SOCIO-ECONOMIC SURVEY OF THE GALGAMUWA A.S.C. AREA

(Kurunegala District)

Research Study No. 80

April 1987

AGRARIAN RESEARCH AND TRAINING INSTITUTE,
114, Wijerama Mawatha, Colombo 7.

SRI LANKA

SOCIO - ECONOMIC SURVEY
OF THE
GALGAMUWA AGRARIAN SERVICES COMMITTEE AREA

(Kurunegala District)

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FOREWORD

In 1980, the ARTI launched a pilot programme called "Management Training for Leaders of Small Farmer Organizations" in the Galgamuwa Agrarian Services Committee area (ASC) in the Kurunegala district. This programme was supported by the Food and Agricultural Organization (FAO) of the United Nations and it primarily attempted to evolve a strong 'receiving mechanism' among farmers at grass-root level enabling them to obtain maximum benefits from the Government support and services that are delivered at different stages in various forms.

The experience the ARTI gathered from Galgamuwa supported strongly the viability of this programme and the necessity of extending it into other ASC areas of the Kurunegala district. While doing so it was considered necessary to carry out a socio-economic survey in the Galgamuwa ASC area, as such information would serve as a bench-mark against which an ex-post evaluation can be done to assess the impact of the programme. This report is the outcome of the survey.

The research team that carried out this survey consisted of Mr. R.B. Senakaarachchi (Co-ordinator), Dr. Jayantha Perera and Mr. P.D.R. Kumarasiri. I thank all of them for their valuable effort and hope they will carry out an ex-post study to assess the impact of the programme in the near future.

T.B. Subasinghe
DIRECTOR.

ACKNOWLEDGEMENTS

We are grateful to several people who helped this study along the way. Mr. T.B. Subasinghe, Director, ARTI gave his whole-hearted support to the study and on many occasions provided us with necessary guidance and encouragement. Mr. Wimal Aththudawa, Assistant Commissioner of Agrarian Services Department and the Divisional Officer at the Agricultural Services Centre, Galgamuwa were most helpful and gave willingly of their support to carry out field work.

We are grateful to Mr. C.S. Ranasinghe of the Sri Lanka Foundation Institute for editing this report.

Finally we thank Miss. Anusha Perera who typed the final draft of the report neatly and efficiently, and the staff of the publication unit of the ARTI for producing this report attractively in printed form.

R.B.S.
J.P.
R.K.P.

ABSTRACT

The chapter I outlines the background and the objectives of the Small-Farmer Organizations Programme, the sampling methods adopted in the survey, and the three broad study areas namely, general socio-economic characteristics of households, resource and farm activities of households and rural institutions and people's participation - in which the data were sought. It also mentions certain constraint's that narrowed down the scope of the study.

The chapter II, which deals with demographic characteristics of the sample population, gives a vivid and analytical account of the composition of population in the study area, different age groups, marital status, literacy rate, level of education as well as the special skills and abilities possessed by the population. Moreover, it discusses labour force, employment patterns and occupational-wise classification of the sample population.

In chapter III, the qualitative and quantitative aspects of dwelling units in the study area are set for with special reference to their ownership and tenancy, special characteristics of housing in the area and facilities such as water and toilet.

The IV chapter describes the farm and household assets in the study area. Breeding of livestock such as neat cattle, buffaloes, goats, and poultry are discussed. Included under farm assets are various household effects in the study area. Accesses to information and knowledge via mass media and places for reading and listening in the study area also appended to this chapter.

The chapter V, titled Land Use and Tenure Patterns classifies the land into three categories namely, the lowlands, the homestead and the highlands. The pattern of paddy cultivation in the lowlands,

the cultivation pattern peculiar to homesteads and the highlands or 'chenas'; importance of irrigation system in the cultivation of lowlands and the patterns of land ownership in purana villages, State-sponsored schemes and encroachments are discussed in this chapter.

The chapter VI describes the cultivation practices of paddy prevelent among farmers of both major and minor irrigation schemes. Types of farm power, varieties of paddy cultivated, methods of planting adopted, patterns of labour used at various stages of cultivation, application of fertilizer, weed, pest and disease control methods are also discussed. There is also an account of the yield of paddy in different seasons, cost and returns and the cultivation of cash crops an highlands and chenas.

In the chapter VII, patterns of household income accrued from agricultural as well as non-agricultural sources by the farm households modes of expenditure and the distribution of income among farm households are examined in detail.

The chapter VIII, is mainly on the provision of farm auxillary services such as seed paddy, fertilizer and credit facilities. It also deals with marketing of farm produce through State and private outlets, marketing trends prevailing in respect of paddy, cash crops etc., repayment of agricultural loans and the savings of the farmers.

In the final chapter, it is illustrated how rural organizations could be beneficial to farmers. This chapter elaborates the role of the Small Farmer Organizations towards the upliftment of farmers, benefits farmers could reap through such organization, certain impediments that hinder the effective performance of Small Farmer Organizations and the remedies suggested to overcome such problems.

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CHAPTER I

In 1980, a nine-month pilot project called "Management Training for Leaders of Small Farmer Organizations" was launched in the Galgamuwa Agrarian Services Committee (ASC) area in Kurunegala District by the Agrarian Research and Training Institute (ARTI) in collaboration with the Food and Agricultural Organization (FAO). This experiment was aimed at training farmer leaders at the yaya' (tract) level on how to organize their communities for the better management of local resources and for solving problems through group action. When the pilot project was completed, the ARTI decided to continue its farmer training programmes in the Galgamuwa ASC area, for it became apparent that organizing small farmers into groups at the yaya level would allow them to create a strong 'receiving mechanism' at the village level for various government supporting services. These services include agricultural extension, supply of material inputs, provision of agricultural credit and efficient management of irrigation water.

Although Small Farmer Associations(SFA) were in operation in the Galgamuwa ASC area for over two years since 1980, no effort had been made till then to record the base-line socio-economic situation of the area.

Since the ARTI has successfully negotiated with the FAO to extend the Small Farmer Organization Programme (SFOP) to all ASC areas in Kurunegala district and to a selected ASC in all other districts in Sri Lanka, it became imperative to obtain bench-mark information on small farmer groups, in one ASC area at least. Such information would serve as bench-mark for any future assessment of the benefits of the project. The Galgamuwa ASC area was chosen for this purpose and this report describes the socio-economic conditions prevailed in the area in 1983.

1.1 Objectives of the Study

This research project was carried out by the ARTI in 1983 to collect data on the socio-economic conditions of rural households in the Galgamuwa ASC area in the Kurunegala District. The study was meant to serve as a bench-mark survey of the area against which an expost evaluation could be done to assess the impact of the Small Farmer Development Programme (SFDP).

The specific objectives of the study were:

a. to gather information for the planning of agricultural development in the area;

b. to identify and evaluate the available institutional support for farming activities and human life in the area; and

c. to gather information required for the effective organization of small-scale farmer groups.

1.2 Sample Method

The sampling device adopted was a stratified two-stage random sample method with probability proportion to size (PPS). The ASC area was divided into two strata, based on the type of irrigation facilities available for agriculture: villages served by minor irrigation schemes and villages served by major irrigation schemes.(1)

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(1) The distribution between minor and major irrigation is in terms of differences in scale and organization, not in differences of physical type of source, conveyance or storage of water. Generally a minor irrigation system has a command area of less than 200 acres.

Each type was assumed to be homogeneous in character. The villages which depend solely on rainfall for agriculture were also categorized as minor irrigation schemes. forthese villages were identical in cropping character, income sources and dwelling unit with the villages under minor irrigation schemes. Apart from the homogeneity in their access to irrigation facilities, villagers under major irrigation schemes shared another common characteristic, that is they were colony settlers, who have a different socio-economic outlook from those purana villagers* who lived under minor irrigation systems. Villagers who live under major irrigation schemes are often colony settlers who share different property rights and access to water and this makes them different in their socio-economic outlook from the former. Thus, it is appropriate to stratify the villagers in the ASC area by using the criteria of the type of irrigation and the type of settlement.

Having stratified the ASC area into two strata in the first stage, primary sampling units (= villages) were selected with probability proportional to size with replacement. The ASC area which consisted of 96 villages and 18 villages (19%) , coming under both major and minor irrigation schemes were surveyed. The final sample consists of 7 villages from major irrigation schemes and 11 villages from minor irrigation schemes. Within each selected village, households (secondary sampling units) were selected at random with equal probability. With the available resources, the sample was limited to not less than 8 households a village in the minor irrigation schemes and not less than 15 households a village in the major irrigation schemes. The size of the sample within each village varied according to the size of the household population in that particular village.

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* Purana Village : Older settlements that had already been in existence at the time the irrigation schemes were setting up.

The final sample consisted of 290 households and the details of the sample are given below:

Table (1.1) Distribution of Sample Households in the Villages

Name of the Village	No. of Selected Households
(a) Major Irrigation Schemes	
Ganangamuwa	15
Padavigama	15
Bandaragama	15
Potanegama	15
U/Siyamblangamuwa	45
Devagiripura	30
Paluwa Colony	19
	154
(b) Minor Irrigation Schemes (including villages depending on rainfall)	
Pahalakokwewa	8
Ihalakokwewa	8
Gallewa	8
Molewa	24
Ulpotagama	16
Kapela	16
Padipanchawa	24
Divulwewa	8
Palugama	8
Iddamalpitiya	8
Bulnewa	8
Total	136
Grand Total	290

The methodology adopted in the data collection was single-visit personal interviews based on a structured questionnaire. Interviews were carried out by seven trained investigators during the months of April and May before the commencement of the 1983 Yala cultivation. The data collection was closely supervised by the research team during the entire period of field work.

1.3 Types of Data Sought

The data collection through the questionnaire was in three broad areas.

i General socio-economic characteristics of households;
ii Resources and farm activities of households; and
iii Rural institutions and peoples' participation.

These three broad areas were further elaborated in the survey under nine sub-headings;

i. General household information, household composition, age structure, education, employment, unemployment and labour force participation.

ii Information relating to housing and utility services and quantitative and qualitative aspects of household amenities.

iii Farm and household assets.

iv Communication and transport.

v Land Ownership and tenure and land use.

vi Crops, management practices, labour use, draught power.

vii Composition of household income and expenditure.

viii Institutional services and facilities, agricultural credit and marketing of agricultural produce.

ix Rural institutions, participation of small scale farmer organizations and the assessment of their functions.

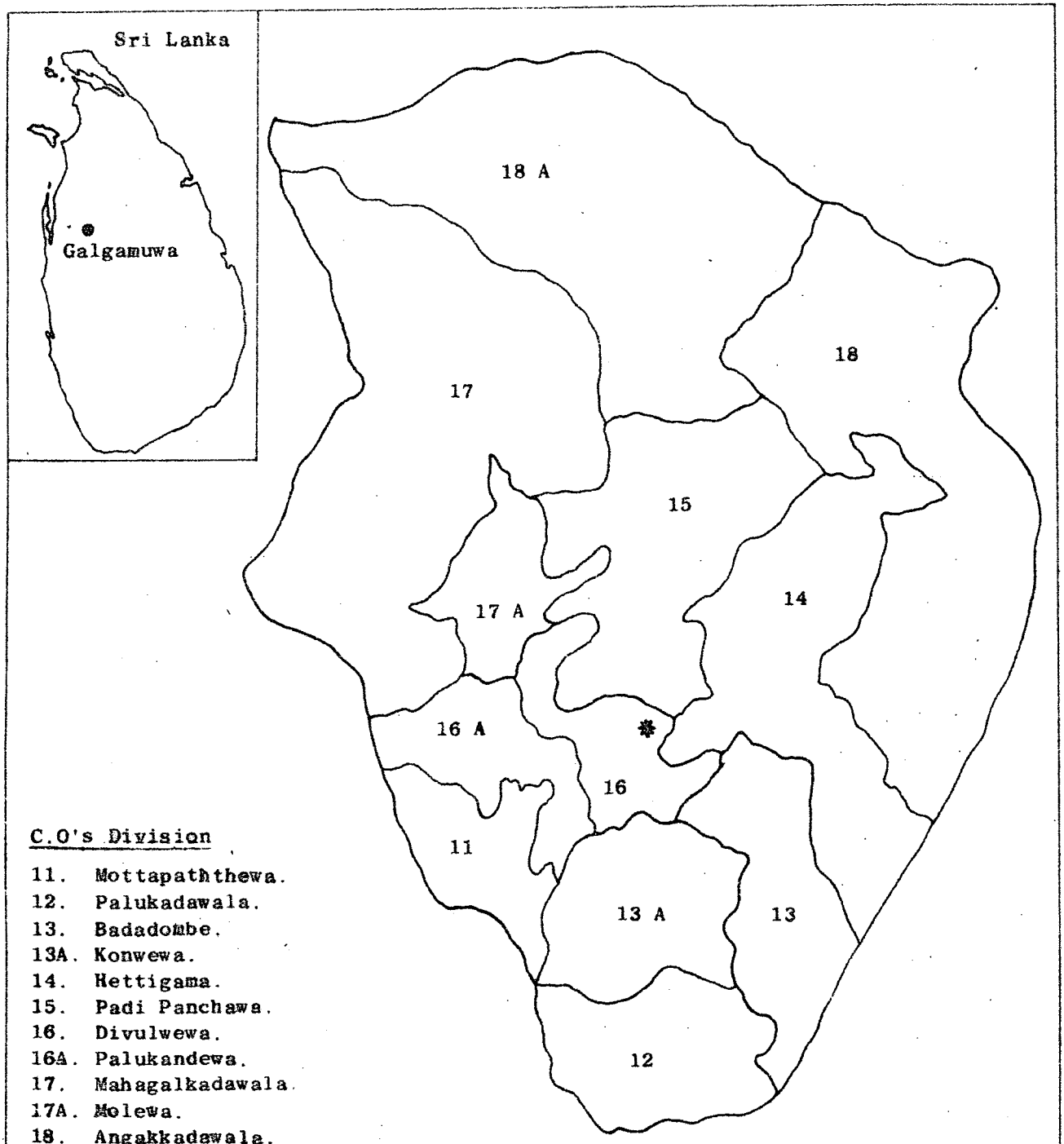
1.4 Limitations of the Study

In this study the sampling frame used in the selection of households is biased towards agricultural operators and land owners. This is because the sample is strictly drawn from the paddy land register in the absence of other appropriate sampling frame. Therefore, the survey cannot present comprehensive information on those who solely depend on non-agricultural pursuits in the area. However, there seemed to be no reason to suppose that these sampling problems would distort the conclusions of the study, since more than 90 per cent of the population in the area under study are involved in agricultural pursuits.

The information collected on agricultural activities appears to be not timely in respect of some villages, where there were little agricultural opportunities to pursue in two consecutive seasons. Hence, information on crops, marketing, labour use and management practices was related only to the latest available seasons, a fact which rendered it almost impossible to delineate the real situation of farming activities in the area.

A single visit questionnaire survey of this kind cannot rely on accurate respondent memory recall. When the reference period is further removed from the interview date the recall is likely to be less accurate, and recall bias must have occurred in detailed information on labour use, input, output data, income and expenditure data which always have to be treated with caution.

Galgamuwa Agrarian Services Committee Area.



C.O's Division

11. Mottapaththewa.
12. Palukadawala.
13. Badadombe.
13A. Konwewa.
14. Hettigama.
15. Padi Panchawa.
16. Divulwewa.
16A. Palukandewa.
17. Mahagalkadawala.
17A. Molewa.
18. Angakkadawala.
18A. U/Siyambalangamuwa.

✱ Galgamuwa Agrarian Services Centre.

CHAPTER 2

GENERAL DEMOGRAPHIC CHARACTERISTICS

This chapter deals with general demoraphic characteristics of the sample population. The attention here is mainly focussed on population composition, age group, household size and labour force participation.

2.1 Population Composition

The total population of the sample comprised 1707 individuals belonging to 290 households drawn from both major and minor irrigation schemes. The total population is exclusively Sinhala Buddhists except for a few Moors reported in the village of Dewagiripura. Sex-wise distribution of population indicates an overall male dominance. The sex ratio of the study area is 111 which is notably higher than the ratio of 103 for the Kurunegala district reported in 1981.(1) One possible explanation for the higher ratio of males to females in villages of major irrigation schemes is the heavy inflow of male migrants to the settlement schemes. The female population outnumbered male population in seven villages, namely, Pahalakokwewa, Padipanchawa, Gallewa, Kepela, Divulwewa, Padavigama and Potanegama.

2.2 Age Structure

The analysis of the age structure indicates a predominantly youthful population in the study area (see table 2.1). Thirty six per cent of the total population constitutes the age category of under 14 years. This figure corresponds well with the national estimate of 35.3 per cent in 1981.(1) Sixty one per cent of the population accounts for the workforce whose ages range between 15-64 years, whereas those over 65 years constitute 3 per cent of the total population.

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(1) Census of Population and Housing and Tables on Population are based on a Ten per cent Sample. Department of Census and Statistics (1982).

Those between 1-14 years of age and over 65 years form the economically dependent segment of the population. The estimated dependency ratio for the study population is 65, which means 65 dependents for every 100 persons in the productive age group of 15-64 years. However, the estimated dependency ratio varies considerably across the study villages. It is over hundred in per cent in respect of the villages of Padavigama and Bandaragama in the Mahaweli "H" system and also in the village of Kepala, which comes under the minor irrigation category. High incidence of dependency in the Mahaweli villages could partly be attributed to the settlement policy which gives priority to young men with dependents when allocating lands. As shown in Table (3.2) average household size varies across villages between 4.9 and 7.3. The average household size of 5.9 in the study area corresponds to the figure reported for the whole rural sector by the Consumer Finance Survey of 1973[1].

2.3 Marital Status

An examination of the marital status profile indicates that 54 per cent of those over 15 years of age in the sample population are married. Forty one per cent have been never married. These figures tally closely with the estimates of the Kurunegala district in 1981[2] which were 54 per cent and 39 per cent respectively. The segment categorised as "others" here are widows and widowers rather than divorcees or persons separated after their marriages.

2.4 Literacy Rate

The literacy rate of the study population is 86.9 per cent.[3] The ratio reported for major irrigation schemes (88.2%) is higher than the ratio reported for minor irrigation schemes (85.5%). This could partly be attributed to the higher rate of literacy among old settlers in major irrigation schemes than their counterparts in

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1. Survey of Sri Lanka's Consumer Finances, Dept. of Economic Research, Central Bank of Ceylon, Colombo, 1974.
2. Census of Population and Housing, DCS (1982), op. cit.
3. The national level literacy rate is 86.5% and the Kurunegala district rate is 87.2% (1981).

minor schemes. Kattakaduwa and Iddamalpitiya reported the lowest rate of literacy and six villages, namely, Potanegama, Padavigama Bandaragama, Palugama, Gallewa, Ihalakokwewa reported a literacy rate of over 90 per cent which is well above the district and national estimates for 1981.

Table (2.1) Population by Marital Status

Name of Villages	Never Married No.	%	Married No	%	"Others" No.	%	Total Number
Major Irrigation Schemes							
Ganangamuwa	17	33	33	63	02	04	52
Padavigama	7	19	28	78	01	03	36
Bandaragama	13	30	30	70	-	-	43
Potanegama	19	35	35	65	-	-	54
U/Siyambala--ngamuwa	110	53	90	44	06	03	206
Devagiripura	57	44	61	47	13	10	131
Paluwa Colony	30	41	37	51	06	08	73
Total	253	43	314	53	28	05	595
Minor Irrigation Schemes							
Pahalakok--wewa	13	43	16	53	01	03	30
Ihalakokwewa	20	59	12	35	02	06	34
Gallewa	10	37	16	59	01	04	27
Molewa	41	47	44	51	02	02	87
Ulpotagama	25	44	31	54	01	02	57
Kepela	11	27	26	63	04	10	41
Padipanchawa	28	36	48	62	01	01	77
Divulwewa	11	33	20	61	02	06	33
Palugama	15	41	20	54	02	05	37
Iddamalpi--tiya	14	45	17	55	-	-	31
Bulnewa	11	39	17	61	-	-	28
Total	199	41	267	55	16	03	482
ALL	443	41	581	54	43	04	1077

Table (2.2) Distribution of Household Members by Literacy Ratio

Name of Villages	All Population (age 6 years & Over)	Number Literate	Literacy Ratio
Major Irrigation Schemes			
Ganangamuwa	73	65	89.04
Padavigama	65	63	96.92
Bandaragama	69	66	95.65
Potanegama	72	71	98.61
U/Siyambalangamuwa	264	222	84.09
Devagiripura	122	107	87.70
Kattakaduwa	41	32	78.04
Paluwa Colony	101	86	85.14
Sub Total	807	712	88.22
Minor Irrigation Schemes			
Pahalakokwewa	47	41	87.23
Ihalakokwewa	39	36	92.30
Gallewa	42	40	95.23
Mollewa	134	120	89.55
Ulpotagama	81	67	82.71
Kapela	70	58	82.85
Padipanchawa	114	92	80.70
Divulwewa	46	39	84.78
Palugama	52	50	96.15
Iddamalpitiya	43	28	65.11
Bulnewa	47	40	85.10
Sub Total	715	611	85.45
All	1522	1323	86.92

Table(2.3) Population in Major and Minor Irrigation Schemes According to Marital Status and Age Group

(in Percentages)

Age Group	Single	Currently Married
15 - 19	96.7	3.3
20 - 24	76.9	23.1
25 - 29	40.5	59.5
30 - 34	11.0	89.0
35 - 39	4.1	95.9
40 - 44	1.6	98.4
45 - 49	4.2	95.8
50 & Over	1.7	98.3

2.5 Level of Education

Table 2.6 shows that level of education is linked up with the age categories of the population. For instance, 34.81 per cent of those over 45 years of age had received no school education. However, the educational achievements of the youths appear to be reasonably better than that of their elders ; 12 per cent of the youth population (between 15 - 29 years of age) possessed the GCE (O/L) or higher educational qualifications. Only 6.7 per cent in this age group did not receive any school education. Fifty eight per cent of the total population over 15 years of age had received primary education upto 5th standard. Absence of schools in certain villages, especially in the past, had contributed to this lower level of education among the villagers. The reasons for not attending school, as given by drop-outs of school going age, (1) highlight poor family income, physical disabilities of children and non-existence of schools in the vicinity (see table 2.4). These results closely comparable with some of other ARTI studies carried out in the dry zone rural sector.

Table 2.4 Reasons for Early Termination of School Education

Reason	No. Reporting		
	Major	Minor	Both
Poor family income	16	28	44
Non availability of a school	08	02	10
Physically/mentally handicapped	08	06	14
Other reasons	03	03	05
Total	35	38	73

(1) In Sri Lanka, schooling is compulsory for children between 5 - 14 years.

2.6 Special Skills and Abilities

Table (2.5) shows the occupational skills possessed by the, study villagers of the study population.

Table 2.5 Distribution of Household Members according to Occupational Skills

Skill	No. Reported		
	Minor Schemes	Major Schemes	Both
Handicrafts	26	36	72
Masonry and Carpentry	18	42	60
Driving	11	12	23
[illegible]	[illegible]	[illegible]	145
Total	55	12	23

Handicrafts, masonry and carpentry are the skills the majority of villagers possessed in the study population and many of them depend on these skills for their livelihood. For instance, pottary is the main source of income of the inhabitants of Palugama, although they opt to recognise farming as their main occupation. **Increasing demand** for skills such as masonry and carpentry in construction work in the nearby Mahaweli settlements is one of the 'push' factors which encourage villagers to acquire such skills. However, the study reveals that only 10% of settlers of major irrigation schemes had acquired some skills, In minor irrigation schemes the percentage of such skilled workers stands at 6.8.

2.7 Labour Force and Employment Patterns

The presence of a labour force in the study area is an important fact which warrants attention in any development plan for the area. The study revealed that 935 individuals as belonging to the labour force, representing 54.8 per cent of the total population, which comprises both economically active and inactive population. The economically active population comprises all persons between 15-64 years of age, both employed and unemployed during the period under review.

The economically inactive population includes students, housewives, the sick and the old. The employed sections of the population included all self-employed and unpaid family workers as well as those who were gainfully employed at least, for 20 days during the three months prior to the survey. The unemployed category was estimated as residual group. The percentage of the employed (51%) is bigger than the general national estimate (48 %). The time of survey : it seems, had influenced this result. Availability of seasonal employment opportunities at the time of cultivation season, in which the survey was carried out, is quite high. Hence, the inclusion of persons who had engaged in productive enterprises, at least for twenty days during the three month's period prior to the survey, might have ultimately increased the proportion employed.

Table 2.6 Percentage wise Distribution of Adults (Over 16 years of Age) According to Level of Education

Level of Education	Age in Years			
	15 - 29	30 - 44	45 & Over	All
No education	6.7	9.2	34.8	14.6
Primary Education	57.0	65.3	54.5	58.2
Grade 6 - GCE (A/L)	24.5	18.4	8.1	19.0
Passed GCE (O/L)	8.2	5.4	2.2	6.0
Passed GCE (A/L) or Higher Examination	3.6	1.7	-	2.2

The labour force participation rate for the study is derived as the ratio of labour force to the total sample population. As shown in Table (2.7), the labour force participation rate is considerably high in all settlement schemes as compared to the rural sector rate of 32%, reported for 1973 by the Consumer Finance Survey.

Table 2.7 Population and Labour Force

	Major Irrigation Schemes		Minor Irrigation Schemes		Both	
	No.	%	No.	%	No.	%
Employed	490	54.2	382	47.6	872	51.1
Unemployed	22	2.4	41	5.1	63	3.7
Labour Force	512	56.6	423	52.7	935	54.8
Those not in Labour Force						
(a) Students	233	25.8	241	30.0	474	27.8
(b) House wives	22	2.4	15	1.9	37	2.2
(c) Young, invalid, old	137	15.2	124	15.4	261	15.3
Total Population	904	100.0	803	100.0	1707	100.0
Labour force Participation rate		56.6		52.7		54.8

The labour force participation rate in the study area is different from the rate reported for the dry zone in the Kurunegala District Baseline Survey.* This may be due to the differences in definitions of the term 'labour force' used by researchers.

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* ARTI, Kurunegala Integrated Rural Development Project; An Analysis of the Pre-Project Situation Research Study No. 45, ARTI, Colombo, August 1981.

2.8 Occupational Distribution of the Labour Force

Table (2.8) shows the employment patterns of the labour force in terms of main occupation. No marked difference is seen between the major and minor irrigation schemes in terms of main occupation of villages. In both areas over 70% of the population reported cultivation as their main occupation. The employment pattern reflects a distinct feature; that is over 80% of the work force is engaged in agriculture. There is a high percentage of female participation in agriculture, mainly as farm helpers. The proportion of agricultural and non-agricultural wage earners appears to be marginal in the population and this is perhaps due to the misclassification of agricultural labourers as farm helpers.

In a survey of this nature, definition of "main occupation" poses some confusing problems as the term "main occupation" hardly means the main source of income. For instance, those who stated cultivation as their main occupation were found to be agricultural labourers in terms of their main source of income.

Table (2.8) Percentage-wise Distribution of the Labour Force According to Main Occupation

Occupation	Major Schemes	Minor Schemes
	%	%
Cultivation	76.2	72.4
Casual Labour	8.2	11.8
Government Employment	8.7	7.6
Masonary & Carpentry	2.2	3.9
Trade	1.2	3.2
Other Employments	3.5	1.1
	100.0	100.0

CHAPTER THREE

HOUSEING AND OTHER AMENITIES

This chapter contains a brief analysis of qualitative and quantitative aspects of dwelling units in the study area. A dwelling unit is defined as a place of residence which includes any building or part of a building. The first part of the chapter deals with the ownership of dwellings while the second part attempts to analyse their qualitative and quantitative aspects.

3.1 Ownership and Tenancy

Two types of dwelling units have been reported in the area, namely, colony houses and privately owned houses (see Table 3.1); colony houses were mostly found in the major irrigation schemes where the settlers were provided with permanent buildings with brick walls, cemented floors and tiled roofs. These houses represented 32% of the total dwellings. Original colony houses were in various stages of construction and some of them remain unrepaired over the years. Some houses have been completely reconstructed with the addition of new rooms depending on the income of the occupants. Privately owned houses are those constructed by the occupants with their own means.

The nature of occupancy is a major factor that requires attention in any future housing development programme in the area. The survey reveals that no household in the study population lived in a rented or a leased house and that 67% of all housing units are owner-occupied. This estimate closely agrees with the national estimate of 69.4%, reported in 1981. If we include the tenancies of colony houses with the 'owned' category, this estimate would be much higher than the national figure. The nature of ownership of the land on which houses have been built indicates that 27% of the houses are constructed on private land and 54% of the houses on Crown lands. The proportion of houses built on encroached land is only about 17% of the total number of houses.

Table (3.1) Percentage-wise Distribution of Ownership and Tenancy Status of Houses

Major Irrigation Schemes	Ownership		
Village	Colony	Owned	Others
Ganangamuwa	13	87	-
Padavigama	13	87	-
Bandaragama	13	87	-
Potanegama	07	93	-
U/Siyambalangamuwa	93	07	-
Devagiripura	80	20	-
Paluwa Colony	68	26	06
Total	56	43	01
Minor Irrigation Schemes			
Pahalakokwewa	25	75	-
Ihalakokwewa	-	100	-
Gallewa	-	100	-
Molewa	04	92	04
Ulpotagama	13	81	06
Kepela	-	94	06
Padipanchawa	04	96	-
Divulwewa	-	100	-
Palugama	13	87	-
Iddamalpitiya	-	100	-
Bulnewa	-	100	-
Total	05	93	02
Grand Total	32	67	01

3.2 Some Aspects of Rural Housing

The type of dwellings people occupy does not necessarily reflect the occupants' income patterns. However, it is important to consider some qualitative and quantitative aspects of dwelling units in the study area, mainly with a view to assessing the quality of their living environment. Average number of habitable rooms per household in the study area is 2.87. As shown in Table 3.2, most of the houses are small having less than two rooms. The presence of a large number of small dwelling places in the dry zone is also revealed in the Baseline Survey of the Kurunegala Integrated Rural Development Programme (IRDP). The occupancy rate or the average number of persons per housing unit in the study area is 5.9 (see Table 3.3).

Table (3.2) Percentage-wise Distribution of Houses According to Number of Rooms

Name of Village	Number of Rooms				Occupancy Rate Average household size
	1 - 2	3 - 4	4 - 5	Over	
Major Irrigation Schemes					
Ganangamuwa	73	27	-		5.8
Padavigama	67	33	-		5.3
Bandaragama	80	20	-		5.9
Potanegama	67	27	6		5.4
U/Siyambalangamuwa	33	53	14		6.3
Devagiripura	27	57	16		5.9
Paluwa Colony	26	53	21		5.7
All	46	44	10		5.9
Minor Irrigation Schemes					
Pahalakokwewa	50	50	-		7.0
Ihalakokwewa	25	38	37		4.9
Gallewa	50	38	12		6.0
Molewa	46	42	12		5.9
Ulpotgama	50	50	-		6.1
Kepela	81	19	-		5.4
Padipanchawa	46	50	04		5.5
Divulwewa	38	50	12		6.1
Palugama	38	50	12		7.3
Iddamalpitiya	75	13	12		5.8
Bulnewa	38	38	24		6.4
All	50	40	10		5.9
Grand Total	48	42	10		5.9

Table (3.3) Percentage-wise Distribution of Houses According to Number of Occupants

No. of Occupants	Major Schemes	Minor Schemes	Both
1-3	56	63	59
4-6	36	35	36
7 and Over	08	02	05

The majority of houses had 1-3 occupants representing 59% of the total houses in the area, whereas only 5.2% of houses had 7/more occupants. In this regard, the survey reveals no significant difference between major and minor irrigation schemes. A crude assessment of the degree of over-crowding can be done on 2 persons-to-a-room basis. With 48% of houses having less than 2 rooms and an overall occupancy rate of 5.9, some degree of over-crowding appears to be present in the study area. This is particularly so in the villages coming under major irrigation schemes such as Ganagamuwa, Padavigama, Bandaragama and Potanegama located in the Mahaweli 'H' System area. Kepela and Iddamalpitiya villages served by minor irrigation schemes also have small-size houses, and there too the higher occupancy rate shows some degree of over-crowding when compared with other sample villages in minor irrigation schemes.

The quality of housing is also determined by building material used in construction. Housing units in the study location are classified into three broad types on the basis of building materials used. Houses constructed with durable materials such as cement, bricks, tiles, asbestos roofing sheets etc. are categorised under permanent structures'. Houses with temporary roofs are categorised as 'improvised'. In cases where there is a durable and non-durable material mix, the housing unit is classified as 'semi-permanent.' These three types of houses found in the village are classified in the table 3.4. In major irrigation schemes the 'permanent' category

amounts to 45% whereas in minor irrigation schemes it constitutes only 26% of all housing units.

Table (3.4) Type of Housing (Figures indicate percentages)

Village	Permanent	Semi permanent	Improvised
Major Irrigation Schemes			
Ganangamuwa	7	7	86
Padavigama	-	7	93
Bandaragama	-	7	93
Potanegama	33	-	67
U/Siyambalangamuwa	67	2	11
Devagiripura	63	20	17
Paluwa Colony	14	5	21
Total	45	13	42
Minor Irrigation Schemes			
Pahalakokwewa	38	12	50
Ihalakokwewa	63	-	37
Gallewa	13	-	87
Molewa	33	-	67
Ulpotagama	31	19	50
Kepela	-	-	100
Padipanchawa	17	4	79
Divulwewa	38	12	50
Palugama	25	12	63
Iddamalpitiya	12	-	87
Bulnewa	50	-	50
Total	26	5	69
Grand Total	36	9	55

Highest proportion of improvised housing units were located in the villages of Ganangamuwa, Bandaragama, Padavigama, Gallewa and Iddamalpitiya. Almost all housing units in Kepela village have been improvised. Siyambalangamuwa, Devagiripura and the Paluwa colony contain the highest proportion of permanent housing in the study area. This reflects the fact that they were the recipients of permanent houses when they arrived in settlement schemes. However, most of the colony houses have now fallen into a state of disrepair through neglect over years. Details of building materials used in construction are given in Table 3.5 below:

Table (3.5) Materials used for Construction (in Percentage)

		Major Irrigation Schemes	Minor Irrigation Schemes	Both Schemes	National Average
Type of wall	Brick/ concrete	53	29	42	47.7
	Mud	47	71	58	43.8
Type of roof	Tile/asbestos	55	27	42	37.6
	Cadjans	42	68	54	40.2
	Other	03	05	04	

As shown in Table 3.5, 42% of the housing units in the study area had walls constructed of bricks or concrete, - an estimate slightly less than the national estimate of 48% reported in 1981. However, the estimate reported for the major irrigation schemes was considerably higher than both the national estimate and estimate reported for minor irrigation schemes. All in all the majority of housing units in the study area had their walls constructed of mud or clay (58%) and this was specially so in case of housing units in minor irrigation schemes. More than half of the colony houses had

either tiles or asbestos as roofing materials and these houses had been built by the government when the settlement schemes were started in the area.

Forty-four per cent of the houses in the study area had detached kitchens and this estimate varies considerably in relation to major and minor irrigation schemes. The detailed break-down of types of kitchens available indicates 51% of houses in major irrigation schemes had detached kitchens. Both schemes reported to have houses with separate kitchens representing 64% of the total houses. Availability of electricity in the study area was negligible, since only 6 sample houses reported to have electricity. Most of the houses were accessible by motor vehicles; - 85% of the houses in major schemes were accessible by motor vehicles, whereas the corresponding figure for the minor irrigation schemes was 73.5%.

3.3 Sources of Water for Domestic Use

The main sources of water for domestic use in the study area were wells, irrigation channels and reservoirs. None of the households had access to pipe-borne water.

In the study area, protected wells were the most effective source of supplying non-polluted water for domestic purposes. Detailed break-down of sources of water available is given in Table 3.6. Well was the principal source of drinking water. 97% of all housing units got their drinking water from this source and only 3% depended on other sources, such as irrigation channels and tanks, for their drinking water. Bathing is mainly done in tanks and irrigation channels: 55% and 24% of the households respectively depend on these two sources. Forty nine per cent of the households in major irrigation schemes depended on irrigation channels in their respective villages for bathing. In minor irrigation schemes, the villagers heavily depended on village tanks for their domestic supplies of water.

Seventy eight per cent of households in minor irrigation schemes depended on village tanks for bathing. Wells and village tanks were important sources of water in both schemes particularly during the dry season, when the irrigation channels go dry. In certain villages, the villagers travel 1/4 to 2 miles to fetch water during the dry season.

3.4 Toilet Facilities

Sanitary facilities available in the study villages appear to be very unsatisfactory. Types of toilets available is an indicator of the general status of health of the people in the area. Unhealthy living environment could possibly lead to infectious diseases like diarrhoea and even to sudden out-break of epidemics. The study reveals that 47% of the households did not have even the basic toilet facilities. Only 6% of the households were reported to have water-sealed latrines and 47% had open-pit latrines (see Table 3.7). Almost all the households in minor irrigation schemes did not have satisfactory toilet facilities. In fact, none of the houses in Bulnewa had any toilet facilties. Only 24% of households in the major irrigation schemes did not possess toilet facilities. Considering this unsatisfactory sanitary conditions prevailed in the area, it is necessary that immediate action should be taken to create an awareness among the inhabitante about primary health care needs.

Table (3.6) Sources of Water for Drinking and Bathing

(Figures indicate Percentages)

	Well		Irrigation Channel		Tank	
	D*	B**	D	B	D	B
Major Irrigation Schemes						
Ganangamuwa	100	29	-	64	-	7
Padavigama	100	20	-	80	-	-
Bandaragama	100	29	-	57	-	14
Potanegama	100	11	-	22	-	67
Siyabalangamuwa	96	17	4	63	-	20
Devagiripura	94	31	-	25	6	44
Paluwa Colony	100	-	-	-	-	100
TOTAL	98	21	1	49	1	30
Minor Irrigation Schemes						
Pahalakokwewa	86	63	-	-	13	38
Ihalakokwewa	100	50	-	-	-	50
Gallewa	83	33	-	-	17	67
Molewa	100	13	-	6	-	81
Ulpotagama	100	40	-	-	-	60
Kepela	92	8	8	-	-	92
Padipanchawa	100	7	-	-	-	93
Divulwewa	100	-	-	-	-	100
Palugama	80	20	-	-	20	80
Iddamalpitiya	100	-	-	-	-	100
Bulnewa	100	25	-	-	-	75
TOTAL	96	21	1	1	3	78
BOTH SCHEMES	97	21	1	24	2	55

D* = Drinking
B** = Bathing

Table (3.7) Types of Toilet Facilities Available in the Villages
(Figures denote Percentages)

Village	Pit	Water Sealed	None
Major Irrigation Schemes			
Ganangamuwa	100	-	-
Padavigama	73	20	7
Bandaragama	87	-	13
Potanegama	73	13	14
U/Siyambalangamuwa	51	9	40
Devagiripura	60	-	40
Paluwa Colony	84	5	11
TOTAL	70	6	24
Minor Irrigation Schemes			
Pahalakokwewa	25	25	50
Ihalakokwewa	25	38	37
Gallewa	13	12	75
Mollewa	17	8	75
Ulpotagama	19	-	81
Kepela	31	-	69
Padipanchawa	13	-	87
Divulwewa	50	25	25
Palugama	25	-	75
Iddamalpitiya	25	-	75
Bulnewa	-	-	100
TOTAL	21	7	72
BOTH AREAS	47	6	47

CHAPTER IV

FARM AND HOUSEHOLD ASSETS

Rural household assets are mainly of two types: farm and household assets. Possession of them is quite often considered as a crude indicator of household affluence. Farm assets are of several types:

(a) Family Labour (b) Agricultural Lands (c) Livestock
(d) Farm Utencils and Tools.

Quality of housing and utility services available can also be added to household assets. The labour force and related aspects have already been discussed in Chapter 2. Chapter 6 deals with the ownership of land and land tenure, where the ownership of agricultural lands is discussed in detail. Types and quality of housing and the utility services available have been dealt with in Chapter 3. Ownership of farm implements and household items form the major part of this chapter. The possession of livestock and farm implements can be viewed as an indicator of affluence in a different perspective. The livestock tends to enhance the household's total agricultural output, and is also a mode of saving which could be encashed in exigencies. Ownership of farm implements and draught power assures the timely completion of agricultural operations a dire need in most irrigation schemes to reduce staggered cultivation.

4.1 Livestock

Cattle, buffaloes, poultry and goats were the main livestock breeds found in the study area. Cattle and buffaloe breeding attracted farmers' attention because of the heavy demand for draught power and meat. In the study population, 22% of the households had neat cattle and 21% of households had buffaloes. These estimates varied considerably across the villages of major and minor irrigation schemes. Poultry-keeping and goat-rearing which amounted to 8% and 0.7% respectively were not so popular among the sample households. There was no indication of pig husbandry in the study area.

4.2 Neat Cattle

Neat cattle rearing has been widely practised, both in major and minor irrigation schemes, as a veritable source of income through milk add draught power. Twenty five per cent of the sample households in minor schemes were rearing neat cattle for this twin purpose. The study reveals that only 19% of the households in major irrigation schemes reared neat cattle; Table 4.1 indicates that both the total number of cattle and the average number of cattle per herd reported in minor irrigation schemes were considerably higher than those of major irrigation schemes. Availability of forest reserves minor irrigation schemes provides adequate grazing grounds for cattle throughout the year. Encroachments and limited forest reserves were possible constraints to rear cattle in major schemes; an enterprise to which the community can devote time, particularly in off cultivation seasons. Under major irrigation schemes, Siyabalangamuwa and Devagiripura are reported as having the largest herd of neat cattle, whereas Palugama, Pahalakokwewa, Ulpotagama, Padipanchawa and Bulnewa in minor irrigation schemes followed suit. Average number of cattle reared as per reported household in major irrigation schemes was 4.2 - less than the estimated figure of 7.2 reported for minor irrigation schemes. Distribution of animal population, purpose-wise reveals that 65% of the neat cattle in major irrigation schemes are for dairying. The corresponding figure for the minor irrigation schemes is 55.6%, and it reflects the fact that neat cattle is reared more for dairying than as a source of draught power.

4.3 Buffaloes

Total buffaloe population in the study area amounts to 735 animals reared by 61 farm households. Of this, 205 buffaloes were reared by 13 households in Siyambalangama, which is one village in major irrigation schemes where buffaloe rearing is extensively practised both for milking and for draught power. However, only 28% of the households in minor irrigation schemes and 15% of those in major irrigation schemes have reared buffaloes. Buffaloes constitute

the main source of draught power in the study area. Ninety one per cent of the buffaloe population in major irrigation schemes and 81% in minor irrigation schemes are deployed for draught power. Buffaloe milk is mainly used for making curd which provides a supplementary income for farm households.

Villages which have harnessed buffaloes solely for draught power are Ganangamuwa and Padavigama in major irrigation schemes, and Pahalakokwewa, Ihalakokwewa, Ulpotagama, Iddamalpitiya and Bulnewa in minor irrigation schemes. Divulwewa, Kepela and Palugama villages have a sizeable herd of buffaloes for dairying. However, in the study area, neat cattle is prefered to buffaloes for dairying purposes. Apparently both buffaloes and neat cattle reared in the area provide a ready source of meat to the neighbouring towns and distant cities accessible by the railway.

4.4 Goat Husbandry

Goat husbandry is not popular among the sample households despite its prospects for expansion in the area. Except for a few households in major irrigation schemes, the survey has not recorded any incidence of goat husbandry in minor irrigation schemes. The percentage of the study households engaged in goat husbandry is almost negligible. Cost-free nature of goat husbandry itself is an incentive to promote this enterprise on a large-scale. The expansion of this profitable farm enterprise is rather constrained by the prevailing religious beliefs which place taboos on animal slaughter.

Table (4.1) Number of Households Rearing Animals in Each Village (number of households are given in Parenthesis)

VILLAGE	BUFFALOES	NEAT CATTLE	GOAT	POULTRY
Major Irrigation Schemes				
Ganangamuwa	7 (1)	5 (1)	-	2 (1)
Padavigama	22 (1)	-	-	15 (1)
Bandaragama	3 (1)	7 (2)	-	-
Potanegama	-	-	-	-
Siyambalangamuwa	205 (13)	72 (14)	22 (1)	30 (4)
Devagiripura	44 (5)	29 (7)	-	24 (4)
Paluwa Colony	33 (2)	13 (6)	3 (1)	45 (3)
Minor Irrigation Schemes				
Pahalakokwewa	14 (3)	37 (6)	-	1 (1)
Ihalakokwewa	20 (1)	6 (1)	-	7 (1)
Gallewa	-	2 (1)	-	9 (2)
Mollewa	118 (8)	8 (2)	-	-
Ulpotegama	43 (3)	35 (4)	-	20 (1)
Kepela	6 (2)	-	-	-
Padipanchawa	77 (9)	36 (6)	-	21 (4)
Divulwewa	46 (2)	13 (3)	-	20 (2)
Palugama	57 (5)	64 (6)	-	-
Iddamalpitiya	34 (4)	19 (2)	-	-
Bulnewa	13 (1)	24 (3)	-	-
Summary				
Minor Irrigation Schemes	421 (28)	244 (34)	-	78 (11)
% households reported	28.0	25.0	-	8.0
Average number	11.1	7.2	-	7.1
Major Irrigation Schemes	314 (23)	126 (30)	25(2)	116 (13)
% household reported	15.0	19.0	1.0	8.0
Average number	13.7	4.2	12.5	8.0
Both Schemes	735.(28)	370 (64)	25 (2)	194 (24)
% Household reported	21.0	22.0	0.7	8.0
Average number	12.0	5.8	12.5	8.1

Table (4.2) Utility-wise Distribution of Total Cattle Population (in percentages)

Village	Buffaloes		Neat Cattle	
	Milk	Draught	Milk	Draught
Ganangamuwa	-	100	100	-
Padavigama	-	100	-	-
Bandaragama	13	87	43	57
Potanegama	-	-	-	-
Siyambalangamuwa	10	90	71	29
Devagiripura	11	89	59	41
Paluwa Colony	-	-	46	54
Major Irrigation Schemes	09	91	65	35
Pahalakokwewa	-	100	62	38
Ihalakokwewa	-	100	-	100
Gallewa	-	-	50	50
Molewa	6	94	75	25
Ulpotagama	-	100	77	23
Kepela	33	67	-	-
Padipanchawa	19	81	44	56
Divulwewa	65	35	69	31
Palugama	46	54	50	50
Iddamalpitiya	-	100	78	22
Bulnewa	-	100	38	62
Minor Irrigation Schemes	19	81	57	43
Both Schemes	15	85	59	41

4.5 Poultry

It has been revealed that poultry keeping was not as limited as goat husbandary in the study area. Eight per cent of the total study households ran poultry farms averaging 8 birds per farm. The average number of birds kept by households in minor irrigation schemes and major irrigation schemes, were 9 and 7 respectively. No scientific method , however, has been followed by most of the household in respect of poultry-keeping. They are mostly kept free range by majority of households. This has made poultry-keeping a cost-free farm enterprise. One complaint against free range poultry-keeping in the area was that(the highland and)crops were frequently damaged by chicken in the early ' harvesting stages. Coupled with this, religious taboos too have contributed to discourage rearing birds.

Overall performance in livestock keeping in the study area is not very encouraging. Around 25% of the total households reported of their interest in pursuing livestock ventures. Nevertheless it was evident that there is much more potential for further expansion of poultry farming in the study area.

A blue print for the overall development of livestock enterprises has become imperative in the area leading ultimately to an efficient supply of draught power and a suplementary source of income for farmer families. Exploring the possibility of providing sufficient grazing lands for cattle in major irrigation schemes should receive the attention of the area development planners!

4.6 Farm Implements

Possession of farm implements indirectly indicates the degree of farm activities of the particular individual household. It partly reflects the ability of timely completion of farm activities and it is a crude measurement of the disposal of household income. Possession of implements ranges from a simple tool like a mammoty to a two-wheel tractor in the study area. Survey reveals that almost all households possessed their basic agricultural implements such as

mammoties and ploughs. Very few households owned two-wheel and four-wheel tractors and other farm machinery like sprayers.

Average number of farm implements possessed by individual households varied considerably across study villages. Mammoties, wooden and iron ploughs were the main implements found in the majority of the farm households. In terms of average number of implements possessed, apparently not much difference is evident between the two schemes. However, certain villages show some degree of affluence in terms of average number and types of implements possessed. Each item, which have been recorded the highest value is given in Table 4.3.

4.7 Household Items

The ownership of household items generally indicates the economic level of rural households. These items are usually purchased in the event of a good harvest or an increase of household income. It is also a known fact that some of these items are mortgaged or pawned in time of distress. The most common household effects in the possession of study households were radios, bicycles, petromax lamps,wall clocks, sewing machine and some household furniture. Very few households reported to have TV or electrical appliances and it was mainly due to the fact that households with electricity were very rare in this study area. Paluwa Colony, coming under major irrigation schemes, recorded the highest number of households with a wide range of household items, whereas the householdsof Pahalakokwewa recorded the highest number of household items among villages in the minor irrigation schemes. Households in the villages of Iddamalpitiya, Gallewa, Bulnewa in the minor irrigation schemes and the villages of Devagiripura and Bandaragama in the major irrigation schemes recorded the lowest number of household items. These were amongst the poorest villages in the study area.

Table (4.3) Average Number of Implements Possessed by Each Household in the Villages

Village	Mammoties	Ploughs		Sprayers	Two-Wheel Tractors	Four-wheel Tractors
		Wooden	Iron			
Ganangamuwa	2.61 (13)	1.5 (2)	1.66 (9)	1 (4)	-	-
Padavigama	3.00 (15)	2.00 (2)	1.33 (6)	1 (5)	1 (1)	-
Bandaragama	3.46 (15)	1.33 (3)	1.55 (9)	1 (4)	-	1 (1)
Potanegama	4.14 (14)	1.50 (2)	1.20 (5)	1 (2)	-	1 (1)
Siyambalangamuwa	3.13 (45)	1.50 (6)	2.41 (32)	1.25 (5)	1 (2)	-
Devagiripura	2.90 (30)	1.90 (10)	1.50 (10)	-	-	-
Paluwa Colony	2.94 (18)	1.80 (5)	1.75 (8)	1 (1)	-	-
Major Irrigation Schemes	3.13 (150)	1.76 (38)	1.88 (79)	1.1 (20)	1 (3)	1 (2)
% reported	97.4	24.7	51.3	13.0	2.0	1.3
Village						
Pahalakokwewa	3.13 (8)	2,25 (4)	1.8 (5)	1. (2)	-	-
Ihalakokwewa	3.66 (8)	3.00 (2)	1.33 (3)	-	1 (1)	-
Gallewa	2.25 (8)	1.25 (4)	1 (1)	-	-	-
Mollewa	2.91 (23)	1.56 (9)	1.79 (14)	-	-	-
Ulpotagama	3.06 (16)	1.75 (8)	2.38 (3)	1 (1)	1 (1)	1 (1)
Kepela	2.25 (16)	1.67 (3)	1.6 (5)	1 (1)	-	-
Padipanchawa	3.04 (24)	1.0 (5)	1.8 (15)	1 (1)	-	-
Divulwewa	2.62 (8)	1.6 (3)	2.2 (5)	1.33 (3)	-	-
Palugama	2.87 (8)	-	1.57 (7)	1 (1)	-	-
Iddamalpitiya	2.28 (7)	2 (3)	2.5 (4)	-	-	-
Bulnewa	2.75 (8)	2 (3)	1 (1)	-	-	-
Minor Irrigation Schemes	2.83 (134)	1.7 (14)	2.28 (63)	1.11 (9)	1 (1)	1 (1)
% reported	98.5	32.4	46.3	6.6	1.5	0.7
Both Schemes	2.99 (284)	1.73 (82)	1.85 (142)	1.07 (20)	1 (5)	1. (2)
	97.6	27.9	49.3	10.0	1.7	1.0

No. of households given in Parenthesis

Table (4.4)

Percentages of Households that had Valuable Household Effects/ Transport Facilities

Village	Wall Clocks	Petromax Lamps	Radios	Cassette Recorders	Sewing Machines	Wardrobes	Sets of Furniture	T.V. Sets	Bicycles	Carts
Gananganuwa	6.7	40.0	53.3	-	13.3	13.3	20.0	-	66.7	-
Padavigama	6.7	46.7	80.0	6.7	13.3	33.3	20.0	-	66.7	-
Bandaragama	-	26.7	66.7	-	13.3	6.7	33.3	6.7	66.7	6.7
Potanegama	20.0	26.7	66.7	6.7	13.3	26.7	26.7	6.7	66.7	-
Siyambalangamuwa	17.8	48.9	62.2	8.9	26.7	37.8	46.7	-	55.6	22.2
Devagiripura	16.7	33.3	76.6	6.7	20.0	33.3	6.7	-	56.7	16.7
Paluwa Colony	10.5	57.9	84.2	-	36.9	52.6	63.2	-	68.4	15.8
Major Irrigation Schemes	13.0	41.6	69.5	5.2	21.4	31.8	32.5	2.0	61.7	12.3
Village										
Pahalakokwewa	50.0	50.0	87.5	12.5	25.0	25.0	62.5	12.5	75.0	12.5
Ihalakokwewa	25.0	37.5	87.5	12.5	50.0	37.5	50.0	-	62.5	25.0
Gallewa	-	25.0	75.0	-	25.0	12.5	37.5	-	25.0	25.0
Mollewa	4.2	41.7	62.5	-	8.3	8.3	12.5	-	58.3	16.7
Ulpotagama	12.5	43.8	50.0	-	25.0	31.3	43.8	-	81.3	18.8
Kepela	6.3	6.3	31.3	18.8	12.5	6.3	18.8	--	43.8	-
Padipanchawa	4.2	25.0	50.0	8.3	20.8	25.0	25.0	-	66.7	8.3
Divulwewa	37.5	50.0	62.5	12.5	62.5	50.0	62.5	12.5	75.0	12.5
Palugama	12.5	62.5	75.0	12.5	-	12.5	37.5	-	75.0	62.5
Iddamalpitiya	-	25.0	37.5	-	-	-	25.0	-	25.0	12.5
Bulnewa	25.0	25.0	37.5	-	-	25.0	37.5	-	87.5	25.0
Minor Irrigation Schemes	13.2	33.8	56.6	6.6	19.1	19.7	31.6	1.47	61.8	16.9
Both Schemes	12.8	37.9	63.8	5.8	19.7	23.8	34.8	1.73	51.7	14.5

4.8 Access to Information and Knowledge

Radio and newspapers were the main sources of information on national and regional events. Seventy one per cent of households had their own radios. Thirteen per cent of households could afford to buy daily newspapers. Sunday newspapers were more popular than the daily newspapers as the former were rich in reading materials such as short stories. Eleven per cent of households reported buying weekly cartoon papers which seemed to be very popular among the children and the youth. Television appears to be still beyond the reach of the majority of rural households. This is mainly due to the lack of electricity in rural areas. However, some households operated their television sets with alternative energy sources such as dry batteries. Only 1.7 per cent of the total households in the study area owned television sets.

Access to radio programmes was not uniform across the villages of two schemes. In major irrigation schemes 76% of the heads of households listened to the radio daily whereas the percentage of daily listeners in minor irrigation schemes amounted to 62%. Highest readership of both daily and weekly papers was reported in major irrigation schemes as compared to minor irrigation schemes showing greater exposure to the mass media in terms of listernership as well as readership.

4.9 Place of Reading and Listening

The common places for reading newspapers and radio listening to radio were one's own home, neighbour's home and village boutiques. The proportion of heads of households listening to radios at their own home is only 71% while 23% listened to radios at neighbouring houses or at the village boutique. The reading of newspapers at village boutiques was very popular in both schemes. Number of villagers who visited their neighbours to read newspapers was small. Village boutique appeared to be the only place where they had free access to read the daily or weekly newspapers.

Table (4.5) Percentage-wise Distribution of Heads of Households by Ownership and Receptivity to Mass Media Exposure (%)

Mode	Scheme	Owner ship	Daily	Several times a week	Once	Occasi- onally	Never
Radio	Major	75	75	03	02	16	03
	Minor	65	62	01	01	24	05
	Both	71	69	02	02	20	04
Newspapers Daily	Major	12	25	06	03	34	20
	Minor	13	11	08	11	49	21
	Both	13	19	07	07	41	20
Newspapers Weekly	Major	18	06	06	29	35	25
	Minor	15	03	04	24	23	29
	Both	17	05	04	27	36	27
Cartoon Papers	Major	12	-	03	11	16	69
	Minor	09	01	05	06	10	76
	Both	11	01	04	09	13	72

Table (4.6) Percentage-wise Distribution of Heads of Households by the Location of Reading and Listening

Source of Mass Media	Scheme	Home	Neighbour's Home	Boutique	Not Interested
Radio	Major	75	09	11	05
	Minor	66	15	12	07
	Both	71	12	11	06
Newspapers	Major	14	05	59	22
	Minor	12	04	59	25
	Both	13	04	59	24
Cartoon Papers	Major	10	03	17	70
	Minor	07	02	12	79
	Both	09	02	14	75

CHAPTER 5

LAND USE AND TENURE PATTERNS

This chapter deals with the land use, cropping pattern and land tenure arrangements in the study area.

5.1 Land Use

In terms of land utilization, the following categories of land can be identified in the study area, both in major and minor irrigation schemes.

1. Lowlands : Paddy is the main crop cultivated in lowlands during both the Maha and the Yala seasons.

2. Homesteads : Village homesteads are generally uplands which are tended as home gardens.

3. Highlands and Chenas : Highlands are unirrigated lands. Some highlands have been developed into permanent chenas Chenas are prepared mainly out of scrub jungle patches. cash crops and food crops such as gingelly, chillies and millet are cultivated on these lands.

The farming system in the area, therefore, could be described as a threefold system: Paddy on lowlands, cash crops and food crops on highlands and mixed-crops on homesteads.

5.1.1 Lowlands

The total estimated paddy (lowland) cultivation under both the major and the minor irrigation schemes in the area is around 11,019 acres. Rainfed cultivation area amounts to 1,102 acres which is about 10% of the total paddy extent. Paddy cultivation is the main livelihood of two third of the households. Lowland paddy cultivation depends both in the major and minor schemes on tank irrigation; in the study area. Lowlands can be cultivated mainly with monsoon rains in the Maha season without resorting to tank irrigation. However, during the Yala season (dry period) water is scarce even for domestic use and the

paddy cultivation during this period is virtually impossible without a regular assured water supply from irrigation tanks. Therefore, the Yala cultivation is mostly confined to major irrigation schemes and to lands under village tanks fed by the major irrigation schemes. However, the prolonged drought in two consecutive seasons prior to the survey reduced the extent of cultivable lowlands to a minimum in both schemes. Paddy cultivation in the Maha season had been a failure due to the scaracity of water and most of lowlands had been virtually left fallow.

5.1.2 Homesteads

The total estimated highland area under minor irrigation schemes was 14,135 acres. Homestead are located on relatively high ground adjacent to village tanks in minor irrigation schemes. Such lands are often the settlement areas of purana villages. In old colonization schemes, such as Siyambalangamuwa, homesteads are located on both sides, along the irrigation channel. Homesteads form a 'cluster' on highground in the villages of Mahaweli 'H' system. Systematic cultivation of seasonal crops on homesteads was not observed in the study area. However, coconut, jak and lime are the main tree-crops found in homesteads as well as on highlands. (see Table 5.1). Since there was a qualitative difference between homesteads in two types of schemes, it was possible to make an accurate estimation of the extent of each crop in homesteads. The homesteads in minor irrigation schemes were sparsely cultivated and non-irrigable. However, some homesteads in major irrigation schemes were irrigable and therefore those were cultivated with varieties of crops suited to highlands.

Table (5.1) Crop Varieties Found in Homesteads

Crop Variety	N = 154 Major Irrigation Schemes		N = 136 Minor Irrigation Schemes		N = 290 Both Schemes	
	No. reporting	%	No. reporting	%	No reporting	%
Coconut	120	78	85	63	205	71
Jak fruit	72	47	18	13	90	31
Mango	59	38	19	14	78	27
Banana	30	09	05	04	35	12
Cashew	12	08	05	04	17	06
Orange	09	06	03	02	12	04
Lime	05	03	02	01	07	02
Manioc	03	02	02	01	05	02

5.1.3. Highlands

The estimated extent of chena and highlands in the area is over 25,000 acres. Chena cultivation is usually carried out on relatively flat, unirrigable uplands which were mostly scrub jungle patches in the vicinity of villages. Two types of chena characterised the area, namely the 'Maha chena' which is cultivated with a variety of cash crops and food crops, such as Kurakkan, millets, maize, Sorghum, chillies, mustard and vegetables. The cultivation of green gram, cowpea and chillies has been given priority in recent years because of their demand in the market and the high prices these crops fetched. The 'Yala chena' is mainly planted with gingelly and cowpea. Chena has been a integral part of the economy of purana villages as it provided the household not only with food and but also cash income for its sustenance. When paddy crops in minor irrigation schemes often fails many households depended on chena cultivation for their livelihood.

The drought prevailed recently in the area led farmers to give priority to the cultivation of chenas, which demanded less water. The households in minor irrigation schemes who cultivated chenas in the Yala and the Maha seasons were 64 per cent and 66 per cent respectively. In major schemes the percentages of farmers reported to have cultivated chenas were 19 per cent and 24 per cent for the Yala and the Maha seasons respectively. The low percentages recorded in the major irrigation schemes could be attributed to availability of irrigation water.

5.2 System of Cultivation

Table 5.2 indicates that farmers in the study area showed a considerable interest in their chenas and highlands during both Yala and Maha seasons. Diversification of farming activities during the Yala season was virtually non-existent and only 10 per cent of farms in both types of irrigation schemes have adopted diversified systems of cultivation. However, 35 per cent of the farmers had diversified their cultivation during the Maha season. During the period the survey, was conducted the study area had been affected by a prolonged drought, and it was said to be the worst affected cultivation season for lowland cultivation in that area for many years. This explains why farmers were more keen to cultivate chenas and highlands than lowlands, as shown in Table 5.2.

In the Yala season during the period under review only 8 per cent of farmers in minor irrigation schemes reported to have cultivated lowlands along with their chenas or highlands. However, this figure goes up to 56% in the Maha season. Thus, it is evident that the availability of irrigation water determines the farming system in a given cultivation season. During the Maha season, farming system is mainly centred on the cultivation of lowlands. For example, 60% per cent of households in major irrigation schemes cultivated their paddy lands in the Maha season. When water was scarce in the Yala season, only 48 per cent households cultivated their paddy lands.

Table (5.2) Classification of Farms by Average Farm Size and Season

Type of Farm	1982 Yala Season											
	Farms reporting %			Average Extent per farm reporting acres			Farms reporting %			Average Extent per farm reporting acres		
	Major	Minor	Both	Major	Minor	Both	Major	Minor	Both	Major	Minor	Both
Lowland only	41	-	21	1.48	-	1.51	50	11	31	2.17	1.9	2.15
Highland Only+	35	30	32	0.69	1.56	1.11	15	12	14	1.41	1.14	1.26
Chena Only	15	58	37	1.90	1.58	1.66	17	23	20	1.73	1.63	1.68
Lowland + Highland	05	06	05	2.22	2.72	2.52	11	11	11	2.94	4.15	3.51
Lowland + Chena	-	02	01	-	3.95	3.95	02	27	14	3.46	4.67	4.60
Chena + Highland	02	04	03	2.97	2.47	2.61	04	09	06	2.84	2.92	2.89
Lowland + Highland + Chena*	02	-	01	6.94	-	6.94	01	07	04	2.72	6.42	5.98
	100	100	100				100	100	100			

* Highlands includes homesteads.

5.3 The Role of Irrigation in Lowland Cultivation

According to the survey data, the lowland annual cropping output in major and minor irrigation schemes were 94 and 47 respectively. The main reason for the non-cultivation of the entire extent of a lowland allotment in major schemes is attributed to inadequate supply of irrigation water. Farms, in major as well as minor irrigation schemes, which confront irrigation problems were often found to be located in the tail-end of the irrigation channels. The main reason for fallow lowlands was insufficient supply of water. In major irrigation schemes,

some of the problems related to irrigation crop/due to basic defects up in the conveyance systems or illegal tapping of water by farmers in the top-end. Moreover, in both types of schemes. / Unavailibility of adequate poor maintenance of channels was quite evident at the time of the survey. water in village tanks in the minor irrigation schemes resulted from several factors such as siltation of tank beds, breaches in the tank bunds and failures of rainfall. Some farmers of Usgalasiyamblangamuwa had experienced severe crop losses in two consecutive seasons due to non-availability of water for cultivation. The paddy cultivation, in both major and minor irrigation schemes, therefore, heavily depend on timely arrival of monsoon rains in the Maha season. However, paddy cultivation during the Maha season is somewhat assured in the villages particularly, in those villages, that-come under the Mahaweli Scheme. Even in this area, farmers prefer cash crops to paddy in the Yala season as the former is more profitable and needs relatively less amount of irrigation water. The excessive water consumption in reddish brown earth has promoted the cultivation of cash crops on lowlands during the Yala season in the Mahaweli area.

5.4 Patterns of Land Ownership

The pattern of land ownership in the study area can be classified into three broad categories:

a) Purana villages: where land is held both by individuals and families. Quite often owners of land parcels do not register their lands at the Secretariat and enjoy them according to the customary laws

b) State allotments distributed under irrigation - initiated large irrigation schemes: These lands are commonly known as LDO lands after the Land Development Ordinance of 1935 which gives authority to such distribution of state lands

c) Encroachments: On state lands in the periphery of purana villages and in 'reservations' of major irrigation schemes.

The most prominent type of land tenure in the study area is state allotments which oover 93% of lowland and homegardens in major irrigation systems.

In traditional rainfed villages and minor irrigation schemes, one could find the first category of land ownership.private ownership takes two forms: single-ownership and joint-ownership. In the case of joint-ownership, two or more persons claim the ownership for a single piece of land and operate it jointly or an rotation basis. In minor irrigation schemes, 16 per cent of the lowlands, 43 per cent of the highland and 8 per cent of the homegardens are jointly owned, whereas in major irrigation schemes only 43 per cent of the highlands are jointly owned.

Encroachment on Crown land is the third form of land tenure. Incidence of encroachment is higher in minor irrigation schemes than in major irrigation schemes. As seen in Table 5.3, 39 per cent of the household in minor schemes reported that their dwelling units are located on encroached lands. The second generation of households tend to encroach Crown land in the vicinity of their original villages.

Table (5.3) Percentage-wise Distribution of Land Area and Households classified According to Form of Tenure and Types of Land

Form of Tenure	Low Lands				High Lands				Homesteads			
	Major		Minor		Major		Minor		Major		Minor	
	Ex. %	H.H. %	Ex. %	H.H. %	Ex. %	H.H. %	Ex. %	H.H. %	Ex %	H.H %	Ex %	H.H %
Singly owned	03	04	69	58	-	-	43	52	03	03	44	44
Jointly Owned	-	-	16	20	43	33	36	17	-	-	08	13
L.D.O	93	89	-	04	57	67	-	-	95	94	09	08
Allotment Encroachment	04	07	15	18	-	-	21	31	02	03	39	35
Total	100	100	100	100	100	100	100	100	100	100	100	100

Abbreviations: Ex. = Extent
H.H. = Households
Major = Major Irrigation Scheme
Minor = Minor Irrigation Scheme

CHAPTER 6

FARM PRACTICES, CROPPING PATTERNS AND OUTPUT

In this chapter an attempt is made to investigate the present-day crop husbandary practices as well as the levels of output. Cropping practices with regard to paddy and cash crops are presented in this chapter only for minor and major schemes.

6.1 Cultivation of Paddy

As discussed earlier, paddy farming in low land allotments is done mainly in the Maha season. In the Yala season, lowland allotments in minor irrigation schemes remain virtually fallow and serve as grazing grounds for cattle. However, paddy and other cash crops are cultivated in the Yala season in a few villages in major irrigation schemes.

6.2 Use of Farm Power

Land preparation and threshing of paddy are the major agricultural operations that demand farm power. As shown in Table 6.1 buffaloes are the principal source of farm power used in paddy cultivation in both types of schemes.

Table (6.1) Types of Farm Power used during 1982/83 Maha season (percentage of farmers

Types of power	Land Preparation		Threshing	
	Major Schemes	Minor Schemes	Major Schemes	Minor Schemes
Buffaloes	53	80	05	56
2 wheel tractors	29	11	12	03
4 wheel tractors	18	09	83	41
	100	100	100	100

Tractors are used in major schemes for several reasons. First, issuing of water in major schemes is done according to a tight cultivation schedule. Therefore, to utilize water properly, it is a necessity for farmers to hire tractors to complete land preparation etc. in time. Secondly, the number of buffaloes available in major irrigation schemes is greatly restricted due to lack of sufficient grazing grounds. However, adequate number of tractors, specially the two wheel machines, were available in the study area, The hiring rate for two ploughings generally ranged from Rs. 300 to 360 per acre during 1982/83 Maha season. For threshing, the rate ranged from Rs. 100 to 150 per acre. The hiring rate for buffaloes was around Rs. 60 per pair a day. Generally, payments for hiring farm power were made in cash rather than in kind.

6.3 Varieties of Paddy Cultivated

The paddy varieties cultivated in the study area: (i) new high yielding varieties that were developed at Batalagoda Rice Research Station, and (ii) an old, improved variety - H_4. None of the sample-farmers reported to have used traditional varieties of paddy. The most popular varieties cultivated during the Maha 1982/83 were BG 34-8, BG 276-5, BG 11-11 and mixtures of new improved varieties. In the use of different varieties of paddy, no difference was evident between the major irrigation schemes and minor irrigation schemes for farmers of both types of schemes had similar extension facilities and access to distribution outlets of seed paddy in the area.

As indicated in Table 6.2 70 and 50 per cent of the farmers in major and minor schemes respectively have selected BG 34-8. The majority of the farmers have resorted to the selection of short-aged varieties in order to minimize the risk of crop damage for want of water. The popularity of H_4 variety among some farmers could be attributed to its success to under water resistent qualities and a low level of crop management.

Table (6.2) Adoption of Paddy Varieties, During 1982/83 Maha Season

Variety	Crop duration (months)	Minor Schemes % Extent	Minor Schemes % No. of farmers	Major Schemes % Extent	Major Schemes % No. of farmers
New Improved					
BG 276 - 5	3	25	28	22	21
BG 34 - 8	$3\frac{1}{2}$	56	58	63	70
BG 400 - 1	$4-4\frac{1}{2}$	04	03	02	02
BG 11 - 11	-do-	07	04	03	02
Old Improved					
H_4	-do-	02	02	01	01
Mixture of new improved					
BG 34-8, BG 276-5 BG 400-1, BG 11-11	-	06	05	09	04
		100	100	100	100

6.4 Methods of Planting

The most popular method of planting is sowing of germinated seeds on wet soil. Around 84 per cent of farmers in the 82/83 Maha in major irrigation schemes had cultivated their paddy fields by sowing seeds. This estimate compares with only 72 per cent in the minor schemes (see Table 6.3). Transplanting had been undertaken on a limited scale in both types of settlement schemes.

Transplanting has particularly been adopted in areas where access to water is relatively better. Twelve per cent of the paddy fields in minor irrigation scheme and followed the technique of dry sowing. Dry sowing is the sowing of ungerminated seed paddy under dry conditions.

Table (6.3) Planting Methods Adopted by Extent and by Sample Farmers

	Minor Scheme		Major Scheme	
	% Extent	% Farmers	% Extent	% Farmers
Sowing				
Mud	78	72	88	84
Dry	12	08	02	03
Transplanting	08	11	06	08
Transplanting and Sowing	02	09	04	05
	100	100	100	100

After sowing, dry seed-beds are normally covered with a layer of soil in order to prevent former being eaten up by pests and birds. Dry sowing is mainly practised in rainfed areas and in areas where supply of irrigation water is not sufficient. Though the dry sowing requires less water for land preparation, relatively a smaller percentage of the farmers have adopted this technique. The reluctance on the part of the farmers for dry sowing is mainly due to the extremely heavy weed growth in the field that were prepared under dry conditions, and controlling weed is proved to be quite costly.

6.5 Pattern of Labour Use

The total labour inputs applied per acre amount to 43.3 and 58.2 man-days in minor and major irrigation schemes respectively (see Table 6.4). The higher labour input recorded in the minor scheme is due to several reasons. The system of paddy cultivation in the area is labour intensive. Use of labour-replacing inputs, such as tractors, for land preparation and threshing is relatively low in the minor irrigation schemes. For land preparation and threshing, buffaloes have been extensively used; and these generate a considerable demand for labour.

Table (6.4) Use of Labour in Paddy Cultivation Man days per Acre 1982/83 Maha Season

	Family Labour	Hired Labour	Exchange Labour	Total
Major Schemes	22.6	16.5	4.2	43.3
Minor Schemes	34.6	11.8	11.8	58.2

The labour utilization data indicates a high proportion of family labour inputs in minor schemes as compared to major schemes. This could mainly be attributed to (i) large family size and (ii) relatively small farm-holdings in minor irrigation schemes. Application of exchange labour in major irrigation schemes appears to be very low. As traditional family ties are very strong in purana villages, exchange labour constitutes a major component in the total labour input in minor irrigation schemes. However, the composition of labour input reveals a high proportion of hired labour in, both major and minor irrigation schemes. Relatively larger holdings and improved crop management in major schemes make a considerable demand for hired labour. The need for hired labour also tends to rise with the increased use of machinery and other agricultural appliances such as sprayers, weeders etc. Hired labour is equally important in minor irrigation schemes, amounting 20 per cent of the total labour inputs. An operation-wise distribution of labour use is presented in Table 6.5. Labour application on an operational basis indicates two clear-cut peaks during land preparation and harvesting. Over 60 per cent of the total input of labour had been used for those two operations alone. The highest labour input was required for harvesting as it has to be completed within, a very short period of time.

Table (6.5) Operation-wise Distribution of Labour Inputs in Paddy Cultivation (man days per acre)

	Major Schemes				Minor Schemes			
	F	H	E	Total	F	H	E	Total
Land Preparation	7.2	4.8	1.4	13.4	12.7	3.7	2.0	18.4
Sowing/Planting	3.1	2.1	0.8	6.0	4.8	2.3	3.7	10.8
Crop Care	4.2	2.9	-	7.1	7.2	-	2.4	9.6
Harvesting	8.1	6.7	2.0	16.8	9.9	5.8	3.7	19.4
Total	22.6	16.5	4.2	43.3	34.6	11.8	11.8	58.2

F - Family Labour H - Hired Labour E - Exchange Labour

The daily wages paid for hired labour at the time of survey do not indicate any notable difference between the schemes. The normal daily wage payment ranged between Rs. 15-25 for a man, Rs. 12-20 for a woman and Rs. 8-12 for for a child, excluding the meal cost. If the meals were provided, the practice has been to deduct Rs. 5 from the daily wages.

6.6 Application of Fertilizer

Three types of fertilizer recommended by the Department of Agriculture have been used by the majority of the farmers in major irrigation schemes during Maha season under reference. The application of fertilizer in major schemes and minor schemes, amounted to 90 per cent and 66 per cent respectively of the total area under cultivation.

Table (6.6) Levels of Fertilizer Application During Maha 1982/83

	Percentage of the Farmers applied fertilizer	Extent Fertili-zed as a % of total cultivated area	Quantity applied (pounds per acre)		
			Urea	TDM	VI
Major Schemes	88	90	100	88	60
Minor Schemes	63	66	89	67	44

The The actual amounts of all three types of fertilizer applied in both areas were less than the recommended quantities. In general, fertilizer is used more in the major irrigation schemes than in minor irrigation schemes. This is perhaps due to better irrigation facilities in major irrigation schemes. The lack of assured water supply coupled with low family income have prevented farmers in minor schemes from using less fertilizer than their counterparts in major irrigation schemes.

6.7 Weed Control

The majority of sample farmers reported that they had adopted some form of weed control in the Maha season. Weeds are controlled with chemical weedicides or through manual weeding or by both methods. During the season under reference, 96% and 84% of the total cultivated area in minor irrigation schemes and major irrigation schemes respectively were wedded by the farmers (see Table 6.7).

Table (6.7) Methods of Weed Control and the Extent Weeded during 1982/83 Maha season

	Extent weeded as a % of total cultivated area	Manual Weeding %	Chemical Weeding %	Both Methods %
Major Schemes	84	06	67	27
Minor Schemes	96	24	42	34

As indicated above, the use of chemical weedicide was widely practised in both types of irrigation schemes. Around 67 per cent and 42 per cent of the weeded acreage had depended entirely on chemical weedicide in major and minor irrigation schemes respectively. Manual weeding has been widely practised in the minor irrigation schemes, where 24 per cent of cultivated extent had been weeded using this method. The intensive use of manual labour for weeding in these schemes could partly be attributed to the sufficient supply of family labour and also to their attempt to cut down heavy expenses on chemical weedicides.

6.8 Pest and Disease Control

Over 50 per cent of farmers in both major and minor irrigation schemes have encountered pest problems or disease outbreaks during the season under study. Farmers have given prime importance to control pests and diseases in order to reduce the risk of crop damage.. The major pests reported by the farmers were paddy bug and stem borer. The most prevalent disease was brown leaf disease. As revealed by the survey data, chemical control measures have been taken by almost all farmers in all such cases, as a curative measure.

6.9 Paddy Yield

The paddy yield in both types of irrigation schemes considered to be low in general. The average yield in the major and the minor irrigation schemes indicated a marked difference; the respective figures being 59 and 38 bushels per acre. None of the farmers in minor schemes reported to have yield levels over 70 bushels per acre (see Table 6.8).

Table (6.8) Distribution of Paddy Yield during 82/83 Maha Season

Yield (bushels/acre)	% Farmers Reporting Major	Minpr
⩽ 20	5	24
21 - 30	7	26
31 - 40	11	32
41 - 50	14	12
51 - 60	20	04
61 - 70	23	02
71 - 80	12	-
80	8	-
Total	100	100

The model class is 31-40 bushels per acre for minor irrigation schemes. However, there is a wide variation of paddy yield per acre with regard to major irrigation schemes. The highest recorded yield in major irrigation scheme was 132 bushels per acre, with a model class of 61-70 bushels per acre. Relatively higher paddy output in major irrigation schemes could be attributed to the favourable supply of water, proper crop management and use of inputs.

6.10 Costs and Returns in Paddy Cultivation

Table 6.9 indicates an overall summary of financial costs and returns for paddy cultivation for both types of irrigation schemes. Two indicators have been used to evaluate the returns in paddy, such as net returns per acre which is calculated by the market value of per acre paddy output minus the cost of production including all cash and non-cash inputs. The other indicator is gross income minus cost of production excluding non-cash inputs. All types of labour, including family and exchange labour, were valued at the prevailing wage rates at the time of the survey. Seed paddy has been valued at a uniform rate although some farmers have obtained them from different

Table (6.9) Cost and Returns in Paddy Cultivation (in rupees) for 1982/83 Maha Season

Cost of Production	Major Schemes	% of total cost	Minor Schemes	% of total cost
a. Cash Inputs				
1. Hired Labour	412	22.5	208	13.5
2. Seed Paddy	36	2.0	56	3.6
3. Fertilizer	140	7.7	92	6.0
4. Weedicides & Agro-chemicals	88	4.8	42	2.7
5 Farmpower				
Tractor	212	11.6	121	7.9
Buffaloes	42	2.3	28	1.8
6. Other Costs	72	3.9	31	2.0
Sub Total	1002		578	
b. Non-Cash Inputs				
7. Labouring Family	565	30.9	622	40.4
Exchange	105	5.7	192	12.5
8 Seed Paddy	86	4.7	62	4.0
9 Buffaloes	72	3.9	84	5.6
Sub Total	828		960	
Total Cost	1830	100.0	1538	100.0
c. Returns				
1. Yield per acre	59		31	
2. Cross Income	3687		1937	
3. Net Income (including non cash Inputs)	1857		399	
4. Net Income (excluding non cash Inputs	2685		960	

sources. The following observations could be made regarding the pattern of costs and returns. Labour is the most important cost component in both types of irrigation schemes. In major schemes, it was around 60% of total cost, while in minor schemes it was about 66%. The higher intensity of cultivation in major schemes is shown by the higher use of inputs. The higher cost of production has been compensated by higher returns per acre in these schemes. Non-cash component is particularly high in minor schemes and it amounts to 60% of the total cost. However, cash inputs such as fertilizer and other agro-chemicals constitute only a small percentage of the total cost in these schemes. As seen in the Table 6.9, productivity and net returns per acre of paddy were promising only in major schemes.

6.11 Cultivation of Cash Crops on Highlands and Chenas

The broad pattern of highland and chena cultivation has been discussed earlier. In this section, the prevailing cultivation practices and return to the cultivation of cash crops are discussed. It was observed that permanent tree crops occupy homesteads and other highlands. It has also been observed that cash crops such as chillies, cowpea and green grams have been extensively cultivated on homesteads and chena lands in the vicinity of villages. Details of cash crops that are grown in chenas and highlands are given in Table 6.10.

Table 6.10 Percentage-wise Distribution of Farmers Cultivated Cash Crops in High Lands

Crop	Major Schemes		Minor Schemes	
	Maha(%)	Yala(%)	Maha(%)	Yala(%)
Cowpea	84	76	92	74
Green Gram	48	73	78	56
Chillies	22	32	24	45
Gingelly	-	12	12	18
Black gram	11	09	-	-
Kurakkan	18	12	19	13

Cowpea, green grams and chillies are the main crops grown by the majority of farmers in both schemes. The prevailing cultivation practices on highland and chena land in respect of cash crops do not indicate any notable variation. Almost all the farmers prepare their highland plots and chenas with mammoties. Only a few instances of the use of either buffaloes or tractor power for land preparation were reported. Generally farmers did not use fertilizer in their highland and chena cultivations. However when they cultivated chillies they often applied either organic or inorganic manure. Most of the sample-farmers weeded their crop manually. Application of insecticides was reported by almost all farmers who cultivated cash crops. Yellowing of leaves and Leaf Eating Caterpillers were the main disease and the pest encountered by the cowpea growers. Yellowing of leaves was also reported by a large number of cultivators of green gram. Curling of leaves was the main problem reported by the chillie growers. In almost all such cases, farmers used insecticides to arrest the spread of diseases. Harvesting and processing of each one of these crops were done manually. Excessive labour demand for weeding and harvesting of cash crops was observed in both major and minor irrigation schemes.

The cultivation costs of cowpea, green gram and chillies in the Maha season are given in the Table 6.11. The expenses incurred on operations such as land preparation, weeding and harvesting appear to be high. In minor schemes, costs of cultivation for each crop are relatively less when compared to the costs in major schemes. The higher cost of production has been compensated by higher returns per each crop in the latter. The average selling price of each crop, however, was more or less the same in both schemes.

Table (6.11) Costs of Production Per Acre According to Each Step in the Cultivation Process and Net Returns

Process	Cowpea		Greengram		Chillies	
	Major	Minor	Major	Minor	Major	Minor
Land Preparation	158	170	189	201	340	230
Sowing/Planting	121	106	130	112	271	198
Weeding	124	93	86	98	290	256
Other Crop Care	282	168	178	165	420	391
Harvesting	124	142	165	172	201	274
Processing	28	17	34	26	24	35
Other	12	24	48	37	67	48
Total	849	720	830	811	1613	1432
Yield per acre	bu.8.2	bu 6.4	bu 7.3	bu 5.1	608 lbs	540 lbs
Total Income	1312	1024	2102	1468	5472	4860
Net Returns per acre	463	304	1272	652	3839	3428

CHAPTER 7

INCOME AND HOUSEHOLD EXPENDITURE

This chapter deals with the pattern of household income and expenditure. The main sources of household income in the study locations appeared to be twofold: agricultural and non-agricultural income. Agricultural income includes gains from paddy and other crops, off-farm employment and also the income from animal husbandry. Non-agricultural income sources were salaried employment in the public sector, various types of self employment, enterprises and wage labour in non-farm sector.

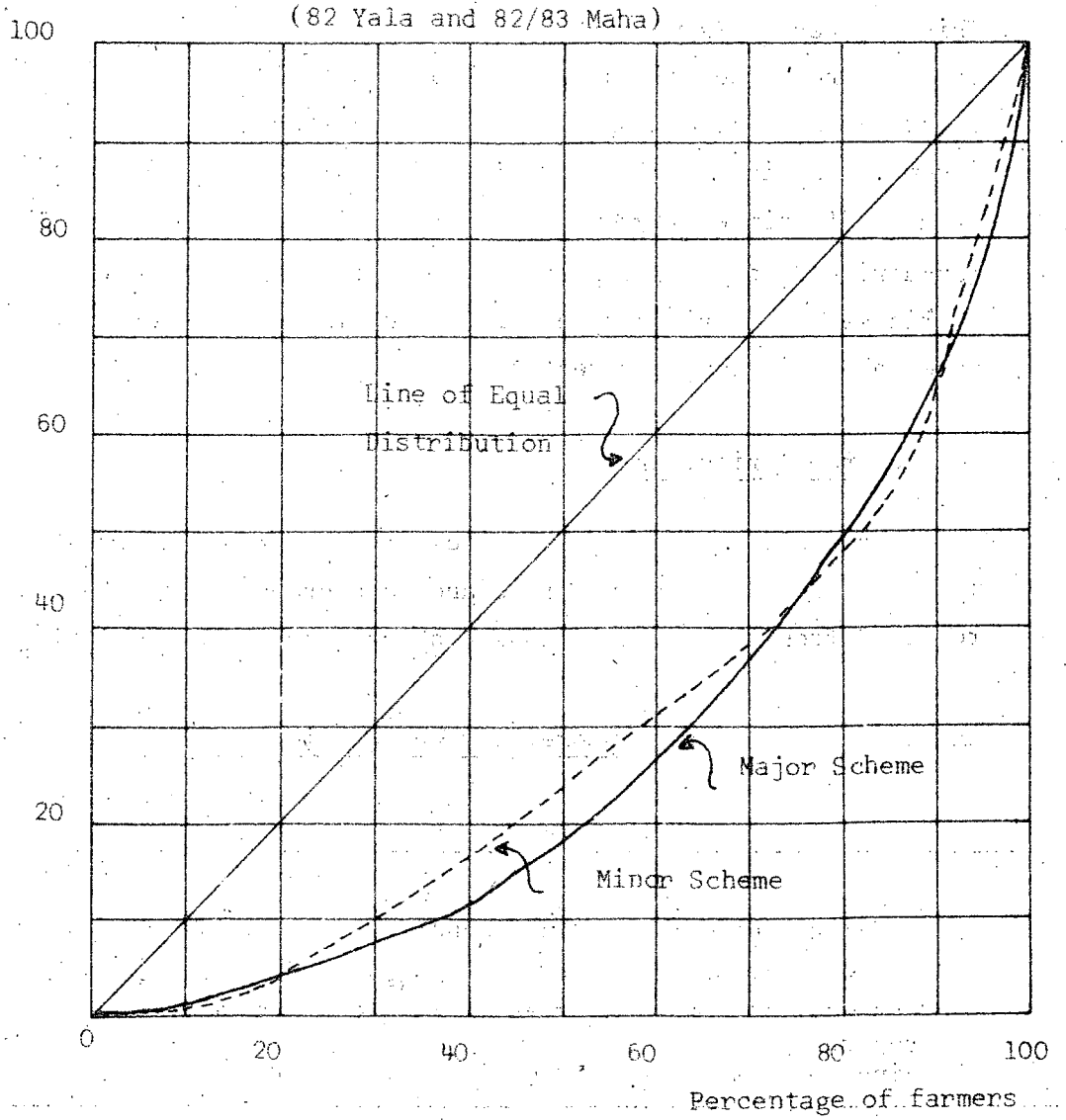
7.1 Income from Agriculture

As we have noted earlier, the types of crop grown in the study area included paddy, permanent crops and cash crops. Gross income received from paddy and various cash crop are given in Table 7.1.

Table 7.1 Income from Cultivation of Crops in Two Seasons

	1982 Yala				1982/83 Maha			
	Major Schemes		Minor Schemes		Major Schemes		Minor Schemes	
	% of farmers report-ing	Gross Income Rs.	% of farmers report-ing	Gross Income Rs.	% of farmers report-ing	Gross Income Rs.	% of farmers report-ing	Gross Income Rs.
Paddy	48	6446	8	538	62	9680	29	3042
Cowpea	76	821	74	644	84	637	92	1031
Greengram	73	736	56	936	48	711	78	821
Chillies	32	1949	45	1258	22	2700	24	1276
Gingelly	12	393	18	376	-	-	12	370
Blackgram	09	215	-	-	11	320	-	-
Kurakkan	12	330	13	191	18	266	19	103

Figure ( ) Distribution of Annual Gross Income (82 Yala and 82/83 Maha)



Income from paddy dominates both the Maha and Yala seasons in major schemes with gross income of Rs. 9680 and Rs. 6446 respectively per farm family. On the other hand income realised from paddy, in minor irrigation schemes was Rs. 3042 and Rs. 538 per farm family during the Maha and Yala seasons respectively. Income from other crops also constitute a major component in the family income in both schemes. Other cash crops which contributes to family income were cowpea, greengram, chillies, kurakkan, gingelly and black gram. Income realised from chillies ranged from Rs. 1276 to Rs. 2700 during the Maha and Rs. 1258 to Rs. 1949 during the Yala in both schemes. Other crops such as cowpea and gingelly too have recorded reasonably high cash income. The income figures in respect of chillies, green gram and cowpea indicate the potential for expansion of such crops on highlands.

Table (7.2) Annual Gross Income per Farm Household by Source and Season

Source	Major Schemes				Minor Schemes			
	Yala		Maha		Yala		Maha	
	Rs.	%	Rs.	%	Rs.	%	Rs.	%
Agriculture	4158	78	804	42	1577	45	849	17
Non-Agriculture	1163	22	1096	58	1893	55	1754	83
Total	5321	100	1900	100	3470	100	2603	100

The average gross income per household during the year under study was around Rs. 7221 and Rs. 6073 in major and minor schemes respectively (see Table 7.2). Marked seasonal variation is a key feature in the income structure. In major schemes 78 per cent of the total income has been derived from activities connected with agriculture during the Maha season. This figure come down to 45 per cent during the Yala, whereas the corresponding figures in minor schemes were 45% and

17% respectively. Eighty three per cent of the total income has been realised from non-agricultural activities during the Maha in the major scheme. Non-agricultural activities during the Yala season provided a significant propertion of household income in both major and minor irrigation schemes.

Abstention from cultivating paddy due to lack of irrigation water and the restricted cultivation of highlands and chenas during the Yala season account for the low crop income. Animal husbandry has been reported as a source of income by a few households in both schemes. The important sources of livestock income are hiring out of draught animal, production of milk and curd, and eggs. The income from hiring out animals occupies the major share of livestock income while the share of income from milk occupies the second position (see Table 7.3).

Table (7.3) Composition of Income from Livestock by Reporting Households

Source of Income	Major Scheme		Minor Scheme	
	1982 Yala	82/83 Maha	1982 Yala	82/83 Maha
Draught Animal	286.00 (07)	428.00 (11)	592.00 (08)	908.00 (13)
Milk	178.00 (06)	231.00 (08)	327.00 (07)	613.00 (12)
Poultry	284.00 (13)	178.00 (12)	294.00 (15)	328.00 (15)
Other livestock	142.00 (04)	113.00 (04)	292.00 (06)	393.00 (07)

* Number of reporting households are given in paranthesis

Off-farm income is also considered to be an important source of agricultural income. Off-farm income refers here to the income derived by the farmer from agricultural activities other than one's own farm (See Table 7.4).

Table (7.4) Distribution of Annual Off-Farm and Non-Farm Income Per Reporting Household in the Two Schemes

Source	Major Schemes Rs.	Minor Schemes Rs.
Off-farm employment	1436	1715
	(70)	(78)
Salaried employment	9505	9951
	(9)	(13)
Self employment and non-farm enterprises	2395	2858
	(78)	(83)

* Number of households reporting is given in paranthesis

Hiring out of ones own labour during the slack season proved to be a major source of income in the study locations. A continuous flow of agricultural labour from purana villages to the Mahaweli settlements was evident during the dry season. As we have noted earlier, there was a great demand for hired labour in the schemes for the peak agricultural operations such as land preparation and harvesting. Almost all farmers in major schemes have employed hired labour for those two activities during both the Yala and the Maha seasons. Annual income from off-farm employment per household was more than the average income from the cultivation of cash crops. This indicates that the wage labour provided an important supplementary income source for farm households.

Non-agricultural income refers to all types of gains, other than income accrued from agriculture and obtained from sources such as salaried employment and non-farm enterprises. A large amount of non-agricultural income is realised from public sector white-collar and blue-collar employment. A considerable number of teachers, clerks, midwives, bus drivers, mechanics, was found in the study area. They were the only category that reported higher income levels which did not subject to any seasonal variations. Masons, carpenters, shop-keepers, craftsman, ayurvedic physicians and small businessmen constituted this category self-employed and those who engaged in non-farm enterprises. The annual cash income of such a person ranged from Rs. 2395 to Rs.2858. Non-agricultural income receivers formed more than 50% of the total sample households.

Table (7.5) Annual Cash Income Among Farm Families

Annual Cash Income per Farm Families	Major Schemes		Minor Schemes	
	% No of families	% Income	% No of families	% Income
/ 1000	8	1	10	01
1001 - 2000	12	4	14	06
2001 - 3000	25	10	21	14
3001 - 4000	11	11	26	18
4001 - 5000	15	08	07	08
5001 - 6000	6	07	06	06
6001 - 7000	4	12	04	07
7001 - 8000	8	12	03	12
8001 - 9000	6	13	05	15
9000 /	5	22	04	13

The pattern of annual income distribution among sample farm families in the study area is given in Table 7.5. The data shows that nearly half of the farm households earn a cash income of Rs. 3000 or less each per annum in both schemes, which is well below the poverty line of Rs. 300 per month per family adopted for the distribution of food

stamps by the Government. Income distribution between major and minor schemes reveals the differences in economic structures of the two schemes. Only a few farmers have recorded a high income of over Rs. 8000 per annum each (see Figure 1). The lack of farming activities in the Yala season has depressed annual household income considerably, although off-farm and non-farm activities during the same season had supplemented the low annual cash income to a certain extent in the study area.

7.2 Household Expenditure

The pattern of household expenditure is one of the key indicators of the household poverty level. Poverty could be defined by using several cirteria such as the poverty-line income, satisfaction of basic needs and the nutritional considerations such as calorie deficiency.

The present study was not directed to collect such detailed information on nutritional aspects. However, an attempt has been made to obtain expenditure data from sample households. (See Table 7.6). The consumption data in physical as well as in value terms found to be inflated by a number of households which are inconsistent with their levels of income. However, certain cross checks and adjustments were made to rectify these inconsistencies. In both schemes, 72 - 75 per cent of the total income is spent on food. These estimates are higher than the rural sector averages reported in the Consumer Finance Survey of 1981/82.

Table (7.6) Percentage-wise of Household Expenditure in Both Schemes

Item	Major Schemes (%)	Minor Schemes (%)
Foods	75.9	72.8
Clothes	7.9	8.3
Housing	1.5	1.6
Fuel	3.9	3.9
Health	3.5	4.9
Recreation	4.1	4.1
Religious activities	1.2 1.9	1.6 2.6
Other	0.1	0.2
Total	100.0	100.0

The expenditure on non-food items is more or less similar in both schemes. The second highest expenditure was incurred on clothes The other important items of expenditure were health and education. Although health services are generally free, households incur some expenses in consulting medical practitioners and buying medicine. The percentage expenditure on education appear to be relatively less important in both schemes. In certain instances, it was less than the expenses on health and fuel. This is consistent with the previous observation in the study area. The less priority given to education and the lack of educational facilities, expenses on housing, recreation, and religious activities were relatively less important in both areas. The total non-food consumption expenditure amounts to 24.1 and 27.2 per cent of the total income in major and minor schemes respectively.

CHAPTER 8

FARM SUPPORTING SERVICES

The supply of seed paddy, fertilizer, agro-chemicals, etc. is mainly undertaken by the Agrarian Services Centre in the area and Cooperative Societies play a secondary role in this regard. Many of the highland and chena farmers obtain seeds from extension officers through the Agrarian Services Centre. Farmers generally purchase fertilizer also through the same source. But there was still a reasonable number of farmers who obtained their inputs from private dealers. Farmers go to the private dealer for inputs when they default the repayment of previous institutional credit or when they were faced with financial hardships. This often has reduced the application of vital inputs such as fertilizer in required quantities in correct time. It was the same case with regard to agro-chemicals; a sizeable proportion of agro-chemicals has been distributed through private dealers. It is interesting to note that enough stocks of agro-chemicals, fertilizer and other inputs were available at the Agrarian Services Centre that served the entire study area at the time of the Survey. However, the demand for such inputs was low during the reference period for very few farmers were engaged in any intensive agricultural activities during the crop seasons.

8.2 Credit Facilities

The survey indicates that the percentages of households who had made use of agricultural credit facilities during the reference period were 49 and 43.6 in major and minor schemes respectively. The majority of farmers have defaulted the repayment of cultivation loans taken by them earlier and this seemed to be the reason for the observed low level of utilizing agricultural credit in both schemes.

The main reason for defaulting repayment of credit appeared to be failures resulted from scarcity of water for cultivation. Table 8.1 indicates the sources from which credits were obtained during the

Table (8.1) Percentages of Credit Disbursed by Sources

Village	(i) Institutional Sources		(ii) Non-Institutional Sources	
	Bank of Ceylon	Peoples Bank	Money Lenders	Relatives & Friends
Ganangamuwa	10	82	04	04
Padavigama	43	33	07	17
Bandaragama	47	32	02	19
Pothanegama	10	78	-	12
U/Siyambalangamuwa	24	33	13	30
Devagiripura	04	91	05	-
Kattakaduwa	58	51	-	21
Paluwa Colony	23	57	16	04
Major Schemes	24	55	07	14
Pahalakokwewa	51	43	06	-
Gallewa	-	-	67	33
Molewa	04	56	27	13
Ulpotagama	-	11	66	23
Kepela	-	-	50	50
Padavigama	-	-	07	93
Palugama	-	-	09	91
Bulnewa	70	24	05	01
Minor Schemes	41	24	18	17

Note : Village which have not obtained credit are excluded from the table.

reference period. These sources could be broadly divided into two; namely, institutional and non-institutional sources. The borrowings from institutional sources amounted to 79 per cent of the total borrowings in major schemes while it was only 65 per cent in minor schemes. A considerable variations is observed in the break-down of borrowings by sources in individual sample villages.

A greater dependency on non-institutional sources for credit facilities in some of the villages could clearly be observed in minor schemes. In terms of total amount of disbursements, institutional sources still rank first in both schemes. Of the institutional sources, People's Bank led the way in terms of credit disbursement followed by Bank of Ceylon. Nobody reported borrowing from cooperative societies which were once very popular among farmers. The major non-institutional sources in the area were money lenders, relatives and friends. Households in Ihalakokwewa, Divulwewa, Iddamalpitiya have never borrowed from either institutional or non-institutional sources.

Table (8.2) Borrowings in the Villages in Relation to Purpose

Village	Purpose of Borrowings: Agricultural		Personal		Investment	
a) Major Irrigation Schemes	No. of Reported	Average Amount Rs.	No.of Reported	Average Amount Rs.	No.of reported	Average Amonnt Rs.
1. Ganangamuwa	12	2573	-	-	2	1500
2. Padavigama	07	2629	1	2000	1	5000
3. Bandaragama	07	3257	-	-	2	2725
4. Potanegama	11	2700	-	-	2	750
5. U/Siyambalan-gamuwa	08	1886	1	5000	7	2729
6. Devagiripura-Kottakaduwa	11	2379	-	-	2	900
7 Paluwa Colony	10	2686	-	-	2	25050
Total	66	2587	2	3500	18	5522
b) Minor Irrigation Schemes						
8. Pahalakokwea	02	1950	-	-	1	4000
9. Ihalakokwewa	-	-	-	-	-	-
10. Gallewa	01	600	-	-	1	1200
11. Mollewa	07	1064	-	-	1	300
12. Ulpotagama	02	3000	-	-	4	881
13. Keepela	-	-	-	-	4	400
14. Padipanchawa	03	650	-	-	3	1033
15. Divulwewa	01	3500	-	-	1	2000
16 Palugama	-	-	1	1500	2	900
17. Iddamalpitiya	-	-	-	-	-	-
18 Bulnewa	02	4600	1	2600	1	2000
Total	18	2195	2	13750	18	1413

The purposes of borrowings were threefold in the study area, viz. namelt Agricultural, investment and personal (see Table 8.2). The majority of farmers in major schemes have availed themselves of credit facilities for agricultural activities. Investments were mainly for construction of houses and for small-scale family enterprises. Borrowings for wedding ceremonies, family functions or family emergencies are classified here under, 'personal borrowings'. However, the volume of personal borrowings is relatively unimportant when compared with the sizeable proportion of borrowing for investments. The number of farmers and the average amounts of money they borrowed for agricultural purpose were quite low in minor schemes when compared to that of major schemes. The average amount of credit borrowed for agricultural pursuits ranged between Rs. 1886 to Rs. 3257 in the villages in major schemes while the average amount of credit borrowed by villages in minor schemes ranged between Rs. 600 to 4600. There is considerable variation across the sample villages in the amounts borrowed for investment as well as for personal reasons.

The pattern of repayment of loans obtained during the reference period is given in Table 8.3. The highest repayment of credit was reported in major schemes and that was the settlement of loans obtained from the People's Bank. Although farmers in minor schemes repaid their non-institutional loans channelled through money lenders, it appeared that none of the households had settled their loans that were obtained from the Bank of Ceylon. All in all, the repayment of loans obtained from all sources of credit appears to be unsatisfactory in the area. This could be perhaps due to the low returns from crop production and low income levels of households.

8.3 Savings

In terms of the number of accounts, saving habits in the area seemed to be very low. Less than 20 per cent of the households in both schemes reported to have savings accounts either in a bank

or a post office. Bulk of the accounts were in the rural Banks to which farmers had easy access.

Table (8.3) Repayment of Loans in Villages and Sources - Percentages of Credit Settled

Village	i Bank of Ceylon	ii People's Bank	iii Money Lenders	iv Relatives & Friends
1 Ganangamuwa	48.7	77.3	00	100.0
2 Padavigama	72.0	00	00	70.0
3 Bandaragama	28.7	89.1	00	00
4 Pothanagama	00	100.0	23.4	28.6
5 U/Siyambalan--gamuwa	16.3	26.1	00	00
6.Devagiripura	17.7	42.5	18.2	-
7 Kattakaduwa	51.2	00	-	00
8 Paluwa Colony	36.4	38.9	60.0	00
Major Scheme	38.6	59.4	28.6	19.5
9 Pahalakokwewa	00	88.2	100.	-
10 Ihalakokwewa	-	-	-	-
11 Gallewa	00	-	00	100.0
12 Molewa	-	00	15.8	11.0
13 Ulpotagama	-	00	47.4	13.6
14 Kepela	-	-	00	62.5
15 Padipanchava	-	-	00	20.0
16 Divulwewa	-	-	-	-
17 Palugama	-	-	100.0	00
18 Iddamalpitiya	-	-	-	-
19 Bulnewa	00	26.7	100.0	00
Minor Schemes	00	36.5	45.6	19.4

8.4 Marketing of Farm Produce

Over 60% of paddy and cash crops that were produced by sample farmers had been marketed. The available of marketing facilities appears to be largely dependent upon the type of crops grown. Marketing of paddy has been mainly done through private traders and State institutions such as the Paddy Marketing Board (PMB) and Co-ooperative Societies. These institutions had purchased paddy from farmers either in wholesale or retail quantities. The State institutions had purchased from farmers only a small quantity of paddy amounting to slightly over 25 per cent of the total sales. The private traders appeared to be very active in procuring paddy from the farmers, particularly in minor schemes where the institutional marketing channels were rather poor.

The share of purchases by different marketing channels is shown in Table 8.4. An overall preference to sell the produced to private traders could be observed in both schemes. Over 70 per cent of produce were bought by private traders in 1982 Yala and 1982/83 Maha, seasons.

Table (8.4) Purchasing Pattern of Paddy
(Both in major and minor schemes)

Source	1982 Yala		1982 Maha	
	Average Quantity sold by a farmer (bushels)	% crop sold	Average Quantity sold by a farmer (bushels)	% crop sold
Private traders	34.1	74.7	69.5	71.0
State Institutions	10.9	25.3	32.2	29.0

Cowpea, green gram, chillies and gingelly are the main cash crops produced for the market during the study period. The general practice of marketing is the immediate sale of produce soon after the harvest. The number of farmers producing crops for the market and quantities they have sold are shown in Table 8.5.

Table (8.5) Marketing of Crops: Number of Farmers and Average Quantities by Season (both major and minor scheme)

Crop	No. of farmers	Average quantity marketed (kg)	No. of farmers	Average quantity marketed (kg)
Cowpea	110	366.5	80	270.8
Green Gram	79	135.6	84	127.8
Chillies	42	87.5	26	76.0
Gingelly	07	192.7	09	175.0

Sixty four per cent of farmers had sold their cash crops wholesale to private traders and 34 per cent in retail to private traders. It was found that only 02 per cent of the farmers had marketed cash crops at State institutions.

Marketing problems have been reported by the sample farmers. There were no complaints about the disposal of paddy. State institutions like Paddy Marketing Board and Cooperativeswere not popular among the sample households due to reasons, such as extremely strict quality control, requirements irregularities in grading, delay in payments and inability to make purchases at the farm gate. As reported by many farmers, the private traders were very flexible on these transactions. Therefore, the preference shown by farmers to sell their paddy to the private traders is obvious. As regards cash crops, the main

complaint was unfair prices paid. When a private trader was the only marketing outlet in an area, price competitiveness did not exist and this ultimately resulted in poor price paid for cash crops.

Table (8.6) Marketing Trends as Indicated by Farmers (Figures denote Percentages)

	Improvement in Marketing Facilities		Decterioration in Marketing Facilities		No Change		Not Known	
	Paddy	Other crops	Paddy	Other crops	Paddy	Other crops	Paddy	Other crops
Major Schemes	53	47	09	09	23	26	15	18
Minor Schemes	49	43	13	12	26	34	12	11
Both Schemes	51	45	10	10	25	29	14	16

Fifty one per cent of farmers have indicated that marketing facilities available to them on respect of paddy have improved, while 45 per cent noted a similar development as regards other crops (see Table 8.6). Only 10% of farmers expressed that marketing facilities in respect to paddy and other crops were deteriorating. Twenty-five and twenty-nine per cent of farmers stated that there was no change in marketing facilities for paddy and other crops respectively. Increasing number of private traders in the sphere of marketing has been observed by many farmers as a healthy sign of improvement in marketing facilities in the area.

CHAPTER 9

PEOPLES' PARTICIPATION IN RURAL ORGANIZATIONS

Two observations on peoples' participation in rural organizations could be made at the outset of the chapter. The first is the type of irrigation (whether it was a minor or a major scheme) and the type of settlement (whether it was a purana or a new settlement) did not have any significant influence on patterns and the degree of peoples' participation in rural organizations. The second is that the type of rural organizations and their corresponding functions as perceived by farmers did not differ much between the major settlement schemes and minor irrigation schemes. Therefore, the following sections do not distinguish between major and minor irrigation systems in discussing aspects of participation.

9.1 Short History of Rural Organizations and Communal Activities

When Small-Farmer Associations (SFAs) were established in 1980 on a pilot project basis, there was not a single rural organization that dealt with farmers' agricultural and irrigation needs effectively in the Galgamuwa ASC area. Although Cultivation Committees (CCs) served the area during the period between 1964 and 1977, farmers preferred to obtain their inputs from private dealers and marketed their produce through traders who visitied the area from outside. Until 1977, the Cultivation Committees managed to register 60% of land holdings in the area. Only 17% of farmers felt that the CCs had helped them in their agricultural activities, especially in obtaining agricultural inputs.

However, there were several other organizations operating at the village community level. Among them were Funeral Aid Society (FAS), Rural Development Society (RDS) and Temple/Mosque Society.

Table (9.1) Percentage of Farmers Actively Participated in Rural Organizations in their Villages (N=290)

Rural Organization	% of Farmers
Funeral Aid Society	80
Rural Development Society	48
Temple/Mosque Society	29
Community Centres	10

In all the villages, FASs were very active. Villagers irrespective of their income, land ownership, settlement type and caste played an active role in these societies. Although the RDSs were reported from all study villages, it was only in 4 villages, out of 11, we found active RDs; others were defunct.

In agricultural activities, 60% of farmers practised traditional patterns of labour exchange such as attam and kaiya. But such a activities were ad hoc and did not provide any stable bases for the formation of rural organizations which organize farmers into effective groups at the grass-roots level.

9.2 Small-Farmer Associations

The ARTI launched an action-research programme called "Management Training for Leaders of Small Farmer Organizations" in the Galgamuwa Agrarian Services Committee (ASC) area in 1980. This project specifically attempted to: (i) develop a 'receiving mechanism' among the small farmers and to (ii) improve their interaction with the government service sector-with a view to obtaining maximum extension facilities and various inputs which come through government agencies. The ARTI found that there were several advantages in organizing farmers, especially small farmers into groups at the yaya (tract) level in each village. Listed below are some of the benefits farmers could accrue by such an association.

(i) If cultivation activities are planned on a group basis, farmers could obtain higher yields than what they could achieve as individuals who operate their holdings separately.

(ii) Acting as a group, farmers enhance their 'bargaining power' vis-a-vis government officials. As a group, they are in a better position to press the concerned authorities to attend to their problems and grievances and also to provide necessary services in time.

(iii) Under the Agrairan Services Act of 1979, over 12,000 Vidanes (Farmer Representatives) were elected throughout the island by the farmers. Vidanes were expected to assist the Cultivation Officers (a Cultivation Officer works in collaboration with 5-6 Farmer Representatives to coordinate village-level agricultural development activities). Six such Farmer Representatives (FRs) sit in each ASC as its Committee members together with 8 government officials. The FRs were expected to act as the link between farmers and the ASC. Thus, it was easy for the ASC to deal with FRs regarding agricultural matters, if the farmers when they represented were organized into groups.

The ARTI in 1980, conducted a series of training programmes for Vidanes and field level officials to explain them the above mentioned advantages of organizing farmers into Small-Farmer Associations (SFAs). They were encouraged to organize their own groups and soon 44 of such organizations were set up at the yaya level in the Galgamuwa ASC area. There was 77 such active SFAs in the Galgamuwa electorate in April 1983. Sixty four per cent of farmers reported that SFAs were in operation in their villages and 89% of them were members of SFAs.

Farmers positively convinced that their SFAs were able to fulfil several needs which eventually promoted their agricultural activities.

Table (9.2) Needs fulfilled by Small-Farmer Associations - 1983

N = 214

Nature of Need	% Farmers
Help in obtaining agricultural credit	73
Help in obtaining other agricultural inputs	39
Help in obtaining subsidies	08
Improve farmer-officer relationship	07
Help in organizing agricultural activities (preparation of cultivation calander)	23
Help in obtaining advice and extention	32
Repairs to irrigation channels	16
Arranging Shramadanas	05
Water Management	10

Only 13% of farmers thought that they were eligible to get agricultural credit from commercial banks through the SFAs, as many of them were already in default. However, 73% managed to obtain credit through their group credit activity - each SFA as a group guaranteed the repayment of credit obtained by its members. In several reasons, the repayment rate was almost 100%.

Nearly 40% of farmers expected that farmer-officer relationship would develop because of the SFAs. But only 7% found that it had developed over the past 3 years (1981-83). This was mainly attributed to the nature of the associations - that they were informal and small, and were linked with the outside world only through FRs.

Some farmers indicated several difficulties that restricted the SFAs activities in their villages.

Table (9.3) Obstacles to Effective Performances of SFAs

Obstacle	%
Lack of irrigation facilities	42
Farmers' conflicts and the problems of individuals	19
Long experience with unsuccessful associations	30
Opposition from big landlords and traditional leaders/ political leaders	31

Sixty two per cent of farmers stated that the SFAs were able to provide some services, which were not available earlier in their villages. Among them were (i) agricultural credit facilities (48%) (ii) cooperation among farmers (33%) (iii) facilities to obtain seed paddy and other inputs (22%) and (iv) agricultural extenstion services (18%)

Fifty two per cent of farmers reported that they take part regularly in their SFA meetings. Only 2% of them felt that no purpose was served by attending SFA meetings.

Table (9.4) Benefits accrued Participation in SFA Monthly Meeting (N= 190)

Benefits	%
Resolved agricultural problems collectively	43
Obtained credit facilities and other inputs in time	24
Cultivation in time	13
Good extension services	17
Good irrigation supply	16
Crop protection from cattle damage	07

Only 35% of farmers felt that the benefits which they obtained through the SFAs were adequate. They felt that the SFA's should be linked or federated with higher organization such as ASC and Cooperative. Such linkages, they argued, would increase the amount of services and inputs that they could get from the government agencies. They strongly felt that this could be achieved by granting legal recognition of the SFAs.

Eighty per cent of farmers who took part in SFA meetings wanted to see that their associations gradually evolve into legally recognized institutions. The main reason (76%) for this argument was that unless the SFAs have a legal backing it would not be possible for them to obtain continuously the support of the officials. A substiantial group of farmers (35%) wished to check big landloards infiltrating into the SFAs, which they feared, might ruin the basic objectives of setting up SFAs, as it happend to CCs in the early 1970s. Only 30% of farmers wanted to maintain their SFAs as informal groups. Their main fear that if the SFAs were granted legal recognition the officials would then try to dominate them and decide the development programmes of the area by themselves.