INSTITUTE OF POLICY STUDIES

Non-Farm Employment in the Settlement Sector in Sri Lanka with Special Reference to the Mahaweli Development Programme

By
D. J. Bandaragoda

Research Studies

Employment Series 1

D.F.C.C. Building - 2nd Floor
73/5, Galle Road
Colombo 3.
Sri Lanka

NON-FARM EMPLOYMENT IN THE SETTLEMENT SECTOR IN SRI LANKA WITH SPECIAL REFERENCE TO THE MAHAWELI DEVELOPMENT PROGRAMME

By

D. J. Bandaragoda

Institute of Policy Studies
2nd Floor DFCC Building,
73/5, Galle Road,
Colombo - 3.
Sri Lanka.
1988.

CONTENTS

	Page
Introduction	5
Mahaweli Development Programme	9
Status of Non-farm Activities in Settlement Areas	14
Factors Influencing Non-farm Employment in settlement Areas ..	18
Conclusions and Prospects	27
References	31

INTRODUCTION

The state in a developing country invariably plays a significant role in all aspects of its development. It intervenes in a wide range of activities, from establishing development infrastructure and a suitable environment for development to planning as well as implementing some of the projects themselves. The state also plays a very useful role in the field of development administration, in formulating and administering a large number of legal enactments, rules and regulations connected with the various development activities. In this sense, the quality and scope of state intervention seem to be the dominant aspect of the Sri Lankan experience in rural development and non-farm employment. While the state has over the past fifty years successfully planned and implemented a consistent programme of new land development and associated human settlement activities, its failure to sustain the same level of success in post-settlement performance in the newly developed agricultural areas can be identified as a characteristic feature of this development process.

In terms of the Sri Lankan experience, the Mahaweli Development Programme stands out as a major effort at planned development, with the UNDP/FAO master plan of 1968 indicating its broad basis and the subsequent feasibility studies and numerous appraisals providing the design details for individual projects and other related development aspects. Nevertheless, a planning emphasis on non-farm employment has been conspicuously absent in this massive land development exercise showing a repetition in this respect of the inadequacies of previous settlement projects. Settlement planning has been concerned mainly with the setting up of agricultural settlements and "……most non-agricultural employment that is found in the settlement areas today is a natural growth over time and not altogether the result of a planned effort" (Wimaladharma, 1982). The only non-farm employment that was planned for was in the service sector, and that usually confined to employment in government-sponsored services such as the provision of law and order, co-operatives, banks and extension centres. It has also been contended that the industrial development of Sri Lanka in general should be "……based more on industrial promotion via indicative planning" (Karunaratne, 1973).

While this planning gap can be recognized distinctly as a major deficiency in the management of settlement projects in Sri Lanka, the evolutionary development processes which have taken place within these projects can be considered noteworthy. Though gradual, and not very impressive in terms of physical characteristics, the development of some of the major settlement projects is substantial in terms of the number of beneficiaries dependent exclusively on them. For instance, the 1948 population of about 15,000 in the Gal Oya settlement project has gradually grown to nearly 250,000 within about 35 years. The ability of the project to sustain this population without much support

from other sectors seems to indicate the contribution that may have been provided by non-farm activities within the project area. A similar process has taken place in another settlement project started around the same period at Hingurakgoda in the Polonnaruwa district. The effect of the non-farm component of the activity package normally associated with the settlement areas, particularly that of trading and services, as can be seen today at Minneriya and Hingurakgoda, seems to point to the natural growth potential of non-farm activities without much direct state intervention. It also raises the hypothesis that a more positive planning effort directed at promoting non-farm activities in settlement areas would have produced better results.

Newly developed settlement areas, particularly those under "area development projects" such as the Mahaweli, were also affected by the preferential treatment given to other traditional rural areas by certain state-sponsored programmes aimed at promoting rural industries. On the assumption that settlement project areas have already been heavily supported by the state and also due to the fact that electorally oriented state programmes are generally designed to give higher priority to traditional villages, the services offered by departments like Small Industries, Textile Industries and Labour have a tendency to bypass settlement areas. The managements of settlement projects, which are usually preoccupied at the initial stages with such immediate settlement requirements as land development, agriculture, water management and community services, also tend to discount the value of early introduction of non-farm activities. The settlers for their part are logically content with their own priorities : farming, marketing and social activities. The combined effect of these factors partly explains the lack of enthusiasm during the early stages of settlement for, and the subsequent difficulties for take-off in, non-farm employment generation within settlement projects.

It is intended to discuss in this paper the extent of state intervention in terms of planning, promotion and direct participation in settlements, and the effect of this intervention on non-farm employment generation in settlement areas. The paper is based on a case study of the land settlement programme in Sri Lanka with the focus on the Mahaweli areas. The study was conducted particularly with a view to isolating the special characteristics that distinguish state-sponsored settlement areas from other rural contexts, and to understanding how such characteristics relate to non-farm employment. The paper will attempt to analyse the present status, highlight the related problems and issues, and also discuss some of the future prospects. Since all the field data intended to be used in its preparation could not be collected due to unavoidable circumstances, the paper in its present form gives only a general picture, and stands to be modified and improved on the basis of further field data.

There has been a consistent agricultural orientation in the structure of the Sri Lankan economy, and a similar agricultural bias in its development plans. Taking into consideration the time-frame, and the existing international economic order within which the opportunities had to be made use of, the geographical location of the country as well as its resource endowments, the policies adopted in Sri Lanka have rightly tilted towards this emphasis on agricultural development. In the light of these considerations and the large unemployed workforce, the agricultural sector was far too important to be neglected or given secondary consideration, further justifying the resource allocation effected so far in its favour.

It has been noted elsewhere that " .....if a country has 75% of its labour in agriculture and a labour force growth of 2.5% per year, it has to create non-agricultural jobs at the rate of 10% per year in order to absorb all the increase in the labour force outisde the agricultural sector, and this

rate is double the highest achieved anywhere (Taiwan) for a sustained period of time and five times that achieved in Europe during its period of industrialization" (Shaw, 1973). In the light of this reality, agriculture-oriented strategies were very relevant in creating employment opportunities in the short run. However, to sustain this level of employment, particularly in view of land and water becoming limiting factors, non-farm activities in the agricultural areas should have necessarily become an important consideration in long-term development plans.

The inadequate development of non-farm activities in the agricultural sector finds its roots in the erratic and haphazard development of the industrial sector in Sri Lanka. Even the few attempts at some industrial activity made through the numerous development plans, ranging from the Ten year Plan for 1958-1968 to the present day Investment Programme, have not been successful in generating a sufficient level of non-agricultural employment.

In the latter part of the 1960s, Sri Lanka departed from the classical, agricultural export economy inherited from its colonial past and entered the then popular path of import-substitution industrialisation. This control-oriented, 'autarkic' policy stance continued until the policy changes in 1977, and was able to bring about significant structural changes in the traditional export economy, but its results were on the whole negative (Atukorala, 1981 and 1985). This poor performance contrasts with the intentions consistently declared in successive development plans. While industralisation was upheld to be an integral aspect of economic growth, specific and emphatic reference was made to small and medium-scale industries in rural areas. For example, the Five Year Plan (1972-76) stated : "Since both in terms of output and employment small-scale industry is very much less capital intensive than the other sectors, the industrial plans envisage a desirable swing to the small sector." Similarly, the first Public Investment Programme 1979-83 specifically mentioned as one of its main objectives ".....the promotion of small and medium-scale industries particularly in rural areas where unemployment is more severe."

Though this policy emphasis remained in planning documents, the necessary institutional build-up did not receive sufficient attention. Even when institutions were planned as in the case of the District Development Councils, their implementation was plagued with numerous management problems and was not adequate to produce the desired results. The growth rate of industrial production in real terms was only 5% per year as against the Plan expectation of 11.7% per year between 1957 and 1968 (ILO, 1971). This poor industrial performance is mainly attributable to the dominant role played by the public sector, particularly in the wake of the growing shortages in foreign exchange. Frequent changes as well as questionable quality in political priorities were the disturbing features of this public sector dominance, which continued until the mid 1970s. The share of the private sector in total industrial production declined from 92 per cent in 1968 to under 50 per cent in 1976 (Sethuraman and Bangasser, 1984). Reforms introduced in 1977 marked a substantial break with these policies but did not have much effect on the structure of the economy, as shown in Table 1. While the performance of the industrial sector and its contribution towards employment generation both fell short of expectations, the resultant adverse situation was somewhat ameliorated by the relatively better performance of the agricultural sector.

Following the food shortages experienced during the First World War, new land settlements were developed in the frontier areas of the country in a move to promote domestic food production. The Land Commission of 1920 and its result the Land Development Ordinance of 1935, provided a basis for the new agriculture-oriented policies of the 1930s which resulted in a range of incentives for pioneer settlers to move into new settlements in the dry zone. The post-independence period saw

Table 1.

SECTORAL COMPOSITION OF GDP AT 1970 PRICES

(percentages)

	1970	1977	1984
Agriculture, forestry and fisheries	28.3	26.7	23.2
Mining and quarrying	0.7	3.2	3.3
Manufacturing	16.6	14.6	13.7
Construction	5.6	3.8	4.2
Services	48.7	51.6	56.7

Source : Central Bank and Ministry of Finance & Planning.

an acceleration of this land settlement programme as shown in Table 2. By 1983, the result of these policies could be seen in a dominant paddy sector accounting for about two million acres of agricultural land and providing employment for nearly one million persons (Peiris and Nilaweera).

Table 2.

ALLOCATIONS OF STATE LAND

Category		1953	1966	1980
Major schemes	allottees	16,532	59,762	96,920
	acreage	118,438	284,811	580,000
Highland schemes	allottees	—	8,853	9,378
	acreage	—	31,498	32,400
Youth schemes	allottees	—	2,880	4,483
	acreage	—	7,116	19,400
Village expansion schemes	allottees	n.a.	504,154	n.a.
	acreage	309,000	653,869	n.a.

Source : Wickramasekera 1984

The cumulative effect was the realization of self-sufficiency in rice. Green Revolution technologies, new seed varieties, and a package of state-sponsored incentives paved the way for a satisfactory growth rate in agricultural output; productivity increased from 51 bushels of rice per acre in 1977 to 58 bushels per acre in 1981 and then to 70 bushels per acre in 1983 (Department of Census and Statistics).

Productivity and labour absorption levels in the domestic agriculture sector seemed, however, to have then almost reached their upper limits under existing technological and institutional conditions. In a study conducted on labour use in agriculture, it was observed that the land settlement

schemes had a greater potential for labour absorption relative to other areas but this was not being realised due to various technological and institutional factors (Wickramasekera, 1981). Low cropping intensity, combined with seasonality in labour requirements, was found to have resulted in this low level of labour utilization, particularly in the context of few non-farm employment opportunities. Any further increase in productive employment in settlement agriculture was observed to be possible only through intensification of working processes, raising cropping intensity by way of better water management, more productive utilization of highland allotments, and shifting the cropping pattern towards crops which are more labour-absorptive. All these methods were to increase the labour absorption in agriculture, and some of them may run counter to the present trend towards modernizing agricultural practices. It is in this light that non-farm activities in the agricultural sector have a direct relevance, so that any labour content that is possibly "squeezed out" of agriculture could be productively employed within the settlement areas themselves. A more detailed discussion of this issue appears later in this paper, in the analysis of available field data on its present status.

MAHAWELI DEVELOPMENT PROGRAMME

For Sri Lankan policy-makers, the Mahaweli Development Programme (MDP) was an almost inevitable choice in their development strategies. It has been a foregone conclusion that the geo-climatic situation of Sri Lanka makes irrigation-based development imperative in its strategies for progress. The densely populated wet zone had already been exploited to the maximum, using the soil and climatic conditions essential for major export crops, and the scope for further agricultural expansion in the wet zone was therefore limited. The dry zone offered greater opportunity for new land development, provided it could be enriched with sufficient irrigation facilities. With adequate support forthcoming from international sources of development assistance, the MDP became a realisable development strategy. It differed from the previous irrigation projects in the dry zone in terms of its technical features such as transbasin diversion facilities and the use of tunnels and a large network of reservoirs and canals.

In its planning, priority was given to those activities that were to be supported by foreign aid at the initial stages, namely, the development of infrastructure including irrigation facilities and the settlement of people in newly developed land. The planning criteria were basically those guided by donor requirements, and the planning needs were also primarily those of multilateral and bilateral donor agencies. Most of the feasibility studies and appraisals were therefore based on the project appraisal criteria usually adopted by such agencies and were limited in most instances to the stage of infrastructure development. The subsequent phases of development for consolidating the settler community and providing the necessary environment for long-term social and economic development did not receive much attention. The planners, from a local point of view, were more concerned with the existing constraints of having to meet the increasing demand for food of the growing population in a context of rising food costs and declining foreign exchange resources. Therefore relatively little attention was paid at this stage to the requirements of post-settlement consolidation.

The state's involvement in the MDP is of an unprecedented nature in terms of national resource allocation for capital expenditure. This high allocation was in keeping with the decision of the government to accelerate the Mahaweli Programme, selecting the most important elements of the master plan for early implementation and compressing the work schedule into a period of five to six years. This strategy was considered necessary on the realization that a sufficient impact on Sri Lanka's immediate problems as experienced at that stage (1977) could not be achieved in a 30-year programme

of stepwise implementation. The Accelerated Mahaweli Development Programme included five major headworks, with hydro-power plants for a total potential capacity of 470 MW and the irrigation of about 140,000 acres of new land. The annual level of expenditure, which reached its peak at about 40 per cent of the national capital expenditure budget at one stage, has been declining with the completion of the headworks, and was about 15 per cent in 1985 (Public Investment, 1986).

At the Master Plan stage in 1968, its estimated cost was reported to be Rs. 6.7 billion and, before the information was updated in 1978, to be about Rs. 10 billion. The next estimate of the total cost was Rs. 38 billion which increased at 1988 prices to Rs. 73 billion (USAID Project Evaluation 1986). This staggering total cost estimate reflects the size of the Programme while the rate of increase of the estimates reflects the magnitude of the related activities; in their totality these figures also speak of the employment opportunities offered by the MDP.

The work completed so far consists of the five major headworks, the settlement of the whole of the System 'H' downstream project area (located in the Anuradhapura and Matale districts), the settlement of most of the left bank of the System 'B' project area (in the Polonnaruwa district) and of most of the System 'C' project area (in the Badulla and Amparai districts), and the settlement work in the System 'G' project area in the Polonnaruwa district. Table 3 gives the number of settler families inducted into Systems 'H', 'B' and 'C' and information on some of the infrastructure facilities constructed by February 1986.

Table 3.

PROGRESS OF DEVELOPMENT IN MAHAWELI SYSTEM 'H', 'B' AND 'C'

	'H'	*'B' Left Bank*	*'C'*
Settler families	28,670	9,921	12,422
School complexes	162	41	58
Hospital complexes	7	5	7
Post Offices/Sub-P.Os	35	14	19
Co-operative buildings	60	35	n.a.
Main and branch canals (km)	181	62	30.1 *
Distributory canals (km)	507	82	255
Field canals (km)	1,608	263	647
Drainage canals (km)	228	114	253
Market roads (km)	106	65	114
Hamlet roads (km)	1,226	95	337

Source : Information on settler families from Mahaweli Statistics, 1986 (Mahaweli Economic Agency). Other figures from Progress Control Documents of the Mahaweli Authority

* Excluding Zone 2

The originally planned infrastructure development pattern was modified later to include the construction of shopping and other facilities in the new townships as well as the provision of telecommunication and power facilities in the project areas. On the whole the level of infrastructural provision within the Mahaweli development areas has been far more satisfactory than in previous settlement areas. and is superior to what is generally available in other rural areas in Sri Lanka. Recently the Mahaweli Authority has also taken action to provide and to promote better housing facilities, particularly in the townships.

State intervention in terms of establishing service centres in settlement areas deserves special mention, as from a development perspective the designing of the settlement structure interlined with a hierarchy of service centres has been acknowledged as a strategy towards faster development (Scudder, 1985, Silva 1982). The concept of establishing a hierarchy of service centres has also received support from the findings of many other authorities such as Christaller and Johnson. The latter in particular was concerned about the isolated village-trader who had a tendency to be monopolistic and overly extractive vis-a-vis his captive group of consumers. A network of service centres in which the trader becomes only a basic link has been created in all Mahaweli project areas. The level of infrastructure provided in the Mahaweli service centres is very much higher than in those established in previous settlement project areas.

The services planned and provided for in the three-tier structure of service centres are set out below.

Hamlet centre:
- Small nucleus settlement with about 100 families and 500 people
- primary school
- co-operative store
- post-box
- visiting dispensary and hamlet health centre
- religious place
- playground
- cemetery

Village centre :
- a cluster of four to six hamlets with about 500 families and about 2,500 people
- sub-post office
- co-operative depot for purchase and sales
- fertilizer and grain store
- junior secondary school and playground
- community centre with multi-purpose hall, reading room/library and dispensary, Gramodaya health centre
- bus stop
- religious institutions
- cemetery

Township : (e.g. Galnewa)
- a wider zone of influence with 20 to 25 hamlets and 16,000 - 20,000 people
- administrative, commercial, educational (senior secondary), health (hospital), cultural and recreational establishments.

At the apex of this system of hamlets, village centres and townships is a major township such as Galnewa in System 'H' or Girandurukotte in System 'C'. Galnewa township has a zone of influence of about 20 hamlets and two village centres established according to the plan. It has a 60-bed hospital, a senior secondary school with over 1,000 students, a police station, a post office, a filling station, three main government offices, including the Resident Project Manager's office, three banks (branches of the Bank of Ceylon, People's Bank and National Savings Bank), and a trade centre. The number of transactions with these banks trebled within the period 1980-1985 (Wanasinghe 1982). In 1980, forty commercial sites were auctioned for private trade and by 1981 businesses had been established on about 55 per cent of these sites.

The planning of townships has undergone change during the past few years. The original plan to design them primarily to provide services for the farmers has now been modified to accommodate the needs of others : officials, teachers, private sector employees and businessmen. Although these changes have not been adequate to produce significant effects in the development process, they have, nevertheless, been a good response to the critical evaluations made during the early phases of the Mahaweli development scheme. It was commented in 1981 that Galnewa township would be a static place unless "incentives provided to farmers were matched by opportunities offered to processors, manufacturers, merchants....." (Silva, 1982). Although Galnewa has not emerged as a major township in the System 'H' area to the extent expected by the evaluators, the lessons drawn from the Galnewa experience have been well used in developing the Girandurukotte township in System 'C'. Information on the main features of the service centres in downstream Mahaweli areas is given in Table 4.

Table 4.

EDUCATIONAL, HEALTH AND OTHER STATISTICS IN MAHAWELI AREA

	Senior Secondary Schools	*Junior Secondary Schools*	*Primary Schools*	*Pre-Schools*	*Religious Centres*	*Development Centres*	*Hospitals*	*Rural Health Centres/Dispensaries*	*Voluntary Health Centres*	*Co-operatives*	*Post Offices*	*Post Boxes*	*Banks*	*Police Stations*
Tambuttegama Project	2	7	14	27	28	—	2	—	168	15	10	15	4	2
Galnewa Project	3	34	11	34	54	10	3	2	220	21	15	53	6	8
Nochchiyagama Project	7	78	6	12	13	1	2	1	72	10	10	22	4	1
System 'C' Project	15	10	33	3	41	1	7	16	124	18	19	33	2	1
System 'B' Project	6	7	28	41	42	—	5	5	249	29	14	32	2	2
System 'E' Project	4	10	9	19	19	2	1	1	49	17	9	7	4	1
Uda Walawe Project	8	36	8	—	67	—	7	1	—	30	22	11	13	5

Source : Mahaweli Statistics Annual Report, 1986

STATUS OF NON — FARM ACTIVITIES IN SETTLEMENT AREAS

Information relating specifically to non-farm employment in settlement areas is not available readily in any official document. Nor has it been covered comprehensively in any research work. An overview of the related issues and some useful data on the subject has, however, been presented by Kapila P. Wimaladharma in 1982. His study covered four settlement areas, Minipe, Uda Walawe, Rajangana and Minneriya, which were all major irrigation projects predominantly promoting paddy cultivation. For three of these projects, the study relied on the Rice Ration Revalidation Survey of 1978, while for Minneriya the author himself conducted a survey in 1980. Selected information for this study is set out in Tables 5, 6 and 7.

The data in Table 5, collected from the Rice Ration Revalidation Survey in sample settlements in Minipe, Uda Walawe and Rajangana, has to be treated with some caution due to the possibility of understatements, errors of definition, and "mutually-exclusive" treatment of farm and non-farm employees. First, since the source of information was a set of declarations made by the chief occupants of households in applying for food stamps, the information received, despite the official scrutiny it would have received, may not have given a full picture. Secondly, the presentation of this data has also caused some problems. Two ill-defined categories, 'labourers' and 'female employed,' appear among the non-farm components, and both would partly be applicable to farm employment as well. Thirdly, the data excludes the non-farm activities that might have been performed by some of the farm employees. However, some of these problems may be common to many of the assessments in this field.

Wimaladharma assesses that non-farm employment in settlement areas is about 52% of farm employment (or 34% of total employment). This assessment is based on the secondary data he used for the three major projects Minipe, Uda Walawe and Rajangana. Despite the deficiencies of Wimaladharma's data, this assessment is in line with the 1981 census data on the basis of which the rural non-agricultural activities were described as having "rapidly grown at 4.5% per annum pushing up their share in total rural employment from 37% in 1981" (Hewavitarana, 1987).

Minneriya data given in Tables 6 and 7 provides more interesting results. Excluding the 'labourers' category, which is 21% of the employees, non-farm employment (38%) is only slightly lower than farm employment (40%). In addition, a substantial degree of activity is indicated, accounting for the relatively high share (14.7%) of total employment. This reflects the presence of a large textile factory within the Minneriya scheme.

A survey now underway in the Mahaweli project areas has produced some provisional results. According to this, non-agricultural employment in System 'H' is only 21.4% of total employment (see Table 8).

Table 5.

EMPLOYMENT IN SELECTED SETTLEMENTS

	Minipe	*Uda Walawe*	*Rajangana*
Non–Farm (Private)			
Business and Trade Traders	123	27	113
Shop employees	6	8	1
Cottage industry	11	1	5
	140	36	119
Supporting Services Mechanics			
Mechanics	11	33	7
Carpenters	27	35	21
Masons	11	22	6
Motor vehicle drivers	20	16	10
	69	106	44
Personal Services			
Medical Care and dispensaries	6	23	6
Tailors	4	12	1
Barbers	4	9	3
	14	44	10
Labourers	1416	2687	902
Female employed	1990	354	703
Unspecified	61	142	27
Non–Farm (Government, Corporations and Co-operatives)			
Executive posts	134	67	61
Minor posts	373	178	236
	507	245	297
Farm Employment			
Owner-Cultivators	6948	7315	4748
Tenant-Cultivators	172	19	9
	7120	7334	4757

Source : Rice Ration Validation Survey, 1978.

Table 6.

NON — FARM (PRIVATE SECTOR) EMPLOYMENT IN MINNERIYA SETTLEMENT SCHEME

Type of Employment	*Number of Persons Employed*			
	Within Hingurakgoda Town	*In Hinterland*	*In Scheme*	*%*
1. Business and Trade				
Shops (garments)	162	118	280	
Grocery shops	185	115	300	
Tea shops and restaurants	217	102	319	
Bakeries	43	28	71	
Meat stalls	13	03	16	
Fish stalls	06	02	08	
Ice cream shops & vendors	13	00	13	
Jewellery shops	13	—	13	
Photo studios	16	—	16	
Printing Presses	09	—	09	
	677	368	1,045	25.58
2. Supporting Services				
Motor repair garages	80	40	120	
Blacksmiths	12	10	22	
Bicycle repairs	22	13	35	
Radio repairs	06	03	09	
Tinker shops	08	07	15	
Petrol sheds	17	—	17	
Welding workshops	14	11	25	
Drivers/Carters	28	52	80	
	187	136	323	6.61
3. Personal Services				
Medical Profession	06	10	16	
Tailors	03	10	13	
Laundries	11	08	19	
Barber shops	13	07	20	
Cinemas	21	—	21	
	54	35	89	1.82
4. Manufacturing & Processing				
Grinding (paddy) mills	45	300	345	
Timber saw mills	20	—	20	
Furniture workshops	35	27	62	
Tobacco barns	3	10	13	
	103	337	440	9.0
5. Fishing Industry	06	87	93	1.9
6. Labourers	935	1,960	2,895	59.28
Total	1,962	2,923	4,885	100

Source : Wimaladharma, 1982.

Table 7.

EMPLOYMENT BY TYPE AND NUMBERS IN MINNERIYA SETTLEMENT

Type of Employment	*Persons Employed*	
	Number	*Percentage*
A. Farm employment	5,327	39.76
B. Non-Farm employment		
1. Government/Corporation/Co-operative Sector (other than industry and processing)	1,286	9.60
2. Business and trade	1,045	7.80
3. Supporting services	323	2.41
4. Personal services	89	0.65
5. Manufacture, processing and industry		
(a) Government	1,897	14.16
(b) Private	440	3.28
Sub-total	5,080	37.92
6. Fishing	93	0.69
Total non-farm	5,173	38.61
C. Labourers	2,895	21.61
Total Employment	13,395	100

Source : Wimaladharma, 1982.

Table 8.

SYSTEM H LABOUR FORCE, 1988

		Percentage
Total population	129,815	—
Labour force (16-60)	73,146	56.3
Gainfully employed	48,216	37.1
Number of households	32,960	—
Employed per household		1.3
Employed by Activity		
Agriculture and related		78.6
Sales and services		7.1
Professional, technical managerial, office and clerical		—
Handicraft production and transport		7.4
Others		0.4

(Provisional)

Source : Progress Monitoring Unit, Mahaweli Authority, January 1988.

What is overwhelmingly clear from the available data is that a very high proportion of non-farm employment activities within agricultural settlements is in the area of business, trade and services. In the Minneriya project area, this proportion was around 75% of total non-farm private sector employment in 1980, fifty years after initial settlement. The most recent data from the Mahaweli System 'H' area (Table 8) suggests that the trade and services component of non-agricultural employment is around 65%, a level reached within a period of seven years.

The Mahaweli employment structure also depicts certain other features representative of the project's infant stage. First, the high farm employment component, almost 75 per cent of total employment, indicates the primacy of agriculture normally seen during the initial stages of a settlement. Secondly, the indication that only 1.3 persons per household are gainfully employed, whereas the corresponding average for rural settlement areas is 2.5 persons, shows a considerable extent of under-employment. In the context of low non-farm employment levels, this labour utilization gap is mainly attributable to the seasonality of productive work. Thirdly, the information in Table 8 also shows the relatively high proportion of "professional, technical, managerial, office and clerical" elements of employment. This is consonant with the high resource-intensity of the Mahaweli management structure.

In summary, although the newly established settlement projects indicate a relatively low share of non-farm employment in the total employment structure (around 22%), the more advanced settlement projects like Minneriya and Minipe provide more encouraging results (50-55%). This indicates the potential available in these areas.

FACTORS INFLUENCING NON — FARM EMPLOYMENT IN SETTLEMENT AREAS

The present status of non-farm activities in settlement areas as discussed in the foregoing throws some light on the possibilities of non-farm employment generation in the absence of a concentrated effort on the part of the state to promote non-agricultural activity in these areas. Except in the case of the Minneriya project, where a large government-owned textile factory accounted for a considerable proportion of non-farm employment from production-oriented activity, the general picture is one in which business, trade and services dominate the scene. It also appears that production linkages with existing agricultural pursuits are limited in their growth potential. For instance, in the Minipe sample there were only eleven employment units in the only industrial activity that was mentioned, namely, cottage industry, as against a total of 223 employment units for private non-farm activities.

A popular planning concept has been that increased agricultural production has a multiplier effect and that a logical step towards greater employment generation is to resort to agro-industry. This conventional wisdom is not supported by recent studies based on settlement projects. A World Bank study of the Muda Irrigation Project in Malaysia reports that for every dollar of direct benefits generated by the project there are 83 cents of indirect benefits of which 50 cents come from increased farmer demand for consumer goods and services rather than from production linkages. In this instance, rice milling has been found to account for only ten cents (Scudder, 1984). This is supported by the conclusions of a USAID Working Group (1980) that small enterprises involved in providing local household consumption goods and services engaged about two thirds of the non-agricultural labour force. Data from agricultural settlement areas in Sri Lanka amply support this view. In a case study in Indonesia too, a similar pattern has been observed in the concentration of rural non-farm

activities in trade, services and other supporting sectors such as transport and construction, and manufacturing itself has been observed to be only about one third of total non-farm employment (White, 1986).

If the evolutionary development of the non-farm component is based more on consumption-oriented goods and services than on externally motivated industries with or without production linkages, then one of the most important factors influencing non-farm employment generation should be the general well-being of the settler community. This may be in turn affected by several aspects such as the size and distribution of the community, the scope of the primary activity (agriculture) for which the settlements have been established, the organisational capability of the community and the motivational factors. This is in accord with the findings of Weitz (1978 and 1980) that the share of industry in the total labour force in settlements "may increase with the size of the project and with the income level". He further states that in smaller projects of 100-500 holdings, industrial activity may be limited to such services as workshops and processing plants, while in projects of over 5,000 holdings, the capacity for industrial development is much greater.

The following specific aspects may therefore be selected for analysis as possible factors contributing towards non-farm employment generation : (1) consumer capability of the settler community, (2) physical characteristics of the settlements, (3) the structure of farm employment, (4) institutional support, and (5) state intervention.

Consumer Capability of the Settler Community

The settler community's ability to maintain an adequate level of trade and supporting services naturally depends on the income levels of the settler families. As seen earlier, the most tangible form of non-farm employment is predominantly in the area of trade and services, and the extent of purchasing power generated within the first few years of post-settlement activity is therefore the principal basis for establishing and promoting non-farm employment. After fifty years of existence, Minneriya, particularly the Hingurakgoda township which can be identified as one of the most successful agricultural settlement areas in Sri Lanka, reported a ratio of non-farm to farm employment of around 90% in 1980. Within about seven years, the Mahaweli System 'H' area reports a ratio of 30%. Compared with other settlement projects of similar maturity, and the rest of the rural areas in the dry zone, the Mahaweli System 'H' area can still be considered an area with a relatively satisfactory level of prosperity, in spite of the plateau of productivity which has been observed in the recent past. "Mahaweli 'H' area should gather momentum of a much higher order through its own development.....Agriculture and commerce have increased to such an extent that the 'H' area already is absorbing a substantial amount of the capital and labour surpluses from incorporated and non-incorporated older settlement projects close by." (Wanigaratne, 1986). Average annual family incomes assessed by the various surveys and studies for the System 'H' area are summarised below.

	Rs.	*Survey*	*Year*
Net income excluding non-farm and other sources	6,700	PMU of MASL	1983
Gross income from all sources	12,710	USAID Diagnostic Analysis	1983
Gross income from all sources	13,000	Acres Ltd	1984
Net income from all sources	18,500	USAID Project Evaluation (Assessment)	1985
Net income from all sources	17,350	Author	1985

An average annual family income of Rs. 18,000 (US$ 600) is higher than the national average and at least equal to the average in urban areas. According to the Socio-Economic Survey of 1981, the average monthly income per household for the entire country was Rs. 681; in urban areas the average was Rs. 1,274 and in rural areas Rs. 795 (Peiris and Nilaweera, 1986). The income distribution in System 'H' as shown in Table 9, derived from a 1986 survey conducted on a sample of 200 families, seems to provide a level of differentiation that may allow for a regionally based production/consumption cycle.

Table 9.

FAMILY INCOMES IN MAHAWELI SYSTEM 'H', 1986

Income Range	*Percentage of Families*
Below Rs. 5,000	12.7
5,000 — 10,000	13.7
10,000 — 20,000	26.6
20,000 — 30,000	21.6
30,000 — 40,000	11.6
40,000 — 60,000	7.6
More than Rs. 60,000	5.9

Source : Author's survey, 1986.

The progressive improvement of the economic position of settlers in the Mahaweli System 'H' area and their growing ability to generate surpluses are reflected in the cash savings in three local banks. The total savings deposited in the banks in the Kalawewa project area, with about 6,000 settler families, increased from Rs. 2 million in 1979 to Rs. 32.7 million in 1985.

Table 10.

SETTLER SAVINGS IN BANK DEPOSITS, KALAWEWA PROJECT AREA

Year	*Total Savings (Rupees)*
1979	2,097,603
1980	2,352,468
1981	3,231,193
1982	25,008,757
1983	28,413,060
1984	30,595,940
1985	32,687,849

Source : Resident Project Manager's Office, Galnewa, (Information collected from Bank of Ceylon, People's Bank, and National Savings Bank, covering the entire Kalawewa project area).

The evidence provided by the bank deposits is supported by the settlers' demonstrated ability to purchase increasing quantities of agricultural inputs. Purchases of fertilizer in the Kalawewa project area provide a good illustration (Table 11).

Table 11.

FERTILIZER FOR PADDY AND OTHER FIELD CROPS, KALAWEWA PROJECT AREA

Season	*Fertilizer used (tons)*
1980 Yala	62
1980/81 Maha	246
1981 Yala	146
1981/82 Maha	661
1982 Yala	94
1982/83 Maha	893
1983 Yala	629
1983/84 Maha	399
1984 Yala	1,267
1984/85 Maha	747
1985 Yala	1,376
1985/86 Maha	2,870

Source : Resident Project Manager's Office, Galnewa.

The level of farm production capability in the System 'H' area can also be seen in the gradually increasing yields in paddy, the main crop, and in the full cultivation of irrigable land during both the Maha and Yala seasons. During the Yala season the cultivation of non-paddy crops has also significantly increased over the years, demonstrating the flexibility achieved so far within the area in improving income-generating capability (Tables 12 and 13).

Table 12.

AVERAGE PADDY YIELDS

(Bushels per acre and metric tons per hectare)

System/Area	80/81 *Maha*	81 *Yala*	81/82 *Maha*	82 *Yala*	82/83 *Maha*	83 *Yala*	83/84 *Maha*	84 *Yala*	84/85 *Maha*	85 *Yala*	85/86 *Maha*	86 *Yala*	86/87 *Maha*
H	95.68 b/a	52.17	71.4	52.16	104.23	81.12	81.27	56.48	92.33	62.86	91.88	60.74	102.25
	4.90 mt/ha	2.72	3.75	2.27	5.45	4.24	4.25	2.95	4.83	3.28	4.80	3.18	5.35
B	—	—	—	—	—	78.25	78.15	84.17	107.01	76.56	104.98	75.29	111.02
						4.09 *	4.08**	4.40	5.59	4.00	5.49	3.94	5.81
G	—	—	—	—	—	67.17	63.06	70.07	114.50	87.02	106.36	58.09	111.52
						3.51	3.29	3.66	5.99	4.55	5.56	3.03	6.04
C	—	—	—	—	—	—	51.621	58.31	80.46	77.89	83.85	74.86	92.65
							2.70	3.05	4.20	4.07	4.38	3.92	4.85
Uda Walawe	90.90	82.31	94.77	87.69	104.24	101.42	80.71	64.74	88.76	74.84	98.77	78.70	116.84
	4.75	4.30	4.95	4.58	5.46	5.30	4.22	3.38	4.64	3.91	5.16	4.12	6.06

Source : Department of Census & Statistics.

* Crop Cutting Survey conducted by MEA Statistical Unit.
* * Crop Cutting Survey for Polonnaruwa district.

Table 13.

CROP DIVERSIFICATION IN SYSTEM 'H' : EXTENT OF LAND UNDER FOUR CROPS

(Hectares)

Season	*Chillies*	*Green Gram*	*Onions*	*Vegetables*
1977 Yala	11	6	4	3
1978 Yala	13	1	8	12
1979 Yala	91	13	n.a.	49
1980 Yala	478	56	81	82
1981 Yala	1,051	46	28	89
1982 Yala	1,070	28	21	32
1983 Yala	996	23	36	104
1984 Yala	2,216	27	70	146
1985 Yala	2,766	56	32	125
1986 Yala	5,276	119	98	209

Source : Resident Project Manager's Office, Galnewa.

The System 'H' area is showing definite signs of being able to improve its production and consumption capacities, and the progress so far seen in this settlement area augurs well for its future ability to respond to regional development-oriented strategies. In this sense, the area seems to be showing characteristics and potential different from many previous settlement projects.

Against these progressive elements of Mahaweli development must be set certain other factors such as the increasing incidence of hidden tenancy arrangements (Siriwardena, 1982, and Tilakasiri, 1980), water management problems, marketing difficulties, unfavourable terms of trade and the high dependency ratio in the settler population (Samarasinghe 1986). These have been noted as "retrogressive in terms of productivity and employment generation" (Wanigaratne. 1987).

The Settlement Structure

The size of the community, its distribution and the lay-out for its physical placement within the settlements are important factors determining the growth of non-farm employment. The benefits of industry cannot be gained if the project is too small, and a minimum farm size as well as a minimum volume of agricultural production are required to create the necessary conditions of sustainability (Weitz, 1978). "A hierarchy of communities" in which the settlers are linked to hamlet centres and rural and regional townships has been recognized as an essential feature for promoting settlement development. In this sense, the better performance demonstrated by Mahaweli settlement areas when compared with previous settlement projects can be related to the presence of hierarchical settlement infrastructure in Mahaweli areas.

The necessity to link the newly established townships to the existing townships in surrounding areas has been highlighted by many evaluators (Silva, 1982; Scudder 1986). The faster growth of the Tambuttegama township relative to Galnewa (System 'H') and the speedy development of Girandurukotte (System 'C') and Aralaganwila (System 'B') illustrate the validity of this concept. Concurrent with this thinking is the importance of the spatial lay-out or the locational matrix in establishing concentrated pockets of non-farm activities and small industries in rural settlement areas.

The farming system affects income levels as well as labour absorption. The decision to fix the unit of land allocation at one hectare of irrigable land per farmer family has been mentioned by several evaluators as a critical factor restricting the growth of family incomes. However, farmers with one hectare holdings facing the constraints imposed by dependence on a single crop (paddy), particularly after the country has reached self-sufficiency, have the choice of taking to diversified agriculture, which has a higher productivity potential. Although chillies are preferred as a secure investment next to paddy, with possible market penetration many other crops may become more remunerative (Table 14). The diversified nature of the farm structure therefore is also an important consideration in strategies to be adopted for generating non-farm employment.

Table 14.

INCOME FROM DIVERSIFIED AGRICULTURE

Crop	*Gross Income (Rs.)*	*Net Income (Rs.)*	*Net as a percentage of Gross*
Paddy	15,410	8,143	53
Pulses	11,250	6,986	62
Sugarcane	30,600	18,054	59
Chillies	34,500	17,386	50

Source: Acres International Ltd., 1985, and Wanigaratne 1987.

Institutional Development and State Intervention

These two issues can be considered together as they seem to reinforce each other in connection with the promotion of non-farm activities in the settlement areas. Non-farm employment opportunities in the agricultural sector are obviously related to several other sectors in the economy, and therefore state intervention in terms of tariff structures, market channels, terms of trade and other economic incentives is an important factor influencing the growth of non-farm activities.

The development of organised institutions wherever human beings are required to live and interact together is a fundamental human response to both the natural and social environments. Although such a response can be facilitated or even accelerated purposively, a common characteristic of developing societies is that the rural sector lags far behind the urban sector in the degree of formal organisations. A low organisational density has been recognised to be one of the most prominent characteristics of underdevelopment, and many studies have shown a correlation between resource endowment, technological change and institutional development (Cernea 1987). Technological changes are essential if non-farm activities are to be promoted in rural settlement projects. The absorptive capacity for technology transfers can only be achieved with sufficient organisation of rural institutions. Therefore institution-building becomes an important factor in realising the potential for non-farm activities within the settlement projects.

The possibilities of intensive agricultural practices give the small-farm structure, as found in settlement areas in Sri Lanka, a more labour-absorbing context. However, the multitude of decision-makers and their individualistic attitudes in attending to certain activities which may have some economies of scale if collectivized call for some form of people's organization both for farm as well as non-farm activities. In this respect the attitude of the state towards organizing the rural sector becomes an important factor that may influence non-farm employment generation.

The Mahaweli development areas have relatively few farmer organizations compared with other rural areas. The need to establish agricultural co-operatives or some other form of production organization has already received the attention of policy-makers, but needs to be pursued more vigorously. State involvement in establishing farmer organizations should, however, best be limited to promotional work, as the danger of intervening further with free state grants and managerial inputs has already been experienced in Sri Lanka. One of the most enthusiastic instances of state intervention in organizing the rural sector for employment generation was the introduction of the District Development Council (DDC) scheme. The Councils were meant to be an institutional device to promote people's participation at all levels in planning and implementing development activities on a decentralized basis. In concept the DDC scheme, with the participation of representatives of the various local elected bodies was an unprecedented institutional arrangement for promoting small-scale production units. In fact, it can be described as a mechanism ideally suited to promoting non-farm employment.

A report by a group of evaluators, a few years after the scheme's collapse, came to the following conclusions (Central Bank, 1976) :

— Despite the lower capital cost per worker the DDC scheme contributed very little to reducing the rate of unemployment. However, its contribution in reviving the indigenous labour-intensive techniques of production and thereby improving the income of the poorer segments in rural areas was positive.

— Duc to shortcomings in pre-investment plans, evaluation and follow-up, the scheme included some economically and commercially non-viable projects.

— Due to lack of co-ordination with other relevant agencies, there was excess capacity in the production of certain items such as knives, mammoties and digging forks.

— Selectivity in consideration could have given rise to profitable expansion and development of some useful product lines such as garments, handicrafts, curios and agricultural and fishing products.

— There should have been greater technical guidance, training and management and the provision of tools, equipment, raw materials and marketing facilities, as well as better quality control.

— Due to the absence of proper accounting records, commercial performance could not be evaluated and therefore many projects suffered due to financial indiscipline.

— The DDC Scheme was an experiment and most of its projects were at the infant stage and therefore greater care and surveillance could have saved the scheme.

These remarks seem to be comprehensive enough for analyzing the possible pitfalls of hasty and extensive state intervention in institution-building. Apart from the development of infrastructure many other aspects of post-settlement development need to be considered in the initial planning processes. The most important of these is to consider ways of improving the purchasing power of the settler community as it progresses in the first few years of settlement. State intervention is necessary to ensure that the multiplier effect arising from the initial enthusiasm and productive activities generated by massive infusions of capital resources in establishing settlement projects does not start to decline immediately after the infrastructure development phase. The preoccupation with the farm sector has been the major problem area in Sri Lanka. Settlement projects must be planned within an integrated regional framework including service sectors and agro-industrial activity. State intervention may be more suitable for promoting industrial activities in settlement areas as a strategy to reinforce the evolutionary development that has been already recognized in the area of local consumption-oriented services.

In a global state-of-the-art evaluation of new land settlements in the tropics and sub-tropics, Scudder concludes that such settlements ".....cannot stimulate a process of integrated area development without major external assistance". The availability of such assistance, the primary source of which is the state, distinguishes settlement projects from traditional rural areas. One important element of this assistance is the package of management inputs for settlement development.

The project-oriented Mahaweli management organization designed for area development included, for the first time in settlement administration in Sri Lanka, a Business Development Unit in its structure. Its functions were to identify opportunities, provide the necessary knowledge and skill improvement facilities, and promote non-farm activities in the settlements. Due to the lack of related experience and lack of interest or understanding among higher management personnel its performance did not come up to expectations.

The next development was the establishment of a much larger agency, "Employment, Investment and Enterprise Development Division" replacing the Business Development Unit within the Mahaweli Authority. It has made attempts to attract mainly urban-based investors to start industrial activities within the project areas. There have been no tangible results during the first two years of operation but considerable preparatory work for several projects has been completed. This strategy of trying to attract outside investors to rural settlement areas need to be pursued with caution. A newly emerging private sector can be exploitative if it is allowed free rein. The challenge to the state is to plan such private sector involvement in such a way that investor initiatives and settler participation are both encouraged without allowing one group to exploit the other, or else the strategy man run counter to the generally commended approach of promoting "asset creation by and for the poor" (White, 1986).

Massive capital investment in settlement projects, as in the case of the MDP, is generally a challenge to the local absorptive capacity, particularly if it is undertaken with foreign financial and technical aid. This challenge manifests itself mainly in the essential follow-up tasks of operation and maintenance of the systems established with the initial investment. International norms for operation and maintenance costs are in the range of 1-2% of invested cost per year (USAID Project Evaluations, 1985), and therefore the settlement areas seem to offer substantial public works programmes relating to the operation and maintenance of the main irrigation systems. Infrastructure such as roads, electricity and water supplies and telecommunications would also provide significant

work programmes. Particularly for the poorer people and those affected by seasonal unemployment, pubic works programmes have come to be regarded as important policy instruments for generating non-farm employment and useful assets in rural areas (ILO Advisory Committee on Rural Development, 1983, and Kinsey, 1987). Judging from the quantum of capita investment in the MDP, associated operations and maintenance work and other public works programmes are of substantial size, and offer very good opportunities to the relatively underemployed as well as to the state planner.

The dry zone areas in which most of the settlement projects are located are typical candidates for beneficial state intervention through rural public works programmes. In an analysis of rural employment creation, it has been commented that the composite picture of a region that should benefit from such programmes contains the following : "a high dependence on agricultural resources, settled population patterns, a record of instability in production of food crops, and an administrative capacity sufficiently developed to provide needed decentralized skills" (Kinsey, 1987).

Another important contributory factor is the level of infrastructural development which in turn is the primary responsibility of the state. If rural non-farm activities are to be effectively promoted, the rural areas have to be given better roads, more reliable power and telecommunication facilities and adequate educational and health facilities. The correlation between non-farm employment generation and the availability of infrastructure is illustrated by the unprecedented success story of Taiwan where rural electrification covered 70 per cent of farm households in 1960 and the density of paved roads was 76.4 km per 1000 sq. km. in 1962. The corresponding figures for Korea, which is the other Asian success story, were 13 percent for electricity (1964) and less than 10 km for 1000 sq. km. for roads (Saith, 1986). State intervention is most productive in the provision of basic infrastructure needed for economic development.

CONCLUSIONS AND PROSPECTS

Irrigation-initiated settlement projects have had a major impact on the employment front of the Sri Lankan economy. During the last half-century about 100,000 families were settled in 106 projects covering a total land area of about 600,000 acres, and this was supplemented by the Mahaweli Development Programme, the lead project of the current economic effort. The MDP on its completion by about 1990 will account for another 140,000 families on about 350,000 acres of newly irrigated land. The substantial number of people gainfully employed in agricultural pursuits arising from this effort is an encouraging result, but any further growth in farm employment may be restricted by a declining land-man ratio with respect to irrigable land as well as slower growth in agricultural productivity. However the opportunities embodied in these agricultural settlement areas for non-farm employment offer considerable potential provided that they can be harnessed by the collective effort of social forces acting in terms of an integrated regional development strategy. Employment on the farms and in allied pursuits has been assessed at about 600,000 "which is equal to the total of a four to five years' increase in the country's labour force" (Hewavitarana, 1987).

The main objectives of the land settlement programme have been twofold: to increase food production and to reduce unemployment among the rural landless people. Inherent in the programme therefore is a conflict between the need to increase output and the employment orientation in its implementation. Although the emphasis has been placed on employment generation, after the early stages of its implementation the programme emphasis has had a tendency to shift towards productivity increases. Policy suggestions, such as those recommending an increase in the unit of allocation,

private sector participation in large farms, freehold tenurial conditions for allocated state land which may enable land consolidation, and the introduction of capital-intensive measures in agriculture, arise from this urgent desire to increase output and productivity. The conflict between the need to increase output and the need to increase employment can only be resolved through an appropriate choice of technological changes. In order to retain desirable levels of labour absorption in rural sector activities, preference may have to be given to land-saving technological changes such as improved agricultural practices, increased agricultural inputs, and a proper mix of modern and labour-intensive methods of cultivation. These in turn would promote non-farm activities.

The statistics reproduced earlier clearly show a trend in the recent past to transfer part of the population from congested areas to sparsely populated dry zone areas. This trend is obviously in the opposite direction to what the classical Lewis development model requires. The immediate responsibility therefore is to retain such transferred population in the rural areas to which it has only recently moved, and a concentrated effort in planning and promoting non-farm activities in the settlement areas becomes critically important.

The main thrust of the existing non-farm activities is seen in the local consumption-oriented services. Activities related to production linkages are minimal, while the dominance of trading and services in non-farm employment is clearly seen. Apart from the demand-oriented development of services in the settlement areas, the "amorphous field of activities in trade, industry and services", in which pseudo-entrepreneurs emerge like mushrooms have very little sustainability. When the development path of the pioneering settlers is not carefully monitored, numerous countervailing forces tend to suppress their progress, and to perpetuate structural poverty. The 'open economy' environment is also not helpful in softening the effect of these forces. It is in the light of this that the emerging amorphous activities can be interpreted as survival strategies by the relatively underemployed members of the settler community, taking the form of "distress adaptations". When agricultural productivity becomes relatively low, and very much lower than planned levels, these non-farm survival strategies may yield still lower earnings and cease to become an engine of growth.

Although the present status of most settlement areas and particularly that of the Mahaweli areas does not suggest that this is happening, the rigours of fast development of a few other sectors of the economy may affect the progress in settlement areas and gradually push them in this direction. It is in this context that the dominant presence of 'services' activities in non-farm employment should receive the attention of the authorities with field data persistent in showing the slow growth of upward and downward linkages with agricultural pursuits, it is contended that investment for such production linkages needs much greater promotional effort. In the context of stage-sponsored settlement areas, this phenomenon of low production linkages may be due mainly to two reasons: first, deficiencies in settlement planning, which placed the emphasis on agricultural development with little consideration to integrated regional development concepts, and, second, the effect of recent economic policies which have concentrated on selected lead projects in a liberalized framework. The latter gave rise to a construction boom, on the one hand, which in turn promoted employment activities related to construction requirements, and, on the other, to a decline of rural-based small industries in the face of competition from liberally imported goods.

Apart from the potential for non-farm activities that can be seen in the settlement areas, the 'sunk-cost' nature of the massive investments which created these settlement projects should in itself be a motivating factor for further state intervention in order to make them more productive with minimum additional government expenditure. The least that would be expected is a policy

shift to ensure that the large numbers of people with low incomes, who have been encouraged to move into these settlement areas with unhesitant state sponsorship and assistance, are not marginalized as a result of the current 'growth' characteristics of the economy, which seem to help mainly the city as well as the large and medium-scale investor.

An integrated approach to non-farm employment generation would take into account the need to promote popular participation in enterprise development, the need to re-invest locally whatever surpluses are generated in these regions, the need to establish production mechanisms to serve the local demand for goods and services, and the profitability of linking these needs to local resource mobilization. The existing institutional arrangements for promoting small industries such as the Small Industries and Textile Industries Departments, the Regional Rural Development Banks and the Export Villages, will benefit by entering into settlement areas. A co-ordinated effort in using the services of these agencies on a planned basis with the assistance of economically and socially viable local institutions becomes the immediate responsibility of the management of these settlement projects.

The specificity of timing and opportunities connected with the success of such Asian countries as Japan, South Korea and Taiwan may not allow for its replication in other contexts. However, certain lessons may be drawn from their successful rural industrial exercises. While both Japan and South Korea apparently followed the traditional Lewisian model, Taiwan is somewhat different in that the real industrial effort effectively took place in the rural areas themselves. Therefore the most relevant lessons for Sri Lanka may lie in the Taiwanese experience. Some form of "selective closure" may be necessary in order to promote non-farm activities in the rural sector, particularly in settlement areas, if the increased local demand for goods and services is to be used as a vehicle for non-farm employment generation.

REFERENCES

Abeysinghe, Ariya, "Agro-Industrial Development in Sri Lanka", *Economic Review*, Vol. 12, No. 2, Colombo, 1986.

Athukorala, P. "The Impact of 1977 Policy Reforms on Domestic Industry", Seminar Paper No. 3/85, SLAE, Colombo 1988.

Bandaragoda, D.J., "Social Development in the Kalawewa Settlement Project of the Accelerated Mahaweli Development Programme", *Regional Development Dialogue*, Vol. 8, No. 2, UNCRD, Nagoya, 1987.

"Issues on Socio-Economic Development in Mahaweli Areas", Paper presented at Seminar on Land Settlement Experiences in Sri Lanka, August 1985.

"Tenurial Conditions of Allocated State Land", Technical Paper presented to the Land Commission, Colombo, 1988.

Cernea, Michael M. "Farmer Organizations and Institution Building for Sustainable Development", *Regional Development Dialogue*, Vol. 8, No. 2, UNCRD, Nagoya, 1987.

Corea, Gamini, "The Employment Potential of the Dry Zone", in *Youth Land, & Employment*, Marga Institute, Colombo, 1974.

FAO, *Studies on Agrarian Reform and Rural Poverty*, Rome, 1984.

Hewavitharana, B. "Rural Employment Creation in Sri Lanka : Problems, Programmes and a Strategy for the Future", *The Journal of the Economists Association, Sri Lanka*, Colombo, 1987.

ILO Advisory Committee on Rural Development, "Promotion of Employment and Income for the Rural Poor, including Rural Women, through Non-Farm Activities", ILO, 1988.

Karunaratne, Neil Dias, *Techno-Economic Survey of Industrial Potential in Sri Lanka*, Colombo, 1973.

Kinsey, B.H., *Creating Rural Employment*, Croom Helm, Kent, 1967.

Nott, Gladys, *et al.* Project Evaluations (Mahaweli) USAID, Colombo 1985.

Osmani, S.R., "The Impact of Economic Liberalisation on the Small-Scale and Rural Industries of Sri Lanka", in B. Islam (ed.) *Rural Industrialisation and Employment in Asia*, ARTEP, New Delhi, 1977.

Peiris, S.A. and Nilaweera, D., Rural Poverty Alleviation in Sri Lanka, FAO, Rome, 1985.

Randeni, A.C. *et al.* "Report of a Survey on Investment Projects Established under Divisional Development Councils", Staff Studies, Central Bank, Colombo 1985.

Saith, Ashwani, "Contrasting Experiences in Rural Industrialisation : Are the East Asian Successes Transferable?", ILO - ARTEP, New Delhi, 1986.

Samarasinghe, Senaka, A. "Some Issues in Rural Non-Farm Sector : A Study based on the Accelerated Mahaweli Programme, System, 'C', Zone 2", Unpublished Master's Thesis, AIT, Bangkok, 1986.

Scudder, T. and K. P. Wimaladharma. "The Accelerated Mahaweli Development Programme and Dry Zone Development", (Report Nos. 1-6), Institute of Development Anthropology, Binghamton, 1979-1985.

The Development Potential of New Land Settlement in the Tropics and Sub-Tropics, USAID, Washington, 1984.

Senanayake, S.M.P. "Some Issues Relating to Rural Non-Farm Employment Activities in Sri Lanka", Unpublished Paper, November 1986.

Sethuraman, S.V. and P. Bangassar. "Employment and Rural Industries in Sri Lanka" in Eriyinna Chuta and S. V. Sethuraman (eds), *Rural Small-Scale Industries and Employment in Africa and Asia*, ILO, Geneva, 1984.

Shaw, R.d'A. *Strategies for Employment Creation in Agriculture.*

Silva, Percy, "Land Settlement and Regional Development in the Dry Zone of Sri Lanka" in K. P. Wimaladharma (ed), *Land Settlement Experiences in Sri Lanka*, Colombo, 1982.

Siriwardena, S.S.A.L. "Emerging Income Inequalities and Forms of Hidden Tenancy in the Mahaweli 'H' Area, Mimeo, People's Bank, Colombo, 1982.

Tilakasiri, S.L. "An Emerging Income Gap : A Study of a Hamlet in the Mahaweli Development Area", People's Bank, 1980.

Wanigaratne, R.O. "Paddy Initiated Diversification in the Mahaweli 'H' Area", unpublished Paper, SLAAS Symposium on Mahaweli, Colombo, 1987.

"Poverty and Intra-Regional Disintegration Effects of Frontier Land Settlement in Sri Lank", Mimeo, 1987

Weitz, R., D. Pelley and L. Applebaum, "Employment and Income Generation in New Settlement Projects", World Employment Paper 10, ILO, Geneva, 1978.

White, Benjamin, "Rural Non-Farm Employment in Java : Recent Development Policy Issues and Research Needs", UNDP/ILO, 1985.

Wickramasekera, P. "The Role of Land Settlement Programmes in Raising the Productivity of the Poor : A Sri Lankan Case Study in Sadpar Mukhopady (ed) *Case Studies on Poverty Programmes in Asia*, APDC, Kuala Lumpur, Malaysia, 1985.

Wimaladharma, K.P. "*Land Settlement Experiences in Sri Lanka*", Colombo, 1982.