To encourage prospective investors to invest in one of the most ambitious pioneer regions in the world the offer of an attractive financial incentive package had to be developed and implemented. Such an incentive package had to counter to possible disadvantages of location, specifically the distance from major markets. It had to be attractive enough to overcome the inherent risks involved in investing in a relatively isolated area. It was also necessary if the desire to reduce pressures on the major urban areas of Colombo and other cities is to be achieved. The attraction of investors with capital and modern technology among other factors was required if the ultimate goal of achieving economic progress and generally raising the quality of life of the Mahaweli settler and the people of Sri Lanka at large. If the standard of living of the Mahaweli settler is to be raised above subsistence level and if returns on the massive investment of national funds on this project were to be achieved the implementation of an attractive programme

package focussing on the resources where the Mahaweli areas have a comparative advantage was critical. These are all strategic national reasons which makes the offer of a suitable incentive package imperative.

2.3.4. Infra-structure

The Mahaweli Authority decided to establish a series of focal points for investment by business in the many Mahaweli areas. In this way the nation as a whole and the Mahaweli region in particular was expected to gain from the benefits that would accrue from the economics of concentration and agglomeration. A series of industrial estates were to be established in the major townships and other key locations and electric power was to be installed and distributed. A number of other facilities were also proposed. These were to encourage and support nucleus enterprise and their associated agro-processing activities. The establishment of the estates and facilities were to be prioritized and their development was to be phased in keeping with the general development programme.

2.3.5. Investment Climate and Institutional Support

As in many other developing nations, in Sri Lanka too, procedural delays usually stifle development initiatives. Thus high priority was given to the establishment of a well articulated, streamlined and well documented system of authorities and responsibilities. This was thought very necessary if procedural delays which frustrate and discourage prospective investors were to be avoided. It was emphasized that if the system was to work efficiently every participant had to clearly understand functions and authorities and to expect time certain decisions.

It was therefore established that modified policies, a comprehensive financial incentive package, support for industrial infra-structure and an attractive investment/institutional climate were to form the four corner stones of the Mahaweli investment programme. The Mahaweli Authority felt these

would lay the foundation for the development of growth centres in the heartland of Sri Lanka - the areas covered by the key development project. These centres will expand agro-investment and in turn will generate increased employment opportunities to the Mahaweli settlers.

2.4. Action Programme

The proposals, actions and activities which form the four corner stones provide the foundation for the action programme. These together created a badly needed "Strategy for Action". The action programme formulated dealt with very specific problems and solutions.

2.4.1. Policies

To serve the needs of the occasion and best serve the strategic initiative certain key policies required modification and streamlining.

- (i) A Change in leasing policy was required Permission had to be obtained to lease land up to 99 years to eligible investors at lease rates laid out in the legal code of the country.

These may be located within any of the industrial estates associated with the Mahaweli townships or in other areas outside the townships, depending on the purpose for which the land is required. Leasing policy deals with four groups of land required by the investors, namely,

- (a) Small plots of land needed for industry, business and for residential purposes;
- (b) Plots of land, 5 to 20 hectares in size lying within the command area to be used for commercial farms. These include out-growers who will be linked to nucleus farms;

- (c) Plots of land ranging from 20 to a maximum of 500 hectares within command area to be used as nucleus farms. The larger plots, however, would be allocated only when crop yields and accompanying production requirements are clearly indicated as essential for sustainability of the investment; and
- (d) Plots of lands lying within the above command area where there will be no restrictions on the size of the holding.

It was proposed that requests for land would be reviewed, processed and finalized within a period of four weeks. The Mahaweli Authority proposed to implement an efficient land distribution policy, supported by an effective set of procedures to make these targets achievable.

- (ii) There is a major risk factor involved in investment in pioneering areas such as the Mahaweli Project areas. To counter such risk special financial arrangements together with amendments to existing policies have been adopted by many countries, including Sri Lanka to achieve success in promoting private investment. It becomes therefore imperative that at least for a limited period such changes had to be made if the government was to promote investors to Mahaweli areas. These would generally include concessionary loans, investment action in grants to defray initial infra-structure costs and up front investment tax relief.
- (iii) It was also felt that there is an acute need for a single streamlined investment application and an approval process to be installed for both Sri Lankan and foreign investor applications to the Mahaweli project areas.

2.4.2. Financial Incentives

Investors are encouraged to invest in enterprises in order to co-opt their assistance to the development process by creating additional avenues of employment. These in turn would increase incomes, expand

demands for local goods and services and create a higher value added to products and resources of the Mahaweli areas.

The package of incentives offered is to encourage business to grasp the opportunities in the Mahaweli areas earlier than they would do in the normal course of events. They are primarily aimed at influencing business decisions to indirectly coerce them to take the decision at a pre-determined time and location.

The package of incentives offered by the Mahaweli Authority was open to new business enterprises as well as for the expansion of existing enterprises. Of course the level of incentives to be received would depend on the size and nature of the operation. However, any investor who has a profit motive and who would create a significant number of business opportunities was eligible.

The Mahaweli Authority makes use of the services and facilities of a number of governmental and non-governmental organizations (NGOs) in structuring the incentive package. In addition to providing information, advice and assistance at the initial stages, on such matters as identification of products, survey of markets and supply base, pre-feasibility studies, four major groups of financial incentives are provided to the prospective investor based on resource advantages of the Mahaweli and the known needs and risks faced by investors.

The services rendered by the Central Bank and other commercial banks, the Foreign Investment Advisory Committee, the Export Development Board, the Industrial Development Board, the Sri Lanka Business Development Centre and a number of Government Ministries and Departments dealing with the promotion of investment were being made use of the Mahaweli Authority in offering the incentive package to the prospective investors.

Fiscal incentives offered to the investor include tax concessions, concessionary financing and financial assistance.

Tax concessions include among others tax holidays, income tax exemption, investment relief and custom duty and exemptions. Concessionary financing facilities include the provision of medium and long term credit from such institutions such as the Central Bank of Sri Lanka, the National Development Bank, the Capital Development and Investment Co. Ltd., and the Development Finance Corporation of Ceylon, small and medium scale industrial loans operated by the National Development Bank and the Development Finance Corporation of Ceylon, and short term working capital through the Central Bank of Sri Lanka. A number of schemes to provide financial assistance to prospective investors by the Export Development Board are also made available to Mahaweli investors. (please see Appendix 1 for details).

In addition to the above incentive the Mahaweli Authority has also set up a Venture Capital Company in order to undertake products development, to make capital investment in small scale rural industries and ultimately to transfer the equity to the intended beneficiaries.

2.4.3. Infra-structure

The provision of infra-structure is an on-going process in the Mahaweli. Wherever there is a need for specialized facilities provision was to be made to make special investment grants available for investors who require such facilities. In order to meet the needs of investors and to promote more investment, the Mahaweli Authority concentrated on the provision of four types of infra-structural facilities.

- (a) The Maduru Oya Project has the capacity to generate 7.2 megawatts of secondary power. The Authority planned to proceed with the installation of this capacity in order to meet the additional

demands for power in Systems B and C and in particular to supply power to the Nucleus Enterprise Service Centres.

- (b) In nine of the Mahaweli townships land has been set apart for the establishment of industrial estates. With the thrust on enterprise development the Mahaweli Authority proposed to establish these industrial estates on the area reserved for the purpose.

Such industrial estates were to be promoted with water, electricity, sewerage and telecommunication facilities and also construct internal access roads and a security system. However all nine estates were not to be developed simultaneously, but two estates were to be set up as a pilot project and with the experience gained others were to be developed incorporating necessary modifications to accommodate lessons learned. These estates were expected to accommodate both agro-processing industries as well as other non-agricultural industries.

- (c) In its endeavour to promote investment and enterprise development, the Mahaweli Authority proposed to set up nine Household Enterprise Development Centres in the various Mahaweli systems. In contrast to the industrial estates these centres would cater to the needs of the small and cottage scale entrepreneurs. The centres would assist in product development, training on business management, concentrating particularly on the development of basic management skills such as, personnel management, marketing and book keeping. These centres would have facilities to assist small scale entrepreneurs to gain access to credit, transportation, processing, packaging, storage and obtaining necessary raw materials. The first of such centres have already been set up at Girandurukotte and the knowledge and experience gained at this centre is to be used to provide better facilities at the other centres.

- (d) Finally, by way of providing infrastructure facilities the Mahaweli Authority proposed to set up full service modules or mini-new towns to cater to the needs of the middle level management and

their dependents, the out-growers of such nucleus enterprises, local businessmen and settlers. These centres were to be known as Nucleus Enterprise Service Centre. These centres would have a range of facilities such as, schools, residences, playgrounds, stores, roads, all amenities.

They are to be constructed by the Authority but were planned to be handed over to the local authorities for management and maintenance. The objective behind this concept is to promote and encourage rapid development of large scale agro-processing through nucleus farms. Each one of these were to serve four or more nucleus enterprises set up in the upland areas of Systems B and C.

2.4.4. Investment Climate and Industrial Support

Consequent to the strategy studies undertaken by the Mahaweli Authority, the Employment Investment and Enterprise Development (EIED) Office was set up. This office was given the primary responsibility of creating an environment hospitable and conducive to business and private sector development in the Mahaweli areas through an aggressive promotion campaign and a streamlined investment appraisal system. This office was to serve as a "one stop shop" for investment proposals. The efficient and effective implementation of the investment and enterprise development programme became the immediate responsibility of this new office. Further, the Authority, through this new office, planned to intensify and expand the existing extension and training programmes. In this manner the Mahaweli Authority hoped to improve the quality and increase the quantity of extension and training so that the skills and abilities of Mahaweli settlers, both present and future, could be developed and trained to realize the objective of the programme.

2.5. Resources of the Mahaweli

The enterprise development strategy of Mahaweli is based on the physical and human resources of the vast area coming under the project. The principal physical resource being the well drained irrigable soils which are capable of carrying a wide variety of crops.

Topographically, the predominant terrain in all Mahaweli areas is undulating to flat with occasional erosional remnants and monadnocks. In System C however, there are a series of incised gullies running in a north-south direction.

Fifteen main soil groups have been identified in Sri Lanka. Of these, the most important and predominant soil group in the Mahaweli area are the reddish brown earths and its catenary associates to low humic gluey soils. Recent alluvial soils and old alluvial soils occur to a somewhat lesser extent. Non- calcic brown soils and solodized solnetz soils are also found in significant areas particularly in System 'B'.

Mahaweli soil have been surveyed at a detailed low intensity level but in a few areas this has been carried out at a detailed medium intensity level. Land units are assigned to particular drainage classes on the basis of morphological and physical characteristics of the soils. Such characteristics primarily deal with depth texture, infiltration and permeability rates of the soils. The suitability of a given unit of land to cultivate a particular crop would depend on such analysis. For instance, imperfectly to poorly drained soils would suit badly, while well to moderately well drained soils would be ideal for irrigated, dry food crops.

If one were to consider the catenary sequence of the various types of soils, the well drained reddish brown earths are generally found on the crests and upper slopes of the undulating landscape, confining the imperfectly drained reddish brown earths to the mild slopes and the poorly drained and fine textured low humic gluey soils to the lower reaches. The recent alluvial and old alluvial soils would be poorly, imperfectly and moderately drained depending on their location.

The land and water resource base is given in detail in the feasibility studies that have been conducted for the individual Mahaweli Systems. Since irrigation water is available to supplement rainfall, the availability and optimum utilization of land becomes a more critical factor. Soil, depth, drainage and slope are significant in determining optimum land utilization for irrigated agriculture in the Mahaweli areas.

On the basis of a study carried out in 1985 the extents of different land classes in the Mahaweli Systems were identified by acres. The 1980 feasibility study of System "B" identified that of a gross area of 129,000 hectares in System "B" an estimated 109,000 hectares is to be under command of the Left Bank and Right Bank canals. 13,300 hectares will be well-drained while 48,820 hectares will be imperfectly or poorly drained. However, subsequent medium intensity and low intensity surveys conducted by Land Use Division of the Irrigation Department together with an application of a 25% reduction factor come up with a reduced figure of 50,691 hectares of net irrigable extents. This figure includes 6,476 hectares where there are limitations of slope and depth of soil for gravity irrigation. These lands are more suitable for rainfed agriculture or other forms of irrigation such as sprinkler.

System "C" covers a gross area of 69,090 hectares of which 40,470 hectares are identified as coming within the command area of which a gross extent of 4,370 hectares are well drained and 24,930 hectares are imperfectly or poorly drained. However, the application of 25% reduction factor reduce the gross area under command to 21,972 hectares.

System "G" covers gross land extent of 8494 hectares. This includes both the newly developed land and area under the old Elahera Settlement Scheme, now brought under the Mahaweli project. The net irrigable area is 2,989 hectares, of which the extent of well drained and poorly drained land is about 985 hectares.

The gross land area under System "H" amounts to 32,339 hectares. Of this extent 9,675 hectares are well drained and 14,511 hectares are imperfectly or poorly drained. These made up a total of 24,186 hectares.

The extents of land above gravity command for future development is rather limited in System "G" and "H", but the extent of land falling within this category in Systems "B" and "C" are significant. These lands could be made productive by the use of lift, sprinkler and drip irrigation. Land that is considered marginal due to factors of slope or shallow soil could also be utilized for such land as pasture, forestry or tree crop cultivation, where the demands for soil or water are not serious.

The extent of land above gravity command in System "B" is 20,000 hectares and the gross extent in System "C" is 28,000 hectares.

Land is by far the main physical resource available in the Mahaweli areas. It is however, not the only physical resource, and there are others which can be exploited for industrial purposes.

A major discovery was made in 1971 in Eppawala where a carbonated complex was identified. These deposits contain a large volume of mineral apatite (calcium phosphate). This material is primarily used in the manufacture of phosphatic fertilizer. A total resource of twenty five million tons of bleached apatite bearing ore have been identified to be present in the Northern sector, which is the only area which has been investigated and studied. It is believed that the Southern sector would also make a firm reserve of at least 15 million tons. The potential for export of this material seems to be considerable.

No detailed mineralogical surveys have been carried out in the Mahaweli areas, but extensive clay deposits are found particularly in System "C". The deposits can be used to set up brick and tile factories and also to produce earthen potteryware. Initially, there will be a heavy demand for bricks and tiles from within the Mahaweli areas for the construction of settler houses.

Mahaweli areas are also scattered with outcrops of rock. The deposits are considerable and would provide opportunities to establish metal crushing industries. The metal so produced will meet the needs of the construction work in Mahaweli areas and outside.

The large expanses of water bodies located in all Mahaweli Systems create ideal conditions for the development of inland fisheries. Although the government, at present, as a matter of policy, does not promote and support the establishment of inland fishery projects, there are no legal barriers to the private sector undertaking fresh water fishery projects. Fresh water fish farming is particularly popular among the younger generation as a source of employment and additional income. Fresh water fishing could also be undertaken on a small scale in small ponds and tanks, making use of the abundant supply of water, ornamental fish breeding has become one of the most popular small scale enterprises generating additional income to the Mahaweli settler families.

The presence of a highly literate and motivated population is one of the most important resources that Mahaweli could offer any prospective investor. Already over 100,000 families have been settled in the Mahaweli settlement areas. According to a survey carried out in the Mahaweli Systems, the average size of a family is 5.5 persons. Approximately 40.1% of this population is 15 years of age. The 16 to 30 year group comprises about 30%, of the population. This shows that around 70% of the Mahaweli population is below 30 years, which clearly indicates the enormous potential that Mahaweli offers for the development of the human resource.

Over 90% of the population has had an education of at least up to Grade 5 and about 20% had studied up to Grade 10. Although such figures display a high literacy rate, it also denotes that a vast majority of the population does not qualify for white collar jobs, making a very large portion of the population to seek employment in non-white-collar jobs such as in farming or other non-farm enterprises.

A survey carried out by the SLBDC indicates that 64% of the farmer population is willing and capable of investing amounts ranging from Rs. 1,000/- to 10,000/-. They have also shown an interest in establishing joint business ventures. Although the amounts to be invested by the farmer population is not much, the willingness to invest in new ventures together with the acceptance of the idea of establishing joint ventures, argues well for the future of enterprise development in Mahaweli areas.

PROBLEM ANALYSIS

3.1. Survey of Linkages and Multiplier Effects

The first data collection activity of the research survey was a study of the various types of non-farm employment activities in the area with special focus on linkages and multiplier effects within the project area and the outside. This was based on a survey of a representative sample of 100 activities/ enterprises in the project area. The sample was drawn from the list of enterprises prepared for a base line survey of enterprises in Mahaweli Project Area in November 1988 by the Agrarian Research and Training Institute (ARTI). The survey of Linkages and Multiplier Effects of the present research was conducted in the months of October and November 1989.

The study areas were selected purposively to reflect the areas which appeared to have the highest concentration of rural non-farm enterprise activity in the Systems H and C based on reconnaissance field visits. These were,

System H - Nochchiyagama and Tambuttegama areas.

System C - Batalayaya and Hembarawa Blocks.

In system H, this apparent concentration of rural non-farm activities in the selected sample area were based on thriving townships of Nochchiyagama and Tambuttegama. Although considerably expanded with infra-structure facilities following the Mahaweli development programme, these two were commercial centres dating from several decades prior to the commencement of the Mahaweli Programme. Both townships had benefitted initially from the need for services arising from Rajanganaya Irrigation Project and several traditional settlements. The sample area selected for System C on the other hand, was the Zone 2, 1st development area under the Mahaweli Project in System C.

A random sample of 60 enterprises from System H, and 40 enterprises from System C was selected. The size of the sample was primarily determined by the resources available, in terms of funds and personnel, for the study.

At the very outset it was recognized that limiting the sample size, would result in the inability to distinguish the difference between enterprise categories in statistical terms. The priority was given however for the need to identify the overall situation in terms of enterprise types and their characteristics with linkages and multiplier effects rather than the differences in linkages etc., among categories.

This latter if required has to be achieved on the basis of stratified random sampling, which as seen in the Tables 1-5 below, would require a much larger sample area to obtain the required numbers per stratum.

A research study dedicated to the analysis of linkages and multiplier effects *per se*, rather than forming a part of broader study as in the present case, should be designed on the basis of a stratified random sample of enterprise categories exploring inter and intra industry linkages.

3.1.1. The Characteristics of Non-farm Enterprises in the Sample Areas

The characteristics of non-farm enterprises in the sample area such as the types of enterprises, their ownership, value of capital assets, number of people employed etc., are examined below.

Table 1

The Number and the Percentage of Enterprise Categories

	System H	System C
Manufacturing	18(30%)	14(35%)
Processing	8(13%)	1(2.5%)
Assembling	1 (2%)	0
Service	33(55%)	25(62.5%)
Total	60	40

The above table shows a pre-dominance of service enterprises in the sample areas. These comprise mainly of various forms of retail trading. Manufacturing is next in importance followed by processing and assembling activities.

Table 2

Ownership of Enterprises

	System H	System C
Individual proprietor	57	33
Family Holding	3	2
Partnership		3
Limited liability Co.(Pvt)		1
Cooperative		1
Total	60	40

Individual proprietorships were the major type of enterprise in the sample area. There were five family holdings, one private limited liability company and one co-operative society. The co-operative society, needs special mention, since it is a bag and garment production venture sponsored and initially established by the project management. All the other enterprises were spontaneous establishments, based on private initiative.

Table 3

The Scale of Non-farm Enterprises by the Value of Capital Assets

Range	System H	System C
< 10000	2	2
10001-50000	17	6
50001-100000	14	13
100001-150000	8	4
150001-200000	5	2
200001-250000	1	4
250001-300000	5	3
300001-350000	1	2
350001-400000	1	1
400001-450000	2	1
450001-500000	0	0
500000 >	4	2
Total	60	40

Over 50% of the non-farm enterprises in the project area have capital assets valued at less than Rs. 150,000 including land value. Over 75% of the enterprises have assets valued at less than Rs. 250,000, while 90% of the enterprises have capital assets of a value less than Rs. 400,000. It is significant to note here that the official definition of a small industry in Sri Lanka is one which has capital

less than Rs. 4,000,000 and employs less than 50 persons. None of the enterprises in the sample had capital assets valued over Rs. 2,500,000.

The number of workers employed by the enterprises in the sample demonstrate small scale predominance (Table 4).

Table 4
The Scale of Non-farm Enterprises by the Value
by the Number of Workers Employed

Range	System H	System C
1-5	17	7
6-10	14	18
11-15	15	3
16-20	9	7
21-25	3	4
26-30	0	1
50>	2	0
Total	60	40

As seen above only two enterprises in System H had employed more than 50 persons. More than 50% of the enterprises employed less than 10 workers while 90% had employed less than 20 persons.

On the above evidence, the non-farm enterprises in the project area can be classified as being small both from the point of view of the capital invested as well as the number of persons employed. However, both in terms of the capital assets as well as the number of persons employed, the enterprises in System H appeared to be larger than those of System C. However, this apparent relative scale difference is due to farm enterprises which had capital exceeding Rs. 50,000 and two enterprises which reported a labour

force of over 50 located in the sample area of System H. If these are ignored, there is hardly any difference between the two sample areas.

The other major characteristics are the following:

- In System H, 55/60 enterprises were year round operations while in System C 35/40 were year round operations.
- In market terms, 58 of 60 in System H were selling within the project area. Whereas in System C, all enterprises were selling within the System.

These data suggests that the typical non-farm enterprise in the Mahaweli areas is an individually owned small scale service operation (pre-dominantly retailing) or an industry which exclusively caters to the market within the project area and operates year round. The survey of enterprises was also intended to identify the magnitude of backward and forward linkages in farm and non-farm activities in the project area. The manufacturing industries found in the sample produced final goods for consumption or utilization in the project area and therefore similar to the retailing trading did not lead to further value addition within the project area. Since all these industries including the service enterprises supplied the immediate market as indicated above, the question of value addition outside the project area does not arise. The processing industry in the project area is limited to rice milling which too is consumed in the form of milled rice with occasional milling of chilies.

This was the only agriculture to industry forward linkage observed within the sample. The researchers, however observed a few cases of Gherkin Pickling processing ventures outside the sample during field visits. The more important observation for policy is that the milling capacity in the area was a less compared to the requirement ventures of the total volume of paddy produced in the area. Much of the paddy produced in the sample area was transported to areas near the major consumer market centres in the form of paddy.

Obviously, there are clear comparative advantages in paddy into rice processing in the traditional rice milling areas located within easy access to urban centres than in the paddy producing areas. A good example is the Maradaghamula area north of Colombo.

For the enterprises in System H, 55% of the value of materials, parts and components came from outside the project area. In the case of System C, this was 71%. Much of the other inputs bought within the System too were purchased from retailers who had "imported" these items from sources outside the project area. This suggests that apart from labour the other important inputs came from outside the project area. The major exception is the rice milling industry which uses rice produced within the project area. "Imported" inputs are machinery, spare parts and fuel. This situation suggests that the non-farm enterprises in the sample areas are those aimed at serving the needs of the settler population and not the markets outside the project area.

Broadly, the backward linkages with the outside project areas are the import of consumable items in the households and agriculture for retail as well as the inputs such as machinery and fuel for farm and non-farm enterprises. The forward linkages are predominantly that of supplying agricultural commodities to the urban centres for processing and marketing.

3.2. Incomes, Labour Force Participation and Expenditure Patterns in the Sample Area

3.2.1. Incomes

Data on incomes, labour force participation and expenditure were generated from a Consumer Finance and Labour Force Participation Survey conducted from February/March 1990 to January/February 1991 on a sample of 100 randomly selected households. Out of this 100 households, 60 households were in System H and 40 households were in System C. The two study areas within each system were

purposely selected to match with the survey of linkages and multiplier effects mentioned earlier and their location within each system is given in the attached Maps. Here again a compromise had to be made in terms of the level of detail among the various categories of incomes, labour force participation and expenditure as against the understanding of the overall situation. The degree of detail, as in the previous case was limited by the number of visits per household. This limitation, of course was imposed by the resource constraints. The 100 households were visited three to four times a week per month and interviewed on their incomes, expenditure and labour force utilization. Daily records were maintained for the week concerned on expenditure on food and beverages as well as labour force utilization which may be difficult to be recalled after the lapse of a few days. Incomes, expenditure on consumer durables etc., were recorded on a monthly basis.

The analysis of farm incomes, is best carried out on the basis of what is often described as a "farm record-book" keeping exercise. Recording farm incomes and expenditure as a questionnaire of the type used in this study is a "second best" approach. The major findings on the patterns of incomes, labour force utilization and expenditure pattern are discussed below. The sample areas are compared for items which showed significant differences between the two sample areas.

Table 5

Average Annual Income of the Sample Household

Source of Income	Rs.	%	Households below average
Cash net income from farming	25119.11	37.4	66
Cash non-farm enterprise income	13004.51	19.4	87
Income from employment	6731.98	10.0	65
Other material income	2366.37	3.5	68
Estimated rent of the own house	3930.23	5.9	
Value of own produce consumed	16001.04	23.8	
Total	67153.24	100.0	

Although the total income inclusive of estimated rent of the own house, value of own produce consumed and other material income amounts to Rs. 67,153.24 per annum on the average, the total cash income of the average sample household is only Rs. 44,855.60. This is the income which can be called the actual disposable income since the others are imputed values and cannot be directly spent on cash purchases. The non-cash income accordingly is approximately one third of the total income. It is well known that obtaining accurate income on non-cash income is an extremely difficult task but the degree of error owing to possible recall lapse, of course was minimized by the fact that the survey methodology was to visit each household once a month for three or four alternate days during one week.

It is clear from the above that farm income is still the major source of income for Mahaweli farmers. This accounts for over 60 percent of the total income and 56 percent of the cash income of the households. The relative importance of farm income within the total cash income is less than that of total income due to the fact that the value of own farm produce consumed in the household is very significant. Income from non-farm enterprises is the next item in importance. It is important to note that income from employment outside the family farm and the owned enterprise where relevant is also very significant in the make up of the income of Mahaweli settlers.

However, the finding that the percentage of income obtained from non-farm enterprises and work (employment) outside the family farm is about 30% of the total income is of major significance. This matches with the general observation that off-farm sources of income are a very significant source of income in farming communities. The question of course, is whether there is a potential for a continuing growth of this source of income to at least keep pace with the growth of population of these communities. The importance of such sources relative to total cash income is even greater being 44%.

It is also important to note that the averages reported above conceal a high degree of variation around the mean particularly in relation to non-farm sources of income. It is interesting to see that only 8 households out of 100 had an income less than the average in the case of farm income. However, 41%

of the households earned less than the average non-farm enterprise income, while 33% of the households earned less than the average income from employment.

Seasonal Variation in Cash Income

It is well known that agricultural settlements are faced with seasonal variations in income. Off-farm sources of income are expected to contribute to reducing such variations. Where the farm outputs are less perishable, for example paddy as against vegetables, the farmers are able to store their produce and sell over a long period rather than selling immediately after the harvest which can help to even out such variations.

The monthly variation in income from the three sources of cash income is analyzed in the table below.

Table 6
Percentage of Total Annual Income Received per Month

	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	Jan
Farm	7.6	7.9	7.1	8.5	11.9	9.8	5.2	11.5	9.9	7.9	5.6	6.8
Non-												
Farm	12.9	7.5	10	7.4	7.9	1.8	9.6	9	10	6.7	11.8	4.9
Wage	9.5	6.9	8	7.1	9.2	8.2	7.8	9.5	10.8	7.5	7	7.9
Total	10	7.4	8.3	7.6	9.6	6.6	7.53	10	10.2	7.3	8.1	6.5

Coefficient of variation for monthly percentage of the total annual cash income from farming is .25, while that for non-farm enterprise income, and income from employment (wages) are .36 and .14 respectively.

In other words, the variation is highest for non-farm enterprise income and the lowest for wage income. The coefficient of variation for the total cash income is only .16. It appears that the mix of the three different sources of income has on the average reduced the seasonal (monthly) variation in income. While the observed relatively high variation of farm income vis a vis wage income matches with 'a priori' expectations, the reasons for the high variation in non-farm income require further examination.

Table 7
Comparison of Average Annual Income of the Sample Households
in System H and System C.

	System H	System C
Cash net income from farming	24773.40	25637.67
Cash non-farm enterprise income	14627.06	10570.70
Income from employment	8029.62	4785.52
Other material income	3478.53	698.14
Estimated rent of the house	5312.15	1857.37
Total	56220.76	43549.40

The income from non-farm enterprises is higher in System H than in System C. This is consistent with 'a priori' expectations of the researchers since the sample area in System H was developed in the late seventies while the sample area in System C was developed in the mid eighties. The settlements in both areas commenced as primarily agricultural settlements and therefore the development of non-farm enterprises took time. The fact that households from the older settlement earned more from non-farm enterprises shows that the importance of this source of income increases over time. A similar trend is observed in the case of income from employment off the farm where

System H has higher incomes from this source than System C. This is to be expected since where non-farm enterprise income is higher, showing a higher stage of development in the settlement, its neighbourhood opportunities for off-farm employment will also be higher.

Another interesting fact is that the average estimated rent of own house is much higher in System H relative to System C. This is another reflection of the higher stage of development in System H, where more of the houses are of a permanent nature and better endowed in terms of the number of rooms etc.

The finding that the absolute cash net income from farming is less in System H, where the crop diversification is on the average is higher than in System C is puzzling at a first glance. Although block level data on crop diversification were not available to researchers, they are of the view that the emerging picture is valid for the two sample areas, namely Nochchiyagama and Thambuttegama of System H and Zone 2 of System C if not for the entirety of the Systems H and C.

While the average household income is higher in System H, the difference is even greater in terms of per capita income. The average family size in System H is 5.3 compared to 5.77 in System C. Per capita income in System H is accordingly Rs. 10,607 compared to Rs. 7,547 in System C.

3.2.2. Expenditure

Average annual expenditure of sample households is given in table 8 below.

Table 8

Average Annual Expenditure of the Sample Household

1. Cereals	13541.12
2. Bakery products	833.80
3. Other food purchases	805.75
4. Condiments	7000.00
5. Vegetables	3183.52
6. Yams, tubers	2112.77
7. Coconuts	1761.66
8. Beef, fish	4484.12
9. Milk-foods	1022.33
10. Oils and fats	1241.48
11. Eggs	411.70
12. Fruits	2095.79
13. Liquor, tobacco etc.	1219.10
14. Sugar, jaggery and treacle	3276.72
15. Confectioneries	2305.69
Total food	45295.55
16. Rent, rates & taxes	652.86
17. Fuel, electricity	2721.43
18. Ready made garments & shoes	3192.01
19. Other clothes	1411.61
20. Other consumables	4167.63
21. Medicines etc.	1027.00
22. Transport & communication	2363.14
23. Entertainment	770.27
24. Miscellaneous	4802.63
Total	66404.13

It is clear from the above that the average household in the sample area is at a very low standard of living where the major proportion of expenditure is on food items, with an average of 68%. Bare essential food stuffs such as cereal, bakery products, condiments, vegetables, yams and tubers, coconuts and sugar account for 72% of the total expenditure on food. Only 13% of the expenditure on food is incurred on meats, fish, eggs and milk foods.

3.2.3. Labour Force Participation

The labour force and its employment in the two project areas is briefly analyzed in the table below.

Table 9

Employment Situation

	System H	System C
1. Number of h/h	60	40
2. Number of persons aged over 10 yrs	312	198
3. Number of persons aged over 18 years	220	124
4. Number of persons actively looking for a job	65	31
5. Number of persons who actually worked	250	178
6. Total number of days worked during the 12 survey weeks of the year	13152	8472
7. Number of days per week worked by those who worked [(6/5)/12]	4.38	3.96
8. Total number of hours worked during the 12 survey weeks of the year	77737	46199
9. Number of hours per week worked by those who worked [(8/5)/12]	25.91	21.62

The labour force of agricultural communities is often defined as the number of persons above 10 years of age. Whether this definition is suitable for Mahaweli areas where the interest on formal education is very high is an issue which needs to be addressed. The age 18 is, in our view, a better threshold to identify persons who are ready for full time employment. During the peak agricultural seasons

those in the age group of 10 years to 18 years are also engaged in farm work. This however does not signify their being ready for full time employment.

The data analyzed in the above table shows that the number of persons in the labour force both at 10 year and 18 year thresholds is higher in System H than in System C. This suggests that the population in System H is relatively older than that of System C.

The official definition of employment in the rural sector is that a person who is employed for more than 15 hours a week is considered employed. However, to be considered fully employed he has to work more than 50 hours a week.

By this definition, the entire labour force of the sample area is employed. In fact, the total number actually working is well above the number of persons above 18 years of age. However, the average number of hours worked by a person is less than 50 hours a week. Thus there is significant under-employment. It is significant to note that the level of under-employment is greater in System C compared to System H.

The higher level of employment in System H, where the labour force per family is bigger, is of significance. This again implies that employment opportunities are much greater in System H than in System C. System H, as the older settlement, was also seen as having reached a higher level of development in terms of off-farm employment activities than System C and as such had a higher income from non-farm sources. It is likely that the higher level of employment in system H is also linked to this higher level of off-farm employment.

CONCLUSIONS & RECOMMENDATIONS

4.1. Conclusions

The conclusions made below are based on the quantitative findings of the survey results given in the previous chapter together with qualitative observations of the researchers during the course of the field work. The scope of the field surveys was restricted to a coverage of what was deemed essential for the central focus of the study, i.e., rural industrialization in the sample areas. Constraints of time, personnel and financial resources resulted in compromises in terms of sample sizes, range of data generated as well as number of visits by enumerators.

Rural industrialization is only a subset of a wide range of development related issues relevant to Mahaweli model. The close inter-relationship of rural industrialization together with the type of agricultural practices in the area, overall concepts of settlement planning and a variety of other socio-economic factors result in some important areas receiving what may appear to be insufficient or scant attention within this report.

The academic purists may wish to pursue their research on such areas further. For the practical planner and manager the additional resources required for such research are likely to be luxuries which cannot be easily afforded.

The authors of this study are of the view that the conclusions and recommendations given below give sufficient background to a plan of action and an implementation programme for improving opportunities for rural industrialization in the project area.

4.1.1. The Importance of Off-farm Sources of Income with Special Reference to Non-farm Enterprise

Income from off-farm sources accounts for a significant proportion of the income of settlers in both Mahaweli System H and System C. However, farm income still continues to be the major source of income being over 60 percent of the total income.

In spite of the fact that Mahaweli settlements were originally designed as exclusive agricultural settlements, non-farm sources of income have become highly significant over a short period of time. In the two sample areas, the average family income from non-farm enterprises account for 19% of average total income. Average income from employment outside the family farm both in agricultural and in non-agricultural activities accounts for 10% of average total income. Thus the self-sufficient family farm as originally envisaged by early Mahaweli Planners has materialized.

4.1.2. On the Spontaneous Development of Non-farm Enterprises Over Time

Non-farm sources of income were more significant in System H than in System C. Settlements in the sample area in System H were established in the early 1980s while those in System C were established in the late 1980s with a time lag of about 5 years between the two groups.

This suggests that as planned agricultural settlements mature/grow older, there is a tendency for non-farm enterprises to be established spontaneously. As a result, the importance of income from non-farm sources and wages from off-farm employment increases. Whether this growth will continue beyond meeting the demand for goods and services within the neighbourhood farming community itself is an issue which needs investigation.

The characteristics of non-farm enterprises observed from the study suggests that they are established to serve exclusively the demand for goods and services arising from the local population. The enterprises are predominantly of service orientation. The majority of these are individually owned small scale ventures with low to moderate labour and capital use which service the needs of the local community.

The data generated on the capital assets of the enterprises hints of a likely increase on the number of enterprises at the higher end of the scale as the settlements mature. The System H was seen to have proportionately more of these than System C.

However, there is no clear indication as to whether non-farm enterprises would automatically move away from the present service industry orientation towards processing, assembling and manufacturing to supply markets outside these settlements.

The absolute number of service type non-farm enterprises should grow over in time in response to the increase of population. Increasing per-capita income may pose a problem to local small scale manufacturing industries owing to competition from outside sources which can offer cheap and relatively better quality goods. In other words, a serious infant industry problem may arise. Even now, settlers appear to have a distinct preference to imported garments and household utensils over traditional types produced in the area. It was observed during field work of the researchers that the settlers also favour well known "international" trade marks in the case of food and particularly beverages.

The average expenditure pattern observed among the sample households show that the major part of income is spent on essential consumer items, mostly food. Unless the disposable income of the household increases significantly, the room for expansion of non-farm enterprises for the local market will be severely restricted.

The supply of goods and services to markets outside the project areas will depend on the comparative advantages of these areas vis a vis urban centres. At present, comparative advantages are in an abundant supply of agricultural commodities and unskilled labour outside the peak seasons in agriculture.

4.1.3. The Situation of Backward and Forward Linkages

The major economic activity of the local population is rice based agriculture. The present technology of rice cultivation offers minimal potential for the development of value added via backward linkages. Apart from labour and land all other inputs are imported. Even irrigation water is on "imported" input, having conveyed to the project area via a system of canals from the Wet Zone of Sri Lanka. Others include fertilizer, agro-chemicals, farm machinery and implements and fuel. All these products are either natural resource based or capital technology intensive industries and are naturally located outside the project area, in fact they are almost totally imported.

Apart from the milling industry, rice crops offers no potential for value addition based on forward linkages. Rice is ready for consumption immediately after milling. If and when per capita incomes in general increase rice, flour based convenience foods, i.e. ready to consume items, may become popular if appropriately marketed. Other crops such as Gherkins cultivated in System C offer comparatively more opportunities in value addition in processing and packaging. The expansion of the extent of land cultivated under such crops particularly horticultural crops which have an export market should offer greater opportunities for value addition through agro-based industries.

In Yala 1990 about 30% of the cultivable extent in System H and about 8% of that in System C were cultivated in crops other than paddy. In the order of importance, they are chillies, B-onions, vegetables, cowpea, green gram, red onions, black gram and gingelly. Downstream processing potential of these crops to at present are not significantly different from that of paddy. If agro-

industrialization is a desired goal, then, crops may have to be selected on their market and agro-processing potential by overcoming possible agronomic problems, rather than merely selecting what can be grown easily. Even though their forward linkages are minimal crops such as chillies and onions are better than paddy in terms of their farm income potential and thus should be encouraged vis a vis paddy.

4.1.4. Agriculture, Under-employment and Non-farm Enterprises

The study showed a high degree of under-employment among the sample families, but little or no unemployment. Almost all household members had some work in the farm. Although this study did not generate detailed information on agricultural activities a high incidence of hired labour used by the sample households for farm work during planning and harvesting seasons was noted by the researchers.

The study also found that at present all non-farm enterprises of the area are of year round operation i.e. no seasonality in labour absorption. If potential non-farm enterprises for the area cannot increase labour absorption seasonally to coincide with seasonal under-employment on farms, then the availability of labour can become a constraint for rural industrialization at present. In other words, the wage rates will have to be increased well beyond the real and perceived returns from agriculture. As population increases, of course this constraint will be less.

Table 10
Extents of Paddy and Other Crops
Cultivated in Systems H and C During the Crop Year 1989/90

SYSTEM	CROP	Extent cult. (ha)	Production mT	Value Rs. thous	Extent cult. (ha)	Production mT	Value Rs. thous
H	Paddy	27882	139,410.0	906,165	7,594	37,970.0	246,805
	Chillie	1352	1,352.0	74,360	8,857	13,285.5	730,703
	Cowpea	343	281.0	4,215	305	457.5	6,863
	Green Gram	119	72.0	1,440	205	246.0	4,920
	Black Gram	3	4.1	79	55	82..5	1,588
	Maize	592	740.0	2,960	-	-	-
	Soya Bean	13	21.0	210	191	382.0	3,820
	Red Onion	22	176.0	1,584	11	110.0	990
	B-Onion	-	-	-	646	6,460.0	96,900
	Ground Nut	3	4.0	36	4	7.6	68
	Gingelly	-	-	-	-	-	-
	Vegetables	191	-	0	604	0.0	0
	Gherkin	-	-	-	-	-	-
	Other	19	-	0	-	-	-
	Total (OFC)	2857	2,650.0	84,884	10,878	21,031.1	845,852
C	Paddy	14085	63,383.0	411,990	14,274	64,233.0	417,515
	Chillie	41	410.0	2,255	134	201.0	11,055
	Cowpea	52	48.0	720	46	69.0	1,035
	Green Gram	44	35.0	700	50	60.0	1,200
	Black Gram	-	-	-	1	1.5	29
	Maize	2966	2,966.0	11,864	9	31.5	126
	Soya Bean	10	14.0	140	8	16.0	160
	Red Onion	27	216.0	1,944	50	500.0	4,500
	B-Onion	-	-	0	21	210.0	3,150
	Ground Nut	1	2.0	18	4	7.6	68
	Gingelly	-	-	-	3	36.0	432
	Vegetables	103	-	0	94	0.0	0
	Gherkin	-	-	-	32	288.0	4,320
	Other	-	-	-	-	-	-
	Total (OFC)	3244	3,322.0	17,641	452	1,420.6	26,075,275

Source: PMU/MASL

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	Gherkin	-	-	-	-	-	-
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	Gherkin	-	-	-	32	288.0	4,320
	Other	-	-	-	-	-	-
	Total (OFC)	3244	3,322.0	17,641	452	1,420.6	26,075,275

Source: PMU/MASL

However, changes in the crop mix and changes in agricultural technologies will be essential if the problem of seasonal unemployment in agriculture is to be dealt with. While the alternatives are many it is not dealt with in this study. However, in the light of the foregoing discussion, the following changes may therefore be necessary as pre-conditions for successful rural industrialization.

- Increase the farm level surplus beyond the present levels
- Permit greater value addition beyond the farm gate relative to the present rice based agriculture.
- Release more labour from the farm to other occupations.

Obviously, crop diversification, changes in the crop mix and appropriate technological changes should feature as top priorities in the agenda. In other words, a rural industrialization strategy totally independent of the overall agricultural development strategy is not likely to make much of an impact in the Mahaweli areas.

4.2. Recommendations

Based on the findings of the surveys and other research activities carried out, in particular a series of informal discussions by the researchers during field visits, the level of prevailing business and enterprise ventures and the potential for future development was analyzed. In the process of such analysis the constraints which hinder the systematic and rapid development of enterprises and business activities were identified. The weaknesses, lapses, and constraints that exist among the business, and extension staff and the existing and potential entrepreneurs were also given due consideration.

Based on this analysis the need for a systematic approach to business and industrial development to eliminate such shortcomings was recognized.

An integrated approach which involves certain basic components is recommended. Such an integrated approach should include promotional, motivational and awareness, entrepreneurship development and skill training programmes. These programmes must be supported by a package of incentives and

continuous supervision and follow up activities. This "package deal" should include adequate and timely credit facilities together with marketing and other service facilities.

At present, the emphasis seems to be on very small scale (household) development, which seems most vulnerable. Therefore, it is recommended that future development should not focus on one single scale of operation but encourage development of a much wider scale of operation. In addition to the grassroots level sector, both small scale and medium scale sector growth must be encouraged. Obviously the strategies for the production of enterprises at different scales of operation defer.

Since there seems to be a certain degree of fear and apprehension for growth beyond the family or household level, primarily due to the low aspirations of the entrepreneurs and sometimes due to fear of factors such as taxation, motivational and vocational training geared to cater to the needs of the developing township and manufacturing sector is recommended. The provision of management skills will greatly enhance the success of such a programme.

In order to overcome the constraints and problems inherent in family operations particularly in relation to the scales of operation and the type of markets assessed, an attempt must be made to encourage the formation of business and farmer associations and cooperatives. Such a programme would help to overcome problems of circular migration which is common in the Mahaweli settlement areas and which is not conducive to industrial growth.

Presently the emphasis seems to be on trade, services and manufacturing aimed at servicing the local construction industry, since such activities are not capital intensive and involve a lower degree of risk and presumably a greater opportunity for profit making. Provision of targeted incentives and other support services may provide the necessary "push" towards greater investment in business ventures for economic value addition.

It is seen that even where the gross agricultural incomes are high, net income increases generally remain low, particularly due to the high costs of imported inputs and the presence of significant

leakages. It is recommended that attention is drawn to the possibility of expanding the local fertilizer industry using local dolomite (from Matale) and apatite (from Eppawela). Increased agricultural incomes do not appear to lead to greater investment in local industry or to an increase in demand for local goods.

Limitations in industrial raw material in the Mahaweli areas automatically focuses attention on the development of agro-based industries as the main stay. This would invariably also lay greater emphasis on the horticulture and livestock industry, the former towards the export market for industrialization and the latter for the domestic market. The potential for the latter has already been drawn by a very successful co-operative society based programme implemented in System C.

Similarly, the development of agricultural implements and light industry has lagged behind and should be considered as a potential growth area.

The development of urban centres in the Mahaweli areas has not kept up to expectations although a hierarchial growth of urban centres was expected in the original Master Plan. However, such a pattern has yet to emerge. This may requires an overall regional development plan. The speedier development of urban centres of course requires added emphasis. Such centres would provide internal markets and an encouragement and an impetus for growth of industries. Although the liberalization of the economy has its positive impact, protection at least in a limited manner, may be required for selected rural industries if they are to sustain in an expanding competitive market.

A number of shortcomings were noted in the extension programme especially among the staff of extension organizations. A significant gap between the entrepreneurs and field staff primarily due to a lack of understanding is noted. In many instances, the extension staff had failed to develop rapport and win the confidence of the entrepreneurs.

A streamlined effort must be made by the Mahaweli Authority and its extension agencies, in particular the Enterprise, Investment and Employment Development (EIED) division to instill in the minds of

present and potential entrepreneurs, the concepts of quality in their operations, they must encourage entrepreneurs to follow and use proper planning process; to expose a greater number of existing and potential entrepreneurs to technological changes taking place outside the Mahaweli areas in the first instance, and then to changes taking place in other parts of the world, particularly in those countries where similar physical and socio-economic backgrounds exist; and finally to implement such programmes so as to motivate and enhance the awareness of entrepreneurs and to introduce new management techniques and develop their management skills to make them better managers.

A very well thought out plan of operation for the development of the medium, small and grass-root level sectors must be initiated and put into operation. Particular attention must be paid to the establishment of joint ventures which would lead to the development of a system of sub-contracting, for which there seems to be an enormous potential in the Mahaweli areas.

A more determined and effective action programme to attract outside investment must be mooted. This could be in the form of direct foreign investment, joint ventures between foreign and local investors, and large and medium scale local investments. However, the success of such an investment promotion programme would depend on the creation of a secure climate, presentation of an attractive investment package, provision of an excellent infra-structural and other basic facilities backed by a highly motivated, dedicated and efficient extension and management system.

A well planned and focussed systematic approach to business and industrial development backed by a committed, trained and experienced staff, careful promotional measures, a proper identification of possible development areas, the implementation of training and motivational programmes, the provision of adequate credit facilities, marketing and other extension services, the development of management skills and close supervision and follow up are all needed to be implemented as a package in order to initially eliminate the many constraints and short comings and in the long run to create enormous benefits by laying a sound foundation for rural industrialization and improving the quality of life of the Mahaweli settler.

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SCHEME FOR FINANCIAL ASSISTANCE (EDB)1. Fiscal Incentives -

- (a) Five year tax holiday for manufacturing companies and EPV companies, from the year of 1st profit;
- (b) Five year tax holiday from 1984 - 1989 for partnerships, proprietorships, and also for training firms;
- (c) Five year half tax holiday for undertakings which have already enjoyed a five year tax holiday if the net foreign exchange earnings are over 50%;
- (d) Investment relief upto 1/3 of the assessable income. (In the case of individuals, the upper limit for relief is Rs.50,000/-);
- (e) Accelerated depreciation on machinery, equipment and vehicles.
- (f) Exemption of dividends from payment of income tax;
- (g) Refund of duties ceases, turnover tax, and stamp duties on imported inputs for export processing;
- (h) Manufacturing-in-Bond facilities for clearance of inputs from the harbour without payment of Customs levies;
- (j) Exemption of imported machinery equipment and accessories from the payment of Customs duties and turnover tax.

11. Concessionary Financing -

- (a) Medium and long Term Credit facilities at interest rates ranging from 9% - 14% from -

The Central Bank

The National Development Bank

The Capital Development and Investment Co. Ltd.,

The Development Finance Corporation of Ceylon (DFCC)

Commercial Banks under the Small and Medium Scale Industry Scheme (SMI Scheme)

- (b) Short-term working capital at interest rates ranging from 5.8% - 10% under the -

Pre-shipment export Credit Refinance facility and the Supplementary Refinance facility of the Central Bank through the Commercial Banks.

111. Assistance Schemes of the EDB

- (a) Export Development and Investment Support Scheme (EDISS);
- (b) Financial Assistance to Manufacturing and Processing Exporters to Expand Exports in the Short Term;
- (c) Equity Participation;
- (d) Assistance for Pioneering Projects;
- (e) Bidding Loans;
- (f) Assistance to Financially Ailing Projects;
- (g) Assistance for setting up of projects such as Export Production Villages;
- (i) Presidential Export Awards.

Survey of Enterprises - Questionnaire
Rural Industrialization study - IDRC/PMU-MASL

Introduction

System :
 Block :
 Unit :
 Sample No. :
 Name :

Household composition

Relationship	Sex	Age	Primary occupation*	Secondary occupation
			See code below	
Entrepreneur				

* Defined as the occupation which accounts for most of the entrepreneur working time.

Code

1.1 Educational Level/Skills of the entrepreneur

a) Educational Level Code 1

b) Special Skills Code 2

<u>Code 1</u>		<u>Code 2</u>	
No schooling	1	Caprentary	1
Primary Grades (Grade 1 - 5)		Masonry	2
Secondary Grades (Grade 6 - 10)	3	Welding/Lathe machining	3
G C E (O/L) Passed	4	Pottery	4
G C E (A/L) Passed	5	Driving	5
Technical College Trained	6	Motor Mechanic	6
Graduate	7	Barbar	7
		Blacksmith	8
		Baker	9
		Other (specify)	10
		Craftsman (specify)	11
			12

1.2 Occupational Background

a) Present Main Occupation*

Experience (in years)

--	--

b) Secondary Occupation
(specify)

c) Any occupation other than (a) and (b) engaged in before resettlement
and/or before starting the present enterprise.

* Defined according to the income received.

Experience (in years)

I

.....

II

.....

d) What is/was father's occupation?

Experience (in years)

I Main occupation*

II Secondary occupation

* Defined according to the income received

e) Do you think that special skills are required to run this enterprise. If yes, what are they?

.....

f) Where did you learn the skills needed by this enterprise?

I From your relatives

II From friends in the neighbourhood

III From schools

IV From private training centres

V From other small enterprises in the same line of business

VI From other small enterprises in a different line of business

VII From large enterprises

VIII From the government agencies

IX Had no skill training

X Other specify

1.3 Household Information

Where is the permanent residence of your family
 (Wife and children)

I Place.....

II District/Mahaweli System.....

III Distance from the enterprise.....

1.4 Resettlement/Residential Status

a) Are you an allotter of Mahaweli land?If yes,

I re-settler

II evacuee

III settler

b) If no.....

I encroacher

II lessee

III outsider

c) If yes, have you been allotted with

I only highland

II both highland and irrigable land

d) Are you a resident of System C or H?

e) If not, where is your permanent residence?

Village.....District.....Distance (miles).....

f) Was your property acquired under the Mahaweli Scheme?

Yes

☐

No

☐

g) Were you paid compensation for above (c) or (d)?

Yes

☐

No

☐

--	--	--	--	--

Rural Industrialization Study

Physical

Details of Enterprise

1.1 Physical Location

System :

Block :

Unit :

Number :

Village/
Township :

1.2 Name of Enterprise :

1.3 Address

1.4 Type of operation :

- Manufacturing
- Processing
- Assembly
- Service
- Rental/Commission
- Shipment of Produce
(Refer Ind. Classify)

1.5 Physical characteristics of the operational unit/premises.

- 1.5.1. Does the enterprise have piped water only/electricity only/both water and electricity/none?
- 1.5.2. Is the structure housing the enterprise a residential unit/a non residential unit?
- 1.5.3. Is the structure housing the enterprise and the land on which it is located fully owned by the enterprise/partially owned by the enterprise/rented/leased/other?
- 1.5.4. Is the enterprise accessible through a motorable road, Yes or No....If yes, is it paved or unpaved?

- 1.5.5. Is the enterprise located on a main road. Yes or No.....
- 1.5.6. Is the enterprise located near a cross road, Yes or No.....
- 1.5.7. Is the structure housing enterprise permanent semi-permanent?
- 1.5.8. Is the structure housing enterprise complete/incomplete ?
- 1.5.9 Does the enterprise use a vehicle(s) for its operations, Yes or No..... if yes, is it power operated or not?
- 1.5.10. State whether the vehicle(s) is(are owned/partially owned/rented

1.6 Principal Products

1.
2.
3.

1.7 Type of Economic Organization (Mark (x) as appropriate)

1. Single Unit ☐
2. Multi-Unit ☐
3. Head Office ☐
4. Sub Agent/Contractor ☐

1.8 If Multi-Unit give name and address of Head Office

1.9 If Head Office give name(s) and address(ess) of branch(es)

- 1.
- 2.
- 3.
- 4.

1.10 If Sub Agent/Contractor give name and Address of main producer

1.11 Type of ownership:

(Mark (x) as appropriate ownership :

1. Individual proprietor ☐
2. Family holding ☐
3. Partnership ☐
4. Private Limited Liability Company ☐
5. Public Limited Liability Company ☐
6. Co-operative ☐
7. Other (specify) ☐

1.12 Are you registered with any Government/Local Government Institutions/RMP Office

Yes ☐No ☐

If yes, give name(s).....

.....

.....

.....

1.0 Operational

1.1 Period of operation in 1988, Mark (x) as appropriate

1. Year round ☐2. Part year ☐

1.2 If part year, Mark (x) as appropriate

1. New business

☐

2. Change of owner

☐

3. Seasonal break

☐

4. Other (specify)

☐

1.3 Description of Industrial processes used in 1989
Note any change in Technology

1.

2.

3.

4.

[illegible]

2.1.1. Other Payments for labour Rs.

Employees Provident Fund

Employers Trust Fund

Gratuity

Bonus

Others (specify)

.....

.....

.....

.....

.....

2.1.2. Source of Labour

	Within the Unit		Within the Block		Within the System		Outside the System		
							From the original village	Other	Total
	Total	%	Total	%	Total	%			
Male									
Female									

2.2 Supplement to wages and salaries

Type of Payment

	Payment during 1988 (Rs)		
	Male	Female	Total
Legally required under social Security system			
Payment for other programmes			
Total			

1.1 Stock of this Establishment, 1988 -----

Type of Stock	Value of Stock "Rupees"	
	As at Jan 1, 88	As at Dec 31, 88
Material, components, parts containers, supplies and fuels		
Work in progress		
Finished goods (except those for resale)		
Goods to be sold in the same condition as purchased		
Total stock		

4.1 Capital assets of the enterprise by end of 1988

Asset		Quantity/Year	Estimated Value	
			Rs.	Cts.
Land (Acres)	Highland			
	Lowland			
Buildings and other construction (Square feet)				
Transport equipment				
1. Car				
2. Tractor (Two wheel)				
3. Tractor (Four wheel)				
4. Lorry				
5.				
6.				
Machinery and other equipment (specify)				
1.				
2.				
3.				
4.				
Total				

4.2 Fixed capital formation in 1988

	Total Land	Building & other construction	Machinery & other equipment (except transport	Transport equipment
	Quantity Rs.	Quantity Rs.	Quantity Rs.	Amount Rs.
1. Total cost of New Fixed Assets purchased				
2. Total cost of second hand Fixed Assets purchased				
3. Total cost of work done on own/family/ other Account				
4. Value of sales of fixed assets of this establishment				
5. Gross Additions to Fixed Assets (sum of all above) (1 + 2 + 3)				

4 Grand Total _____

5 Grand Total _____

4.3 Fixed Capital Formation (continued)

Source of financing for expenditure on fixed assets 1988 (Rupees)

	Govt. Subsidies	Govt. Loans	Bank Loans & Overdrafts	Own Funds	Supplier's Credit	Other
	1	2	3	4	5	6
Financing for						
1. Land						
2. Building and other cons- truction						
3. Machinery & other equipment						
4. Transport equipment						
Total financing from						

- 6.
- I Family
 - II Relatives
 - III Neighbour
 - IV Friends
 - V Local Moenylender
 - VI Coop Credit Societies
 - VII Others

INPUT COSTS DURING 1998

5.1 Cost of materials, supplies, energy etc.

Type of Cost	Delivered Cost/Amt. at Establishment	Point of Purchase/Source
1. Materials, Parts, Components		
2. Purchased Fuels		
3. Purchased Electricity		
4. Cost of contract and commissioner work done for you by others on your materials		
5. Cost of repair and maintenance work done for you by others		
6. Cost of goods bought to be sold in the same condition as purchased		
7. Value of work done by the entrepreneur		
Total		

6.1 Delivered Cost of Fuel in 1988

Unit of measurement	Quantity	Point of Purchase/Source (code and address) (Rs.)
Kerosene oil		
Diesel oil		
Petrol		
Gas oil		
Liquified Petroleum gases		
Firewood		
Other		
Total		

1. Within the Un
2. Within the Block
3. Within the System
4. Outside the System
5. Entrepreneur's original village
6. Abroad

6.2. Cost of Non-industrial services to the enterprise during 1988

Description of Service	Value (Rs.)	Point of purchase/ source (code & address)
1. Communication		
2. Rental payment for building and machine		
3. Advertising costs		
4.		
Total		

7.1

Receipts for Non-industrial services within
the enterprise during 1988

Description of Service	Value (Rs.)	Point of sale/outlet (code & address)
Receipts for rental or lease of building and machine		
Commissions received		
Other revenue		
1.		
2.		
3.		
4.		
Total		

Section VII

Shipments and other Receipts of this Establishment 1980

Desceiption of item	Unit of Measurement	Quantity	Value (Rs.)	Quantity and value of which exports
Value of products made				
Receipts for Contract Work done for others on their materials				
Installation Work done for others				
Services including Sales of scrap etc.				
Value of own account investment work				
Total value of shipments and receipts				

7.3. Sales and Territory

Products/Services are sold

Percentage

- a) at the enterprise/service centre itself
- b) within the village/unit/block
- c) outside the block but within the project
- d) outside the project but within the island
(please specify the district)
- e) abroad

8.1 Production/Sales Relations

- a) Sale of Products

--

(i) by the enterprise itself

(ii) through middleman/traders

- b) If through middleman/traders, the arrangement

(i) Commission (%)

Others (specify)

(ii)

(iii)

- c) You produce for

(i) Orders secured earlier

--

(ii) On the assurance that any number of
standard products will be
bought by the buyer

--

(iii) for the open market (code)

Fairs
Within Mahaweli
Outside Mahaweli
Others (specify)

--

8.2 Utilization of Profiles 1988

How did you dispose of our profiles ?

8.2.1 Re-invested

%

- | | |
|---|--|
| i. Present enterprise | |
| ii. Same industry, but different enterprise (product) | |
| iii. Other non-agricultural ventures (specify) | |
| | |
| | |
| | |
| iv. Agricultural (specify) | |
| | |
| | |
| | |
| v. Saved | |
| | |
| | |
| | |
| vi. Consumed | |
| | |
| | |
| | |
| vii. What is your average annual profit of the enterprise ? | |

9. Grading and Quality Control

9.1 Are the products graded after processing ? Yes or No

9.2 If no why not ?

.....

9.3 If yes is the grading based on

1. Experience

2. As wanted by purchaser

3. According to standard classification for export market

9.4 Is there any government regulations about quality control ?

.....

9.5 What are they ?

.....

9.6 If not, do you follow any quality control measures ?

.....

9.7 If not worthwhile, why ?

Value added negligible/no skilled labour etc.

.....

SRI LANKA MAHAWELI AUTHORITY

Planning & Monitoring Unit

Identification Information :

1. Division No. : Name of Division :.....

2. Unit No. : Name of Unit :.....

3. Household No. :

4. Address :

5. Name of Investigator :

6. Survey dates : (a)

: (b)

: (c)

Signature of Investigator :

Name of Supervisor :

Signature of Supervisor : Date :

MAHAWELI AUTHORITY OF SRI LANKA
Planning & Monitoring Unit
Consumer Finance & Labour Force Survey-1990

1.1 Personal Characteristics

Section 1

Serial no	Name of all persons who usually live here including those who are temporarily absent (include boarders, lodgers, servants etc and exclude temporary visitors)	Relationship to head of household	Sex	Age as at last Birthday	Race	Religion	Level of Education (only for persons 5 years and over)	literacy (only for 10 years and over)	Marital status (only for 10 years and over)	District of birth	code
1	2	3	4	5	6	7	8	9	10	11	
01											
02											
03											
04											
05											
06											
07											
08											
09											
10											
11											
12											
13											
14											
15											

10-Oct-91

CODES_1.1

1.1 Codes for Section 1.

Col. 3 : Relationship to Head of Household Col. 4 : Sex

Head of Household	Male
Wife/Husband	Female
Son/Daughter	
Son/Daughter in Law	Col. 7 : Religion
Parents	Buddhist
Grand Son/Daughter.....	Hindu
Other relatives	Muslim
Domestic servants	Roman Catholic ...
Other	Other christian
	Other.....

Col. 8 : Level of EducationCol. 9 : Literacy

No schooling	Literate
Passed grade 0-4/Passed 1-5 year	Illiterate
Passed grade 5-7/Passed 6-8 year	
Passed grade 8-9/Passed 9-10 year	Col. 10 : Married/Single
Passed G.C.E. (O.L.)/H.C.G.E.	Never married
Passed G.C.E. (A.L.)/H.H.C.E.	Married
Under Graduate	Widowed
Degree	Divorced
Post Graduate Degree/Diploma	Separated

For 2.1 A : Section

Col. 7 : Reasons for not working

Ill health/accidents
 Reductions in economic activity
 Off season
 Bad weather
 Shortage of raw materials or fuel ...
 Holiday/leave
 Strike
 Self employment not successful
 Other (state)

Col.10 : Reason for not looking/not available for work

Studies
 Household work.....
 Retirement. old age
 Infirmity, disability
 Not interested
 Too young
 Other reasons (state)

2.1 Status of Economic Activity, Employment and Unemployment (only for persons 10 years and over)

(b) Economic activity and employment (last 7 days)

[illegible]

For 2.1 B : Section

Col. 3 : Employment Status

Paid employee (permanent)

Paid employee (casual)

Self employed

Employer

Own account worker

Unpaid family worker

(b) Employed Persons (give the following details for all persons, with code (yes) in col.3 or col.4 or col.5 in Section 2.1 (a))

[illegible]

INCOME

Monthly income from employment

3.1 Income - Section 1

3.1.01 Income from paid employment/s during last four weeks/last calendar month.

		Complete relevant columns for persons who have received any income as an employee from their principal and/or secondary occupation(s)							
		Wage earners (last four weeks)				Salary earners (last calendar month)			Bonus
List all the household members including boarders, lodgers and domestic servants who were paid employees during last four weeks/last calendar month	Serial Number as given in column 1 of Section	Principal/secondary occupations	Wages	Tips	Total	Salaries	Tips	Total	Received
				commissions			commissions		during
				allowances			allowances		last 12
				overtime			overtime		months
				pay etc.			pay etc.		
			Rs.		Rs.	Rs.	Rs.	Rs.	Rs.
1	2	3	4	5	6	7	8	9	10
		Principal-1							
		Secondary-2							
		Principal-1							
		Secondary-2							
		Principal-1							
		Secondary-2							
		Principal-1							
		Secondary-2							

Monthly income from employment

3.1.02 Other cash receipts of the household members during last calendar month/last 12 months

List all the household members including boarders, lodgers and domestic servants as listed in column 2 of Section 1.	Serial Number as given in column 1 of Section 1.	Did any of the household members receive income during last calendar month from						Did any of the household members receive income during last 12 months from							
		Pension Disability payment and relief payments etc.		Property rents		Food stamps/ Janasiviya		Total	Dividends Interests etc.		Current remittances and transfers				
											From Abroad		within the country		Total
		Yes	No	Yes	No	Yes	No		Yes	No	Yes	No	Yes	No	
		Enter amount	Go to Col.4	Enter Amount	Go to Col.5	Enter Value	Go to Col.7		Enter amount	Go to Col.8	Enter amount	Go to Col.9	Enter amount	Go to 3.1.03	
		Rs.		Rs.		Rs.		Rs.		Rs.		Rs.		Rs.	Rs.
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1															
2															
3															
4															
5															
6															
7															
8															
9															
10															

Total income

Monthly income from other cash receipts

[illegible]

AGRIC ACT

3.1.04 Monthly income from agricultural activities

Average monthly income (net) from agricultural activities (including value of household consumption) carried out by household members excluding boarders, lodgers and domestic servants

Rs.

3.1.08 Land owned by any member/s of household (excluding boarders, lodgers and domestic servants.

3.1.05 Monthly income from non-agricultural activities

Rs.

A R P .

Paddy lan
High land
including
home
garden

Net income from non-agricultural activities (including value of household consumption) carried out by household members excluding boarders, lodgers and domestic servants during last calendar month.

3.1.06 Monthly rental value of the owner occupied house.

Did the household occupy its own house during last calendar month?

Yes What is the estimated gross rental value per month?

No To to 3.1.07

3.1.07 Total household income per month.

(a) Monthly income from employments Rs.

(b) Monthly income from other cash receipts Rs.

(c) Monthly income received in kind Rs.

(d) Monthly income from agricultural activities Rs.

(e) Monthly income from non-agricultural activities Rs.

(f) Monthly rental value of the owner occupied house Rs.

Total household income Rs.

3.2 Income - Part 2

3.2.01 - Income from non-agricultural activities during last calendar month.

Did any of the household members engage in any non-agricultural activity as an employer or an own account worker for sale during last calendar month?

Yes Complete columns 1-6 below. No. Go to section 3.2.02

				Last cultivation year		
Names of household members including boarders, lodgers and domestic servants who cultivated paddy and/or other cereals and/or tobacco as employers or own account workers	Serial number as given in column 1 of section 1	Paddy/other cereals	Value of output	Cost of production	Value of amounts consumed by the household	
1	2	3	4	5	6	

Cost on Inputs, labour, rent, transport, taxes etc.

Codes for Col.3 : Mining and quarrying
Manufactory
Construction
Trade

Transport

Guest houses, restaurants, bars, hotels etc.

Services

3.2.03 - Income from other agricultural activities

Did any of the household members cultivate paddy, any other cereals or tobacco as an employer or an own account worker for sale and/or household consumption during last year.

Yes Complete columns 1 to 6 below

No and Section 3

Names of household members including boarders, lodgers and domestic servants who are engaged in other agricultural activities as employers or own account workers.	Serial Number as given in column 1 of Section 1	Agricultural product	Last calendar month		
			Value of output	Cost of Production	Value of amounts consumed by this household
			Rs.	Rs.	Rs.
1	2	3 Code	4	5	6

Cost on seeds, seedlings, animal food, fertilizer, chemicals, tractor charges, labour, transport rent, taxes etc.

Codes for Column 3 :

Tea, rubber	Meat	Firewood
Coconut	Fish	Other
Vegetables & fruits	Eggs	
Coffee, Pepper, Banana)	Milk	
Betel etc.....	Other food, Yams.....	

1. Expenditure

1.01. Daily consumption expenditure on Food, Drink and Tobacco.

Food Item	Code	Unit	Total	1st day	2nd day	3rd day	4th day	5th day	6th day	7th day								
			Qty. value	Qty. Value	Qty. Value	Qty. Value	Qty. value	Qty. value	Qty. value	Qty. value								
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
			Rs. Cts	Rs. Cts	Rs. Cts	Rs. Cts	Rs. Cts	Rs. Cts	Rs. Cts	Rs. Cts	Rs. Cts	Rs. Cts	Rs. Cts	Rs. Cts	Rs. Cts	Rs. Cts	Rs. Cts	Rs. Cts
1. Rice - own produce		gram																
purchased		gram																
2. Wheat flour		gram																
3. Rice flour - own produce		gram																
Purchased		gram																
4. Kurakkan - own produce		gram																
purchased		gram																
5. Maize - own produce		gram																
purchased		gram																
6. Other cereals-own produce		gram																
purchase		gram																
1.2 Bakery Products																		
1. Bread		No.																
2. Buns		No.																
3. Cakes		No.																
4. Other		No.																

Food Item	Code	Unit	Total		1st day		2nd day		3rd day		4th day		5th day		6th day		7th day	
			Qty.	value	Qty.	Value	Qty.	Value	Qty.	Value	Qty.	value	Qty.	value	Qty.	value	Qty.	value
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
			Rs.	Cts	Rs.	Cts	Rs.	Cts	Rs.	Cts	Rs.	Cts	Rs.	Cts	Rs.	Cts	Rs.	Cts
1. Hoppers		gram																
2. String Hoppers		gram																
3. Thosai																		
4. Pittu		gram																
5. Other (Roti, Vadai etc.)																		
		gram																
1.4 Other cereal preparations																		
1. Pappadam		gram																
2. Noodles																		
3. Other		gram																
		gram																
1.5 Packotted & Tinned cereals																		
1. Oats, Rye, Barley																		
2. Infant cereal food		value																
(Mentum etc.)																		
3. Other (state)		value																
.....																		
.....																		

Food Item	Code	Unit	Total		1st day		2nd day		3rd day		4th day		5th day		6th day		7th day	
			Qty.	value	Qty.	Value	Qty.	Value	Qty.	Value	Qty.	value	Qty.	value	Qty.	value	Qty.	value
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
2. Condiments (last 7 days)			Rs. Cts;		Rs. Cts;		Rs. Cts;		Rs. Cts;		Rs. Cts;		Rs. Cts;		Rs. Cts;		Rs. Cts;	
1. Dried chillies-own produce		gram																
- purchased																		
2. Red onions- own produce		gram																
- purchased																		
3. Big onions - own produce		gram																
- purchased																		
4. Garlic - own produce		gram																
- purchased																		
5. Cumin seeds - own produce		gram																
- purchased																		
6. Coriander - own produce		gram																
- purchased																		
8. Ginger - own produce		gram																
- purchased																		
9. Saffron - own produce		gram																
- purchased																		
10. Fenagreek -own produce		gram																
- purchased																		

6

17

Food Item	Code	Unit	Total		1st day		2nd day		3rd day		4th day		5th day		6th day		7th day	
			Qty.	value	Qty.	Value	Qty.	Value	Qty.	Value	Qty.	value	Qty.	value	Qty.	value	Qty.	value
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
			Rs. Cts.		Rs. Cts.		Rs. Cts.		Rs. Cts.		Rs. Cts.		Rs. Cts.		Rs. Cts.		Rs. Cts.	
11. Mustard - own produce		gram																
- purchased																		
12. Fenarind - own produce		gram																
- purchased																		
13. Goraka - own produce		gram																
- purchased																		
14. Green chillies-own produce		gram																
- purchased																		
15. Salt																		
16. Pepper - own produce		gram																
- purchased																		
17. Limes - own produce		gram																
- purchased																		
18. Cinnamon - own produce		gram																
- purchased																		
19. Curry leaves - own produce		gram																
- purchased																		
20. Vinegar		value																
21. Sauce		value																
22. Other condiments		value																

Food Item	Code	Unit	Total	1st day	2nd day	3rd day	4th day	5th day	6th day	7th day
			Qty. value	Qty. Value	Qty. Value	Qty. Value	Qty. value	Qty. value	Qty. value	Qty. value
1	2	3	4 5	6 7	8 9	10 11	12 13	14 15	16 17	18 19
3. Seeds			Rs. Cts.	Rs. Cts.	Rs. Cts.	Rs. Cts.	Rs. Cts.	Rs. Cts.	Rs. Cts.	Rs. Cts.
1. Dhall		gram								
2. Thora/Kadala -own produce;		gram								
- purchased										
3. Green gram - own produce;		gram								
- purchased										
4. Gram - own produce		gram								
- purchased										
5. Cowpea - own produce		gram								
- purchased										
6. Soya		gram								
7. Other		gram								
4. Vegetables										
1. Leafy vegetable-own produce;		value								
- purchased										
2. Other vegetables-own produce;		value								
- purchased										
5. Yams and Fruit vegetables										
- own produce										
- purchased										

Food Item	Code	Unit	Total		1st day		2nd day		3rd day		4th day		5th day		6th day		7th day	
			Qty.	value	Qty.	Value	Qty.	Value	Qty.	Value	Qty.	value	Qty.	value	Qty.	value	Qty.	value
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
				Rs. Cts.		Rs. Cts.		Rs. Cts.		Rs. Cts.		Rs. Cts.		Rs. Cts.		Rs. Cts.		Rs. Cts.
6. Coconut - own produce	0801	No.																
- purchased	0802	No.																
7. Meat																		
1. Beef	0901	gram																
2. Mutton	0902	gram																
3. Pork	0903	gram																
4. Chicken-own produce	0904	gram																
- purchased	0905	gram																
5. Other meat	0906	gram																
6. Tinned meat	0907	gram																
7. Other meat products (bacon, sausages etc.)	0908	gram																
8. Fish																		
1. Fresh water fish-own produce	0909	gram																
- purchased	0910	gram																
2. Sea fish	0911	gram																
3. Prawns/Crabs	0912	gram																
4. Dried fish-own produce	0913	gram																
- purchased	0914	gram																
5. canned fish	0915	gram																

Food Item	Code	Unit	Total		1st day		2nd day		3rd day		4th day		5th day		6th day		7th day	
			Qty.	value	Qty.	Value	Qty.	Value	Qty.	Value	Qty.	value	Qty.	value	Qty.	value	Qty.	value
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
				Rs. Cts.		Rs. Cts.		Rs. Cts.		Rs. Cts.		Rs. Cts.		Rs. Cts.		Rs. Cts.		Rs. Cts.
6. Salted Fish-own produce	0916	gram																
- purchased	0917	gram																
9. Milk and Milk Foods																		
1. Cow milk/Goat milk-own prod.	1001	litre																
- purchased	1002	litre																
2. Curd - own produce	1003	value																
- purchased	1004	value																
3. Yoghurt/Moore	1005	value																
- purchased	1006	value																
4. Condensed milk-Lanka	1007	gram																
- foreign	1008	gram																
5. Milk powder-Lanka	1009	gram																
- foreign	1010	gram																
6. Infant milk powder	1011	gram																
- foreign	1012	gram																
7. other milk foods	1013	gram																
10. Fats & oils (last 7 days)																		
1. Coconut oil-own produce	1101	litre																
- purchased	1102	litre																

Food Item	Code	Unit	Total		1st day		2nd day		3rd day		4th day		5th day		6th day		7th day	
			Qty.	value	Qty.	Value	Qty.	Value	Qty.	Value	Qty.	value	Qty.	value	Qty.	value	Qty.	value
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
				Rs. Cts;		Rs. Cts;		Rs. Cts;		Rs. Cts;		Rs. Cts;		Rs. Cts;		Rs. Cts;		Rs. Cts;
2. Gingerly oil - own produce	1103	litre																
- purchased	1104	litre																
3. Soya oil - own produce	1105	litre																
- purchased	1106	litre																
4. Ghee - own produce	1107	litre																
- purchased	1108	litre																
5. Butter/Margarine	1109	gram																
6. Other	1110																	
11. Eggs																		
1. Hen - own produce	1201	No.																
- purchased	1202	No.																
2. other - own produce	1203	No.																
12. Fruits (last 7 days)																		
(a) Fresh fruits																		
1. Banana - own produce	1301	No.																
- purchased	1302	No.																
2. Pineapple - own produce	1303	No.																
- purchased	1304	No.																
3. Papaw - own produce	1305	No.																
- purchased	1306	No.																

Food Item	Code	Unit	Total		1st day		2nd day		3rd day		4th day		5th day		6th day		7th day	
			Qty.	value	Qty.	Value	Qty.	Value	Qty.	Value	Qty.	value	Qty.	value	Qty.	value	Qty.	value
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
				Rs. Cts.		Rs. Cts.		Rs. Cts.		Rs. Cts.		Rs. Cts.		Rs. Cts.		Rs. Cts.		Rs. Cts.
4. Mangoes - own produce	1307	No.																
- purchased	1308	No.																
5. Oranges - own produce	1309	No.																
- purchased	1310	No.																
6. Avacado - own produce	1311	No.																
- purchased	1312	No.																
7. Wood apple - own produce	1313	No.																
- purchased	1314	No.																
8. Rambutan - own produce	1315	No.																
- purchased	1316	No.																
9. Grapes	1317	gram																
10. Thambili/Kurumba-own prod.	1318	No.																
- purchased	1319	No.																
11. Other - own produce	1320	gram																
- purchased	1321	gram																
(b) Dried fruits																		
1. Dates	1322	gram																
2. Cadjunuts	1323	gram																
(c) Canned fruits	1324	gram																

Food Item	Code	Unit	Total		1st day		2nd day		3rd day		4th day		5th day		6th day		7th day	
			Qty.	value	Qty.	Value	Qty.	Value	Qty.	Value	Qty.	value	Qty.	value	Qty.	value	Qty.	value
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
				Rs. Cts.		Rs. Cts.		Rs. Cts.		Rs. Cts.		Rs. Cts.		Rs. Cts.		Rs. Cts.		Rs. Cts.
13. Beverages (non alcoholic)																		
1. Tea-dust/leaves	1401	gram																
2. Coffee powder/needs	1402	gram																
3. Areated water	1403	bottles																
4. Fruit drinks -own produce	1404	value																
- purchased	1405	value																
5. other	1406	value																
14. Sugar, Jaggery & Treacle																		
1. Sugar	1507	gram																
2. Jaggery (Coconut/kitul/																		
sugar cane/Palmgrah)-own prod:	1508	gram																
- purchased	1509	gram																
3. Treacle (coconut/kitul/																		
cane/Palmgrah)-own produce	1510	gram																
- purchased	1511	gram																
4. Honey - own produce	1512	gram																
- purchased	1513	gram																
5. other -	1514	gram																

Food Item	Code	Unit	Total	1st day	2nd day	3rd day	4th day	5th day	6th day	7th day								
			Qty. value	Qty. Value	Qty. Value	Qty. Value	Qty. value	Qty. value	Qty. value	Qty. value								
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
			Rs. Cts.	Rs. Cts.	Rs. Cts.	Rs. Cts.	Rs. Cts.	Rs. Cts.	Rs. Cts.	Rs. Cts.	Rs. Cts.	Rs. Cts.	Rs. Cts.	Rs. Cts.	Rs. Cts.	Rs. Cts.	Rs. Cts.	Rs. Cts.
15. Confectionary & Jams																		
(last 7 days)																		
1. Jam/Jelly	1601	gram																
2. Ice cream	1602	value																
3. Chocolate	1603	No.																
4. Toffees & seeds	1604	No.																
5. Biscuits	1605	No.																
6. Thalaballs	1606	No.																
7. Sinhala sweets/nests(Kavum/																		
Athirasa, Munkavun, kokis etc.)	1607	value																
16. Other packeted, tinned and;																		
bottled foods(last 7 days)																		
(state)	1608	value																
.....	1609	value																
.....	1610	value																
17. Other food(state).....	1701	value																
.....	1702	value																
.....	1703	value																

4.1. Expenditure

Food Item	Code	Unit	Total		1st day		2nd day		3rd day		4th day		5th day		6th day		7th day	
			Qty.	value	Qty.	Value	Qty.	Value	Qty.	Value	Qty.	value	Qty.	value	Qty.	value	Qty.	value
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
18. Liquor, Drugs and Tobacco				Rs. Cts.		Rs. Cts.		Rs. Cts.		Rs. Cts.		Rs. Cts.		Rs. Cts.		Rs. Cts.		Rs. Cts.
18.1. Liquor																		
1. Toddy		Bottles																
2. Arrack (coconut)		Bottles																
3. Kasippu		Bottles																
4. Other liquor		Value																
5. Drugs		Value																
18.2. Tobacco																		
1. Cigarettes		Number																
2. Cigars		Number																
3. Beedi		Number																
4. Pipe tobacco		Value																
5. Other		Value																
18.3. Betel and Arecanuts																		
1. Betel		Value																
2. Arecanut		Value																
3. Tobacco		Value																
4. Lime		Value																
5. Balaathvita		Value																

4.1.02. Household expenditure on Housing, Fuel and Light, Non-durable goods, Services and consumer durables etc.

Item	Code	Unit	Main house-hold	Distance to nearest point if not available within the system	Qty. Val.	(k.g.)	Item	Code	Unit	Main house-hold	Distance to nearest point if not available within the system	Qty. Val.	(k.g.)
1	2	3	4	5	6		1	2	3	4	5	6	
1. Housing (last month)							3.1.7. T shirts	2007	No.				
1.1. Rent							3.1.8. Sarongs	2008	No.				
1.2. Rates, taxes, etc	1801	value					3.1.9. Vetties	2009	No.				
1.3. Maintenance	1802	value					3.1.10 National Dress Banians	2010	No.				
2. Fuel & Light (last month)	1803	value					3.1.11 Cotton Banians	2011	No.				
2.1. Kerosene							3.1.12 Socks	2012	No.				
2.2. Firewood	1901	Litre					3.1.13 Men's Under wear	2013	No.				
2.3. Electricity	1902	Kg.					3.1.14 Ties	2014	No.				
2.4. Gas (ordinary)	1903	Unit					3.1.15 Handkerchief	2015	No.				
2.5. Gas (L.P.)	1904	Unit					3.1.16 Other	2099	No.				
2.6. Matches	1905	Kg.					3.2. Ready made Garments						
2.7. Candles	1906	No.					3.2.1. Skirts	2101	No.				
2.8. Torch cells	1907	No.					3.2.2. Frocks	2102	No.				
2.9. Other	1908	No.					3.2.3. Blouses	2103	No.				
3. Clothing and Textiles etc (last 6 months)	1999	value					3.2.4. Petticoats/ under skirts	2104	No.				
3.1.1. Long Trousers - cotton	2001	No.					3.2.5. Housecoats & kimonos	2105	No.				
3.1.2. Long Trousers -synthetic	2002	No.					3.2.6. Bell Bottoms	2106	No.				
3.1.3. Shorts-cotton							3.2.7. Brassier	2107	No.				
3.1.4. Shorts-synthetic	2003	No.					3.2.8. Knickers	2108	No.				
3.1.5. Shirts-cotton	2004	No.					3.2.9. Night dress	2109	No.				
3.1.6. Shirts-synthetic							3.2.10. Children's dresses (including school uniforms)	2110	No.				
Total							3.2.11. Other	2199	No.				
							Total						

Item	Code	Unit	Main House- hold	Distance to nearest point if not available within the system	Item	Code	Unit	Main house- hold	Distance to nearest point if not available within the system (km)		
1	2	3	4	5	6	1	2	3	4	5	6
3.3. Clothes-in metres						3.6.3. Pillow cases	2503	No.			
3.3.1. Suitings-cotton	2201	Meter				3.6.4. Curtain materials	2504	Value			
3.3.2. Suitings-synthetic	2202	Meter				3.6.5. Mosquito nets	2505	No.			
3.3.3. Shirtings-cotton	2203	Meter				3.6.6. Other	2599	Value			
3.3.4. Shirtings-Synthetic	2204	Meter									
3.3.5. Long cloth	2205	Meter				3.7. Foot wear					
3.3.6. Grey cloth	2206	Meter				3.7.1. Shoes	2601	No.			
3.3.7. Poplin	2207	Meter				3.7.2. Sandles and slippers	2602	No.			
3.3.8. Printed fabric	2208	Meter				3.7.3. Shoe repairs	2603	Value			
3.3.9. Pyjama	2209	Meter				3.7.4. Others	2699	No.			
3.3.10. Silk, Art silk, satin, georgette etc.	2210	Meter									
3.3.11. Other	2299	Meter				3.8. Other Personal effects					
3.4. Sarees						3.8.1. Umbrellas	2701	No.			
3.4.1. Cotton/voils	2301	Meter				3.8.2. Rain coats	2702	No.			
3.4.2. Silk	2302	Meter				3.8.3. Hand bags	2703	No.			
3.4.3. Synthetic(nylex, georgette etc.)	2303	Meter				3.8.4. Suit cases/ travelling bags	2704	No.			
3.4.4. Other	2399	Meter				3.8.5. Belts	2705	No.			
3.5. Tailoring charges (for garments made to order)	2401	Value				3.8.6. Head wear	2706	No.			
						3.8.7. Other	2799	No.			
3.6. Household Textiles						4. Non durable Household goods					
3.6.1. Towels & towellings	2501	Value				4.1. Group(A) (last month)					
3.6.2. Sheets	2502	Value				4.1.1. Washing soap, (Sun light etc)	2801	Value			
						4.1.2. Washing powder (Rinso etc.)	2802	Value			
						4.1.3. Detergents & Disinfectants	2803	Value			
Total						Total					

Item	Code	Unit	Main house-hold	Distance to nearest point if not available within the system	Item	Code	Unit	Main house-hold	Distance to nearest point if not available within the system		
			Qty. Val.	(km)				Qty. Val.	(km)		
1	2	3	4	5	6	1	2	3	4	5	6
4.1.4. Polish & Paints	2804	value				4.2.18. Toys-local	2918	No.			
4.1.5. Sewing thread and twines	2805	value				-foreign	2919	No.			
4.1.6. Ropes, strings and others	2806	value				4.2.19. Other	2999	No.			
4.2. Group (B) (last 6 months)						5. Household services					
4.2.1. Cups & Saucers	2901	No.				5.1. Wages to servants and chauffers	3001	value			
4.2.2. Plates & Dishes	2902	No.				5.2. Laundry	3002	value			
4.2.3. Glassware- (tumblers etc.)	2903	No.				5.3. Payments for other household services	3003	value			
4.2.4. Plastic ware	2904	No.				5.4. Other	3099	value			
4.2.5. Cutlary (spoons etc.)	2905	No.									
4.2.6. Buckets & Basins	2906	No.				6. Personal care and Health expenses (last month)					
4.2.7. Pots & Pans	2907	No.				6.1. Personal care					
4.2.8. Aluminium ware	2908	No.				6.1.1. Toilet soap	3101	value			
4.2.9. Clayware	2909	No.				6.1.2. Shaving kits	3102	value			
4.2.10. Other kitchen utensils	2910	No.				6.1.3. Tooth paste	3103	value			
4.2.11. Lamps & Lamp-shades	2911	No.				6.1.4. Tooth brushes	3104	value			
4.2.12. Mantles & Wicks	2912	No.				6.1.5. Powder (talcum and other)	3105	value			
4.2.13. Electric bulbs	2913	No.				6.1.6. Face cream & lotions	3106	value			
4.2.14. Brooms & Brushes	2914	No.				6.1.7. Hair oils & creams	3107	value			
4.2.15. Baskets & Bags	2915	No.				6.1.8. Lipstic & nail polish	3108	value			
4.2.16. Torches	2916	No.				6.1.9. Perfumes	3109	value			
4.2.17. Thermos flasks	2917	No.				6.1.10. Hair dressings and shavings	3110	value			
						6.1.11. Other	3199	value			
Total						Total					

Item	Unit	Main house-hold	Distance to nearest point if not available within the system	Item	Unit	Main house-hold	Distance to nearest point if not available within the system
		Qty. Val	(km)			Qty. Val	(km)
1	2	3	4	1	2	3	4
6.2. Health Expenses				7.2.4. Tyres & tubes	3404		
6.2.1. Fees to private medical practitioners (including cost of medicines)	3201			7.2.5. Repair charges (including cost of spare parts and accessories)	3405		
6.2.2. Consultation fees to specialists	3202			7.2.6. Licence fees and insurance	3406		
6.2.3. Payments to medical and dental laboratories for tests analysis etc.	3203			7.2.7. Other	3407		
6.2.4. Payments to private hospitals and nursing homes	3204			7.3. Communications			
6.2.5. Purchase of medical and pharmaceutical products	3205			7.3.1. Expenditure on postal and telegraph services	3501		
6.2.6. Fees to Ayurvedic physicians (including cost of medicines)	3206			7.3.2. Telephone charges (including rent)	3502		
6.2.7. Other	3299			7.3.3. Other	3599		
7. Transport & Communications (last month)				8. Recreation, Entertainment, Education and cultural activities			
7.1. Transport fees paid				8.1. Recreation and entertainment			
7.1.1. Trains	3301			8.1.1. Cinemas	3601		
7.1.2. Bus	3302			8.1.2. Drama	3602		
7.1.3. Taxi, three-wheeler, hiring cars	3303			8.1.3. Sports	3603		
7.1.4. Ships & air lines	3304			8.1.4. Fees to instructor in Arts, music, dancing etc.	3604		
7.1.5. Other	3399			8.1.5. Excursions and Pilgrimages	3605		
7.2. Maintenance of private vehicles				8.1.6. Books, News-papers, Magazines	3606		
7.2.1. Petrol and other fuels	3401			8.1.7. Operation and maintenance of Radio receivers, Televisions and video decks (including licence fees)	3607		
7.2.2. Oil	3402			8.1.8. Other	3699		
7.2.3. Cost of servicing vehicles	3403						
Total				Total			

Item	Unit	Main house-hold	Distance to nearest point if not available within the system	Item	Unit	Main house-hold	Distance to nearest point if not available within the system
Qty. Val				Qty. Val (km)			
1	2	3	4	1	2	3	6
8.2 Education				10.3.3. Electric	3905		
8.2.1. School fees, (private schools)	3701			10.3.4. Other	3906		
8.2.2. Facilities fees (Government schools)	3702			10.4. Cooking appliances			
8.2.3. Tuition fees	3703			10.4.1. Store	3907		
8.2.4. Boarding fees	3704			10.4.2. Mixers, Grinders and Beaters	3908		
8.2.5. School text books	3705			10.4.3. Other	3909		
8.2.6. Stationary, Equipment (exercise books, pencils etc)	3706			10.5. Irons and Heaters	3910		
8.2.7. Other	3799			10.6. Refrigerators	3911		
9. Miscellaneous (last month)				10.7. Fans (ceiling Pedestal, Table etc.)	3912		
9.1. Interest on consumer debt	3801			10.8. Sewing Machines	3913		
9.2. Gifts & donations	3802			10.9. Radiograms, Record players and Tape Recorders etc.	3914		
9.3. Expenses on family Weddings/funerals etc.	3803			10.10. Television sets, video decks etc.	3915		
9.4. Other social and ceremonial expenses	3804			10.11. Musical Instruments	3916		
10. Household Expenditure in consumer durables (during last calendar year)				10.12. Bicycles and Tricycles	3917		
10.1. Furniture	3901			10.13. Motor cycles and scooters	3918		
10.2. Rugs & Carpets	3902			10.14. Motor cars	3919		
10.3. Cookers				10.15. Baby carriages	3920		
10.3.1. Kerosene	3903			10.16. Gardening tools and equipment	3921		
10.3.2. Gas	3904			10.17. Camaras and Projectors	3922		
				10.18. Clocks and Watches	3923		
Total				Total			

Item	Unit	Main house- hold	Distance to nearest point if not available within the system
		Value	(km)
1	2	3	4
10.19. Jewellery	3924		
10.20. Other	3999		
11. Non-Consumption Expenditure (last twelve months)			
11.1. Provident funds, W&OP funds etc.	4001		
11.2. Contributions to Trade Unions Thrift societies and Benevolent funds	4002		
11.3. Insurance premiums	4003		
11.4. Other savings	4004		
11.5. Repayments of debts	4005		
11.6. Gifts and similar transfers	4006		
11.7. Income Tax	4007		
11.8. Other direct taxes	4008		
11.9. Other non-consumption outflows	4009		
Total			

KEY INFORMANTS**General****Information Identification**

Name Address

Age

Occupation

Employment Status Specialization

- (1) What do you think is the role of SMII in the development of Mahaweli ? Are you satisfied with the Present Percentage of people in SMII ? If not what would be the ideal (%) ?
- (2) What do you think drives the growth of non-agricultural activities especially in Mahaweli ?
- (3) Do you agree with the Present Government Policy and strategy of SMII development ? If not what changes would you suggest ?
- (4) Do you believe in stages of growth in SMII development ? If yes, what following items would you think are important at each stage ? If not prioritize the items given.

Entrepreneurship
 Credit
 Increase of productivity
 Market-domestic
 Market-foreign
 Linkages of SMII and LSI
 Raw materials
 Others - specify

- (5) Do you think Government and MASL assistance for the development of SMII should be stimulatory, supportive or sustaining ? Comment.
- (6) Do you think the existing government policies, regulations and rules are satisfactory from the viewpoint of SMII development ? If not why not ?
- (7) Given the location, skill level and raw materials of the MASL region what industries do you think Mahaweli can develop and sustain ?
- (8) The government policy is flexible in the sense that self-employment, family enterprise, small business and medium scale industries are all encouraged. How should the risk of these be for :
 1. Maximum employment
 2. To produce competitive goods
 3. Sustainability
- (9) What do you think are your views on the strengths and shortcomings of the settlers for launching SMII in Mahaweli regions ? Do you think outsiders have set up more enterprises than settlers ? If so why ?

Mahaweli

- (10) Given that MASL's original aim did not include industrial development of the scale now anticipated what changes would you suggest to make possible the development of SMII and non agricultural development ?
- (11) What do you think of the support you receive from Politicians (Pcs) and headquarters (Colombo)? Do their commitment adequate ?
- (12) Do you feel that sufficient funds are available and is spent in the most efficient and effective manner for :
1. Extension
 2. Training
 3. Research of SMI
- (13) Do you think there is enough security :
- a. Prevalence of peace
 - b. Government takeover
 - c. Political interference
- for SMII development ? If not comment.
- (14) Do you think the present incentives for entrepreneurs/investors is adequate ? If not what changes should be made ?
- (15) Is there a comprehensive and clear-cut programme of SMII development ?
1. Number of Training Programmes
 2. New Technological innovations
 3. Skill development
- (16) Is the selection of entrepreneurs done scientifically ? Is there a follow up and supervision ?
- (17) What shortcomings do you see of the Programme ?
- a) Credit - Avenues of obtaining credit
 - Special schemes
 - Collateral
 - Equity
 - Interest rate
 - Payback period
 - b) Land and buildings -
 - obtaining land at appropriate locations
 - c) Labour -
 - Wages, skilled labour, turnover
 - d) Raw materials -

Enough raw material for SMII
 Import of raw material
 Quality of raw material

e) Marketing -

Market potential
 Outside MASL/Foreign
 Seasonality etc.

- (18) What is the role of small towns in the development of SMII ?
- (19) What do you think of MASL's ability to monitor and evaluate the Progress of enterprise development and take corrective action ?
- (20) What other constraints do you see in the development of SMII ?
- a. Are Projects adequate
 - b. Operation time and capacity
 - c. Quality of life without settlers
 - d. Rate of growth
- (21) What do you think should be done to involve women in small and medium scale SMI Projects?
- (22) From your overseas experience what would you suggest that should be done to improve SMI in Mahaweli ?
- (23) Miscellaneous

Comment on the following :

- A. Should training be on the job Training
- B. Should the Universities, NIBM, CISIR, ARTI and other local institutions be involved
- C. Should Government cover some of the risks ?
- D. What steps can be taken to improve the quality of products ?
- E. Is transport (roads, vehicles) satisfactory for industrial development
- F. Should there be an industrial Estate ?
- G. Should there be technological education for SMII personnel ?
- H. Administrative procedures - can you streamline them ?
- I. Market surveys - who should do them ?
- J. Modernization of machinery - is it necessary ?
- K. Power failure/voltage - are they problems ?
- L. Labour disputes and wage rates
- M. Are storage facilities adequate ?
- N. Are entrepreneurs unwilling to expand ? Why ?
- O. Small is beautiful ! Do you agree with this philosophy
- P. Any other comments.

IDRC PROJECT - RURAL INDUSTRIALIZATION IN ASIA - SRI LANKA
SURVEY OF TRAINED INDIVIDUALS

1. Identification of Trained Entrepreneurs

- I (a) 1. Name:
 2. Age:
 3. Sex:
 4. Address:
 5. Primary occupation:
 6. Secondary occupation:
 7. Level of formal Education:
 8. Special skills:

- I (b) 1. Are you a Mahaweli Settler ? (a recipient of Mahaweli Land.)

Yes No

- (i) If "Yes" How long have you been in the Project area ?

Years Months

- (ii) What was your previous residence ?

District Town Village

- (iii) What is/was your father's occupation ?

2. Is your husband/wife/relative (specify) a Mahaweli settler ?

(a recipient of Mahaweli land). Yes No

- (i) If "Yes" How long he/she been living in the Project area ?

Years Months

- (ii) What was his/her previous residence ?

District

- (iii) What is/was his /her father's occupation ?

3. If your answer to question I(b) is "No" :

- (i) What is your status in the Project area ?

- (ii) How long have you lived in the Project area ?

- (iii) What was your previous residence ?

District Town Village

II Entrepreneurial Training Programmes

We understand that you have followed a Entrepreneurial Training Programme some time ago. Could you please answer the following questions ?

1. When did you receive your training ?
2. What was the duration of your training ?
3. (a) Was it a "general" or "special" training programme ?
 General Special
- (b) If it is a "special" training programme, please give area of
 specialization
4. Who organized the training programme ?
 MASL Other (specify)
5. Who were the Instructors ?
 MASL Officers Outsiders (specify)
 Both
6. How many trainees attended the training programme ?
 Male Female
7. How were you selected for the training programme ?
 by application
 selected by RPM
 selected by EIED
 Other (please explain)
8. What do you think were the objectives of the training programme ?

 to identify potential entrepreneurs
 to improve your skills
 to help you manage your enterprise better
 to introduce new Technology/Techniques
 to identify your problems and find
 solutions
 other specify)
9. Do you think the objectives were realized ?
 Yes No

10. (a) Were these the objectives you expected when you enrolled for the programme ?

..... Yes No

- (b) If not, why do you think so ? Please explain

.....
 ...

11. (a) Was the training helpful to you personally ?

..... Yes No

- (b) If "Yes" in what way did it assist you ?

..... helped you to start a new enterprise

..... helped you to improve your present enterprise

..... helped you to improve any skills

..... helped you to help you to introduce new technology/techniques to any enterprise

..... helped you to manage your enterprise better

..... Other (specify)

- (c) Or did you register for the training programme "just to educate yourself" ?

..... Yes No

12. (a) Did the training assist you to establish a new Enterprise to expand the present Enterprise ?

..... Yes No

- (b) If "Yes" how did the training programme help you ?
 (You may tick () more than one answer. Please prioritize your answers.

..... to identify new enterprise

..... to obtain/identify/credit/source of credit

..... To obtain/identify input/input source

..... to identify markets

..... to improve management

..... other (specify)

- (c) If "No", please explain why training programme was not of any use to you.

.....

III Performance after training programme :-

Constraints and Remedies

1. In your opinion what factors prevented you from :
 (prioritized naming the codes)

1	2	3	4

- (a) Continuing your enterprise or improve it.

1	2	3	4

- (b) Start a new enterprise -
 even after participating in the
 training programme ?

..... no initial capital

1. no credit facilities
2. difficulty in obtaining credit
3. interest rates too high
4. insufficient knowledge of technology/techniques
5. no manufacturing/processing facilities
6. no/inadequate raw material
7. no storage facilities
8. no access to markets
9. no/inadequate../irregular (seasonal).. supply of labour
10. variable nature of demand for products
11. no/inadequate organizational support
12. Other (specify)

2. (a) Was there any way in which the MASL could have helped you to overcome any of the above problems you faced ?

..... Yes No

(b) If "Yes" please explain in detail :

.....

3. (a) Was there any "follow-up-action"/monitoring of progress by the MASL staff ?

..... Yes No

b) Please explain :

.....

4. In your opinion, do you think the training programme could have been how beneficial to you ?

..... Yes No

If "Yes" please explain.

- a. training a smaller number at a time
- b. a better selection of trainees
- c. providing a more "in-depth" training
- d. "on the job" practical training rather than theoretical
- e. obtaining the services of better experienced trainers
- f. providing more post-training assistance
 - i to obtain credit
 - ii to obtain raw material
 - iii provide processing facilities
 - iv provide information on markets
 - v provide advice on training
 - vi help in packaging

vii assist or provide better transportation facilities

viii continue to provide technical/ managerial advice

ix other (specify)

5. Have you sought official assistance on any of the above matters at any time ?

..... Yes No

6. (a) Are you satisfied with the kind and amount of assistance extended to you by the officials ?

..... Yes No

- (b) If "No" were the officials

..... inaccessible

..... uncooperative

..... unsympathetic

..... lacked knowledge and expertise

..... helpless because of administrative limitations

..... other (specify)

7. What in your opinion are the most critical/important drawbacks in the training and in general the enterprise development programme. Please explain in detail.

.....

8. (a) What type of Government Assistance/help is necessary for the development of your enterprise ?

.....

- (b) To what extent should such assistance be made available ?

.....

For how long should such assistance continue ?

.....

9. What remedies or solutions do you propose to overcome the problems/constraints faced by the enterprise development programme, if the investment projects are to sustain and benefit the people involved and the country ? Please explain in detail.

.....
.....
.....

