

# **Exploring a New Approach**



towards

**Participatory** 



Rural

**Development** 



Seminar held on 17-18th November 2000 and 1st December 2000



UC-JICA Joint Study Project on Participatory Rural Development



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Pre	efac		- i
Pai	tl.	7th to 18th November 2000 at Hotel Club Palm Bay, Marawila	1
	1.	Introduction	1
	2.	Registration of Participants/ Inaugration	1
	3.	Introduction of UC-JICA Project	2
	4.	Presentation	4
		4.1 Lack of Human Resource Development; A crucial Issue in Village Development	4
		4-2 Proper Utilization of Physical Resources: Importance for Rural Development	8
		4.3 Experiences of Field Manager	
		4.4 Experiences of Facilitators	- 12
		4.5 Experiences of the Project: University of Colombo	- 15
		4.6 Monitoring and Evaluation "Participation "	- 19
		4.7 Experiences of Wayamba Development Authority	- 20
	5.	Pane Discussion	- 20
	6.	Vote of Thanks/ Conclusion of Seminar	- 21
	7.	Recommendations and Conclusion	- 22
Par	t II.	st December 2000 at Women's Research Center, Wellawatte	23
	1.	ntroduction	
	2.	Registration of participants / Inauguration	
	3.	Seminar proceedings	
		2.1 Addresses by Distinguished Invitees and the Project Director	
		2.2 The Conceptual Framework	
		2.3 Lack of Human Resource Development: A Crucial Issue at Village Level	
		2.4 Proper Utilization of Physical Resources – Importance for Rural Development	
		2.5 Discussion on Presentations	
		2.6 Participatory Rural Development and Administration System in the North Western Province	
		2.7 Experiences of Field Manager	
		2.8 Experiences of Facilitators	
		2.9 Experiences of the UC - JICA Joint Study Project	
	4.	Questions and Responses from Participants/ Project Staff	
	5.	Vote of Thanks	
	6.	Recommendations and conclusion	

**Annex** 

# Proper Utilization of Physical Resources: Importance for Rural Development A Case Study of Kurundewa

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### 1.Introduction

The University of Colombo Jointly with Japan International Cooperation (JICA) undertook a study project to identify an improved method of participatory rural development. For this purpose Wayamba (North Western) province was selected. Three Divisional Secretary's Divisions – Wariyapola and Galgamuwa from Kurunagela district and Mahakubukadawela from the Puttalam district were selected for the study. Six villages, two from each Divisional Secretary's division were selected for the implementation of the project.

The conceptual framework developed for the study project place importance in developing the internal environment of the village by linking the external environment. Internal environment has two aspects, which needs to be developed to raise the living standards of the people. These two aspects are human resources and physical resources. Both these resources are available in the villages, but at a depressed level, and needs to be developed. Therefore the study has identified three villages for developing the physical resources of the villages by looking for ways and means of maximizing the utilization of physical resources and three villages for developing human resources of the village. In order to develop these resources in villages it is absolutely necessary to link the external environment, both soft and hard. Therefore the study would pay attention to look for mechanisms and strategies to develop external links to the villages. When selecting villages for the study, information gathered at the beginning of the project (Base-line Survey) and facilitator's own experiences and knowledge about the villages were taken into consideration. Due to the limitation of time only two in depth studies were undertaken while in the other four villages quick studies were carried out. This is a quick study undertaken in Kurundewa in the Galagamuwa Divisional Secretary's Division to bring certain interventions to maximize the use of the available physical resources in the village to raise the living standard of the people.

## 2. Objectives of the Study

Thus this study in Kurundewa is an attempt to identify methods for maximizing the utilization of physical resources to improve the living standards of the villagers. Therefore the study has three specific objectives. They are as below:

- 1. To identify the available physical resources in the village.
- 2. To understand the present usage of the available physical resources in the village.
- 3. To identify better methods and ways of maximizing the utilization of physical resources by linking the external environment.

# 3. Sri Lanka's Experiences in Rural Development

Sri Lanka is predominantly an agricultural country and the majority of its population (more than 70%) live in rural areas. Every successive government since gaining independence in 1948 has shown interest in improving agriculture and the living standards of the rural poor. Making the country self-sufficient in rice and other food crops was a major issue addressed by the government. Agricultural modernization and increasing production became the primary concern. Several measures were taken to achieve this goal. Developing the dry zone, the heartland of the ancient irrigation civilization of Sri Lanka was given high priority. Steps were taken to restore the ancient irrigation network and construct new reservoirs in the dry zone. Gal Oya Development scheme was the first major irrigation project embarked on this objective. Under these projects large areas came under cultivation with the settlement of landless people.

In addition to the colonization scheme, land distribution for settlement of landless peasants also took place under the village expansion scheme, middle class alienation scheme, marginal land alienation schemes, youth colonization schemes, and highland settlement schemes and other schemes (Cooperative Farms, Agricultural projects under Divisional Development Councils etc.).

The intention in increasing production was based upon the approach of intensifying agriculture built around the agricultural package- introduction of improved seed varieties, chemical fertilizers and agro chemicals and improved cultivation practices like transplanting and weeding, commonly known as green revolution. Introducing new institutional arrangements such as Guaranteed Price Scheme. Fertilizer Subsidy Scheme, Crop Insurance Scheme, Agricultural Credit came with the agricultural package. Mechanization of agriculture and multi-cropping were also introduced. The government also took steps to reform landlord-tenant relationship through different legislations. The 1958 Paddy Lands Act was attempted to remedy the basic tenure problems.

The above initiatives of the government were able to bring certain positive results. The country has been able to achieve self-sufficiency in rice to a great extent. However other foodstuffs are still imported from other countries, as what is produced in the country is not sufficient. Even though the country has been able to increase its production in rice, its benefits have not spread to all farmers equally. While the rich peasants who possessed capital were able to tap the benefits given by the government and increase their production, the others did not reap benefits and in certain cases such peasants had to lease out their lands to others and abandon cultivation.

Therefore the trickle down effect that was expected under the modernization approach did not take place.

Similarly the green revolution and other state interventions did not bring the same results among peasants. Spatially too there were differences, areas with proper irrigation facilities were able to get better results compared to areas where agriculture depended on rain water. While this is true when comparing among the type of agriculture irrigated and non irrigated, it is also true among the different classes in the peasantry. While the landlords and rich peasants were able to increase their production the others were not, and this has resulted in the peasantry becoming more and more differentiated and a process of pauperisation taking place (Jayatilaka, 1990).

Sri Lanka's impressive social welfare programmes in the past were able to bring the indicators of the physical quality of life to a high level compared to other developing countries in the world. Free education and free health services were able to bring the literacy rate high and bring down the maternal mortality rate down. However, there is an inequality with regard to health and educational facilities looking at the marginalized rural areas. The economy also did not expand to absorb the growing population. Therefore in villages the youth who had a better education than their parents are not interested in engaging in agricultural activities specially to depend on agriculture as their main economic activity. The two poverty alleviation programmes, Janasaviya and Samurdhi programmes implemented by the government have not brought much improvement in the village economy, as both these programmes were more of a welfare type of programme rather than programmes of economic development. Also since both these programmes were politicised the benefits were accrued only by political clients.

Since there was no proper economic development in the rural areas, and agriculture becoming more and more unattractive, especially the young men have looked for employment in the forces as this being the only employment opportunity available or remain under employed. With the current war situation in the country, the youth have found an easy way of employment by joining the forces. In a situation of denial to any other attractive employment the disgruntled youth even with the fear of death join the forces. The young women on the other hand have seeked employment either in factories especially garments or have migrated to Middle Eastern countries as domestic helpers. Such villagers have gone out of the villages, but it is temporary as they maintain close relationship with their native villages. Whenever they get leave from their jobs they come to the village as their homes are still in their native villages. Also these employment opportunities are temporary as when the war situation is over there will be no need for large numbers into the forces. Similarly with employment as domestic workers and factory workers are of short durations. Migrant women after a few years abroad come back to the village, similarly factory workers very often leave their jobs after marriage. Therefore it is absolutely necessary to create attractive job opportunities, either agriculture or non -agriculture to village people and if

not the country may in the future once again experience a youth revolt. In creating and improving economic activities much could be done by developing the resource base in the rural areas.

#### 4. Introduction to Kurundewa

Kurundewa village is located in the Galgamuwa Divisional Secretary's (DS) division in the Kurunegala District, in the North Western Province of Sri Lanka. Galgamuwa DS division bounded by Giribawa DS division to the north, Maho DS division to the south, Maha Anderewew and Iginimitiya schemes to the west and Galgamuwa and Poltpithigama DS divisions to the east. The extent of the division is 9.1168 hectares.

Galgamuwa Ds division has 62 Gramaniladari (GN) Divisions and 156 villages. Total population of the division is 52363. Kurundewa village is located in the Kurundewa GN division. Kurundewa village is bounded by Kattakaduwa GN division to the north, Palukadawel GN division to the south and west and Jagama village to the east. The village is five Km. away from the Galgamuwa town which is 62 Km. away from Kurunegala town.

Kurundewa is a traditional village and it has a history of more than one hundred years. At present there are 94 households in this village. The total population of the village is 309. All of them are Sinhala Buddhist. Except for two families all others belong to the <u>Berawa</u> caste. These two families belong to the <u>Govigama</u> caste and they are migrants to the village. Kurundewa village being a low caste village has got marginalized and underdeveloped compared to other villages in the vicinity. This is quite evident from the fact that there is no service centre what so ever in the village. Transport facilities are also extremely poor, where a villager has to walk nearly two miles to get access to public transport.

## 5. Issues Related to the Utilization of Physical Resources

Rural development is clearly about improving the life chances and well being of rural people, particularly the rural poor who have been left behind. In order to improve the living standard of the rural people, there are two resources in the rural areas, which need to be developed. They are, human and physical resources. Majority of the people (more than 70%) live in rural areas. Thus a much-needed human resource is available in the area, but it remains at a very low level and needs to be developed to a level where people could be in a position to compete with the market. Physical resources are of two kinds – natural and man made resources. Natural resources are the resources, which are provided by the natural environment such as air, water, soils, minerals, flora and fauna. Using these resources people create resources such as farms, industries, tanks, buildings and roads etc. They are considered as man- made resources. Taking physical resources

into consideration, they, especially natural resources are available in plenty in the rural areas, but often at a depressed level and not used for economic and social development.

Rural people who are surrounded by such resources directly or indirectly depend on such resources for their livelihood. The well being of the rural societies depend substantially on the availability, quality and sustainability of these resources. While it is true that villagers depend on these resources for their livelihoods, there is hardly any conscious attempt to develop these resources for better usage. Some of the natural resources, especially trees, plants and water streams are seen as things gifted by the gods and not as resources that could be developed for economic advantage.

While the access to these resources is vital, their proper usage, maintenance, construction and sustainability are equally important. Therefore when using such resources for economic and social development it is necessary to consider the following factors:

A situational analysis of available physical resources in the rural areas and how they are being used is necessary to begin any development activity. When looking at the present usage of physical resources it is necessary to find out how they are being used, for what purpose they are being used and by whom.

The available physical resources should be transformed into economic and social advantage. Giving an added value to these resources by using them for productive purpose could give economic advantage. Production can be either industrial or agricultural. Proper usage of physical resources could also bring social development. For instance the water resource available in the area could be used to provide proper drinking water to the people. This would arrest many of the water borne sicknesses and bring about good health of the people.

In order to capture an economic advantage by using physical resources of the area it is absolutely necessary to study the external agencies, both the market and other institutions. These institutions should be linked to the village in an appropriate way. Since the villagers themselves are not equipped to do so the external agency / the project at the initial stage has to play an important role. To bring social development too the help of external agencies is necessary.

The proper usage of physical resources for economic and social development is possible only if people are equipped with necessary knowledge, skills and capacity to work. Therefore human resource development for the appropriate use of physical resources becomes absolutely necessary. Therefore any project, which thinks about proper utilization of physical resources, should include a component on human resource development.

The present use of physical resources should not in any way compromise the interest of the future generations. Therefore the main focus should be on the need to satisfy the needs of present generation but avoid compromising the interest of the future generation by degrading the resource

base. Therefore a need exists to protect and develop indigenous systems which are more ecologically sound.

# 6. Physical Resources of the Village

As mentioned earlier, physical resources are of two kinds, natural and man made resources. Natural resources are the resources, which are provided by the natural environment, such as air, water, soils, minerals and flora and fauna. Man made resources are farms, industries, tanks, buildings, roads etc.

## **6.1 Natural Resources**

Several natural resources could be identified in the village. Kurundewa village falls within the dry climatic zone of the country and the average temperature is 25 c.-27.5 c. this temperature is generally found through out the year, but during the months of October to December, which is the period of the North East monsoon, the temperature is slightly lower. Highest temperature is seen in the months of February, March, April, July and August. High evaporation in the village is due to this high temperature.

Highest rainfall is recorded in the months of October to December during the North East monsoons. The village also experiences conventional rain in the months of March and April. South West monsoon brings only a slight rainfall to the village. The mean altitude of the village is 100 meters above the sea level. The lands of the village are flat. Therefore the slope class of the village is 0%-2%.

According to the geology the village consists of granitic geneiss in the Precambrian Proterozoic era (545-2500 million years ago). Mainly two types of soil can be seen in the village as follows:

- Reddish brown earth and low humic gley soils. About 85% of the village consists of this
  type of soils.
- 2. Alluvial Soils. About 15.5% of the village have this type of soils.

The village covers 80.9 hectares of land, which people use for various purposes. The water resource comes from the annual rainfall and under ground water. However, underground water in some places is not in a good condition for drinking and agricultural activities due to high salinity. The vegetation of the village has provided with trees such as fruit, herbal, palm and reed.

#### 6.2 Man Made Resources

Like wise, several man made resources could be identified in the village. They are village tanks, wells, paddy fields, homesteads, community hall and temple.

## 6.3 Kattakaduwa Tank

Among the man made resources the village tanks receive an important place as majority of people rely heavily on these tanks for agricultural activities and therefore it needs to be described here. The village has three tanks out of them Kattakaduwa tank is the largest. Kattakaduwa tank is situated in a small catchment in the Mi Oya basin, one of Sri Lanka's most important basins. Kattakaduwa tank has certain particularities compared to other normal minor tank schemes in the dry zone. The main canal of Palukadawela Major Irrigation Scheme crosses the Kattakaduwa Scheme, running almost parallel and very close to the bund of the minor tank. An over crossing structure across Palukadawela main channel is made use for delivering water from the minor tank to its command area for irrigation. The existence of the minor tank, Pahalagama tank in the command area is another special characteristic. The command area of the tank is 28.8 ha. The maintenance and the distribution of water are managed by the Farmers' Organization (Feasibility Report on Rehabilitation of Kattakaduwa Wewa Minor Irrigation Scheme, Mininstry of Forestry, Irrigation & Mahaweli Development, October 1993).

# 7. Agricultural Activities

Since the village tanks and lands are considered as major physical resources in the village it is necessary to understand the agricultural activities of Kurundewa. As said before Kurundewa is an agricultural village, where majority of the villagers (90%) depend on agriculture as their means of livelihood. Kurundewa has a significant number (63.1%) economically active and the unemployed number is 8.7%. Although the employment rate is seen as high, the employed labour is in fact under employed for number of reasons. Since more than 90% are dependent on agriculture which is highly dependent on the irregularities of weather, labour utilization is very much seasonal. Paddy is the main cultivation. Perennial crops such as ground nuts, cowpea, green grams, and chillies and maize are cultivated. The total area of Kurundewa village is 80.9 hectares, out of which paddy covers an area of 45.3 hectares (60%).

Kurundewa falling into the dry zone area has an average temperature of 25 c- 27.5c. As mentioned earlier, the village gets its highest rainfall during the North East monsoon during the months of October to December. The village experiences a slight rainfall during the South West monsoon, March to August, which is insufficient for agricultural activities. The availability of sufficient water for cultivation is a crucial need for Kurundewa villagers as they depend heavily on agriculture for their livelihood. Paddy cultivation takes place mainly during the Maha season (October to April). During the Yala (South West monsoon) cultivation takes place according to the availability of water.

Kurundewa villagers eagerly wait for the rains to come in the North East monsoon to commence cultivation, as this is the main season for agriculture. Unlike in the past, the peasants today commence cultivation immediately with the first rain, as they cannot wait until the tank is full as

the water storing capacity of the tank is not sufficient to cultivate the full extent of land. Traditionally the villagers commenced cultivation only when the tank was full of water. During the Yala season (South West monsoon) the entire paddy area do not come under cultivation, as water from the rainfall is not sufficient. Due to this inability, the cultivators at the Kanna Sabba (meeting where cultivators decide on the cultivation for the season) decide how many acres could be cultivated according to the availability of water. The area for cultivation would be divided according to the Bettma system where all cultivators would get an equal share of cultivation. Traditionally cultivators resorted to Chena (slash and burn) cultivation during the yala season, as land was sufficiently available. Chena cultivation played a significant role for the villagers in the past as they were able to cultivate crops such as chillies, ground nuts, maize etc. But, today due to the increase of population, these areas have come under settlements. Therefore the total area available for cultivation has been reduced. Therefore land being the major physical resource in the village; it needs to be utilized to the maximum by introducing new cultivation methods with proper irrigation facilities.

Looking at the landownership pattern, majority own less than 1.00 acre, a few between 1.00 acre to 3.00s acre and one household own more than 3.00 acres of paddy land. While there are a few absentee landowners and tenant cultivators, majority are owner cultivators. What is more important is that Kurundewa landowners do not claim clear land rights, as all family members jointly own land. As a measure not to let the land get fragmented, the villagers resort to Tattumarru system (rotating the land among the owners). This is a cultivation practice followed by nearly 90% of cultivators. In such a situation the cultivator does not see much reason for investing on the land.

The villagers in Kurundewa all use high yielding varieties (HYV) the BG varieties in paddy cultivation. They make their own seed paddy rather than purchase them from the Agrarian Service Centre, which is about 6 km from the village. This is practiced because they cannot purchase seed paddy on time and also it is more costly. The cultivators also have the need to use chemical fertilizers and pesticides as they use new varieties of paddy. In the cultivation of paddy, machinery is used at all stages except for reaping. Since many cultivators do not possess these equipment they hire them from those who own them either within the village or outside. Many Kurundewa villagers depend on the Muslim villagers in the adjoining village who give credit and hire out tractors. Since the Kurundewa villagers get indebted to these villagers, they often are compelled to sell their produce to them to over come from their indebtedness. According to the villagers the maximum production per one acre of paddy is 80 bushels, which is very low compared to other areas. However the cost of production when compared to the harvest that they receive is quite high which makes paddy cultivation unprofitable. However, the social value attached to produce your own rice and consume is still prevalent in the village. Therefore Kurundewa villagers even though they may find cultivating paddy is not profitable they would not

give up paddy cultivation. Kurundewa villagers may look for other activities to supplement their income from agriculture. Therefore if agriculture is to be made profitable then there is a need to bring down the cost of production. To do so new methods of cultivation need to be introduced.

As said before during the <u>Yala</u> season with the available water, villagers cultivate paddy and other crops like chillies, ground nuts etc. In the past during the <u>Yala</u> season paddy was not cultivated and only pulses, chillies and groundnuts were cultivated. During that time, due to better irrigation facilities water was not a big problem and villagers could get a good harvest. While getting a good harvest the villagers were also able to protect their lands as they hardly used chemical fertilizers and pesticides in cultivation. But according to the villagers, in the Palukadawela major irrigation scheme adjoining the Kurundewa village where two seasons of paddy cultivation take place a visible soil erosion has taken place. Villagers strongly feel that it is due to heavy use of chemical fertilizers and pesticides and the use of tractors.

Kurundewa village has many fruit trees such a mangoes, oranges, pineapples, wood apples etc. Other than these fruit trees, the village also has cashew nut trees, tamarind trees, palm trees. Near the village tanks reed bushes are in plenty. In addition to these trees and plants there are herbal plants. The villagers do not cultivate much of these plants and trees, but they grow naturally. Villagers in a limited way have used them for economic advantage but the potentiality for much better economic gain is visible.

Looking at the agricultural practices followed in the villages it was clear that although Kurundewa villagers resorted to new agricultural practices such as using HYV varieties, use of chemical fertilizers and pesticides, they have not completely given up traditional practices. Traditional pest management techniques Kem krama and rituals were followed with great interest. Although they may not take place in the same way they operated in the past, still it has a place in today's agricultural activities.

#### 8. Identified Problems

It is very clear that land is a major resource in Kurundewa. But, proper utilization of this resource for better economic benefits is some thing to be achieved. There are several factors, which hinder the proper use of the available land. These factors are analysed below:

To get the maximum use of land, water is a necessary factor. Since Kurundewa falls to the dry zone, cultivation cannot depend entirely on rain- water. Therefore proper irrigation facilities are necessary for smooth and proper cultivation. As mentioned before green revolution brought certain positive results only in the areas where there were proper irrigation facilities. Kurundewa has an irrigation network of three village tanks. Although two of them are small in size the Kattakaduwa tank has a command area of 28.8 ha. However this tank is in a dilapidated state, due to the heavy deposit of silt and the broken sluice gate. Therefore the water collected in the tank is

not sufficient for agricultural activities. In 1993, the Irrigation Department with the assistance of the Asian Development Bank rehabilitated the Kattakaduwa tank. Strengthening the earthen bund, repairing the sluice, restructuring the damaged spillway, reshaping the existing canals were some of the rehabilitation activities undertaken by the Irrigation Department (Feasibility Report of Rehabilitation of Kattakaduwa Wewa, Ministry of Forestry, Irrigation & Mahaweli Development, October 1993). However, the villagers are not satisfied with the rehabilitation work carried out by the Irrigation Department as still their problem of getting sufficient water for cultivation persists.

The proper maintenance of village tanks is crucial for the continuous supply of water for agricultural activities. The Farmer Organization with the supervision of the Irrigation Department is responsible for managing and maintaining the tanks. However, the Farmer Organization has not been able to relegate its responsibilities properly. In 1993 the Farmer Organization was formed with the patronage of the Agrarian Services Department. The membership strength of the organization is about forty landowners although a much more number of cultivators are cultivating. This is so because only cultivators who have legal ownership could register in the Farmer Organization. As mentioned before Tattumaru system (rotation cultivation) is practiced and many villagers have no proper legal right to the land that they cultivate and therefore cannot get membership in the Farmer Organization. Since rules and regulations pertaining to the organization have been formulated by the Agrarian Services Department, the Farmer Organization cannot include these cultivators. However these cultivators attend the Kanna (cultivation) meeting as they too rely for water from the tank. But since there is a formal organization to look after tank activities these water users could easily shirk their responsibility of looking after a valuable community asset. The Farmer Organization also on the other hand is not in a capacity to do much with the cultivators who do not conform to the norms and rules of the organization. Not only with the number not coming under the organization, even with those who have the membership, the president of the organization who functions as the traditional vel vidane has no power to use his authority. At the kanna meeting the farmers jointly with the relevant officers lay down rules and regulations for proper water usage, but the President has no authority like the traditional Vel Vidane to punish those breaking the rules. In such a situation he neither has traditional nor legal authority to function as a powerful leader who could command over the others. The key office bearers of the Farmer Organization have not changed since its inception. It can be either because there are no candidates who would wish to take such posts or it can be the domination of certain individuals who do not allow others to rise up to such positions. What ever the reason may be, it is clear that there is no proper governance.

Although the villagers still practice the <u>Bettma</u> system, a democratic principle handed over from the past, such democratic principles do not always operate, especially at times when water is taken to individual paddy fields. Since individualistic feelings are more powerful than community

feeling the water users betray one another and find unscrupulous ways of getting water to their own paddy fields. This has resulted in damaging the canals, which distribute water to the paddy fields. The decisions taken at the <u>Kanna</u> meeting is seen more or less as decisions imposed on the farmers from the top and when they are to be implemented many problems surface.

Although the scarcity of water is seen as the major reason for the low productivity, there are other reasons, which contribute to this factor. Farmers' attitudes toward farming place an important part. The general thinking of cultivators is that an abundance of water is needed for water, which may not be always true. Certain farming practices do not require much water. Therefore an attitudinal change is necessary for cultivators to move to dynamic agricultural practices.

As mentioned before the land resource is mainly used for paddy cultivation. However, paddy cultivation dose not bring much profit to the peasants. In fact at times it is unprofitable, but since a social value is attached with producing one's own rice, the peasants continue to cultivate. Cultivating paddy becomes unprofitable because of two factors. Firstly the harvest obtained in the area is very much less when compared to other areas. Secondly, the cost of production is increasing with the cut down of subsidies such as fertilizers. Although these factors are presented separately they are inter woven. Since the peasants of Kurundewa use HYV varieties, they feel the need to use chemical fertilizers and pesticides, which they have to purchase from the market. However, their economic capacities do not allow them to purchase such inputs as required for proper cultivation. Therefore they either resort not to use them as required or purchase them on credit. Adopting either of these options do not help the peasant, as they both push them to a state of indebtedness.

As mentioned before Kurundewa possess many fruit trees, other valuable trees. At present the villagers use them in a very limited way and so far no proper economic enterprise has emerged with the utilization of these resources. Two problems related to this could be identified. They are, firstly the lack of proper knowledge and skills to extract economic advantage from these resources. Secondly, the lack of markets for products produced in the village. While it is true that the villagers possess certain indigenous knowledge with regard to food processing, food preservation and weaving, they lack the skill in making such products attractive and of quality to a competitive market.

The working capacity of the people in Kurundewa is hindered to a certain extent due to the poor health conditions. Although Sri Lanka has invested heavily on health and education, still remote villages such as Kurundewa has not reaped its benefits. Base line survey has clearly revealed that sicknesses such as influenza, malaria and water borne diseases are prevalent in the village. Such sicknesses are due to lack of proper toilet facilities, lack of potable water, poor nutrient, indiscriminate use of chemical fertilizers and alcoholism. There is also a disturbing factor, which is very clearly evident in the village, where villagers are more concerned on the curative aspects

rather than preventative aspects. However, in comparison to urban areas, these villagers lack proper health care facilities, which affects them very badly. The tendency to depend more on the curative aspects is increasing due to the impact of media.

# 9. Proposed Interventions

Considering the problems identified with the proper utilization of physical resources in the Kurundewa village, several interventions could be proposed. They are given below:

The rehabilitation of the Kattakaduwa tank accompanied with a package of institutional capacity building and improved agricultural programme is seen as an important intervention that the project can make with regard to solving the existing water problem and the low agricultural productivity faced by the peasants. Before the project embark on rehabilitating the tank, it needs first to bring some kind of settlement between the villagers and the officers of the Irrigation Department involved with the rehabilitation of the kattakaduwa tank in 1993. Since the villagers have strong feelings against the officers who did not perform their tasks properly and left the work unfinished, it is necessary to solve this conflict. Therefore it is suggested to create the necessary environment for both parties to meet and discuss, as right now both parties are drifting from each other. The Facilitator and the Field Manager should speak to both parties and convene such a meeting. The Field Manager, representatives from the study team and the Facilitator should attend this meeting from the project side. From the villagers' side representatives from the Farmer Organization should be present. From the Irrigation Department, the Director of the Asian Development Bank Assisted North Western Province Water Resource Development project should be present. The main objective of this meeting should be that the representatives from the Farmer Organization to be able to present their grievances and negotiate with the officers on equal terms. This could be achieved through the facilitation and guidance from the project.

Once this conflict is solved, the project should embark on rehabilitating the tank. In order to do so the villagers and officers related to irrigation work should meet and discuss. Villagers' participation is absolutely necessary as it is they who know the problems with regard to the tank. However, since technical know how is important in an activity like this it is also necessary to consult technical officers. Therefore to begin with the Field Manager and the Facilitator should organize a meeting for both villagers and technical officers to participate in a discussion. The Field Manger, the Facilitator and representatives from the study team should also attend this meeting to facilitate and moderate the discussion. The study team should discuss whatever decisions taken at this meeting and the necessary funds should be allocated. The Field Manager, the Facilitator and the villagers should take the responsibility to supervise and monitor the activities related to the rehabilitation activity.

Rehabilitation of the Kattakaduwa tank alone would not be sufficient to ensure a continuous supply of water and proper agricultural practices for a sustainable agricultural development. In this respect, mere physical infra structure development is not sufficient. An equal importance should be given for social infra structure development. Proper water management and maintenance of the tank is important if future generations of Kurundewa villagers' to make use of this valuable asset. Maintenance of the village tank should be the responsibility of the villagers and they should not depend on the state to do so. However, relegating this responsibility to the villagers should not be imposed from the top, but the villagers should be made aware of the need for them to take this responsibility to their hands. Since the rehabilitation work would take place with the villagers' consent, agreement and participation, the necessary environment would be laid to make the villagers' to take the responsibility on to their hands. The peasants should be also made aware of the proper usage of water. The village tank is a common good which all residents have the equal right to use. Therefore the peasants should be given the opportunity to organize their own irrigation system. It is important to remember that in the past the farmers had their own indigenous system of water management. Therefore when evolving a new mechanism for proper water usage such indigenous knowledge systems could be used. It is therefore suggested to get the services of resource persons who are knowledgeable in the field of participatory irrigation management. Such resource persons could be identified from the International Irrigation Management Institute, which has long experience of participatory irrigation management.

Reducing the water requirement for paddy cultivation could be also introduced to the peasants. Today lot of attention is attracted to dry land development through minimal water usage. Field level practices such as the choice of crop, cropping sequence, planting system, etc. determines the water usage (Shepherd, A., 1998). Therefore imparting proper knowledge on proper usage of water for paddy cultivation should be provided to the cultivators. The irrigation water management package should have this aspect has an important component. Therefore the intervention that is suggested here should be introduced at the beginning of the <u>Maha</u> cultivation season.

An alternative farming system should be introduced to arrest the problems of high cost of production, low production and the environmental degradation. Eco farming system, which is being practiced in some areas, should be, introduced to the Kurundewa villagers. By doing so the peasants need not depended on chemical fertilizers and pesticides, which they need to purchase from the market at high prices. Organic manure such as cow dung, which is available in plenty in the village, could be used with other fertilizers such as straw and poultry refuse. Such usage of fertilizers would be less costly and would also protect soil erosion. As Shepherd argues, sustainable agriculture incorporates a much wide range of resource-conservation and enhancing technologies and processes. These include genetic conservation and bio-diversity, the conservation of soil life and wildlife conservation. Such an approach would be more compatible

with the wider notion of resource enhancement than the conventional mechanical approaches. Shepherd also points out that the adoption of sustainable agriculture could create more employment, as it is more labour intensive (1998). The services of a resource person knowledgeable on organic farming should be obtained to introduce such farming to Kurundewa villagers. Such a person could be identified by the project. Since this is a new farming system that would be introduced, the project should be careful not to introduce it in a drastic way, but to introduce it in a small scale to a few farmers who are really interested to innovate their cultivation practices. Therefore training for such farmers should be given. Once such cultivation take hold, other cultivators would then automatically follow. Initial adopters of organic farming could provide a demonstrative function for others.

Integrated pest management should come as a component in the training programme on organic farming. The principle in integrated pest management is to minimise the use of pesticides by increasing diversity of and improving balance between life form in a farm system. Since it requires a radical redesign of farming systems it should be also introduced as a component of organic farming to the selected farmers. The indigenous knowledge system available in the village should be combined with other new methods as it has much to offer (Blunt&Warren, 1996). Traditional cultural practices should not be disregarded as it provides the much needed mental satisfaction for the cultivator.

Crop diversification should be also introduced. This would also protect the soil. The cultivation of crops such as chillies, ground- nuts, pulses and corn should be encouraged in the <u>Yala</u> season.

Since the farmers lack the necessary equipment for cultivation purposes, it is suggested to introduce a system of sharing such equipment among the less privileged peasants. To begin with the project should purchase less costly equipment such as sprayers and handed over to the villagers for their use. In order to manage the sharing of such equipment the cultivators should form a cooperative in a small scale. Members of the cooperative should pay a small subscription, and a small payment for the use of equipment, which could be used, for the maintenance and for further purchases of equipment. A clear transparent economic management should be followed. The cooperative should devise a schedule for proper sharing and it should create its own norms and regulations for its sustainability. However such an intervention should be introduced with the consultation of villagers, as their participation is absolutely necessary.

In order to make use of available fruits, a proper training on food processing and food preservation should be given to the villagers. However it is important to make sure that such training would make the villagers capable of producing goods that are competitive in the open market. The finished product should be attractive to capture the market. Since the villagers cannot compete with products of Marketing Department, Kist, Delmage etc. they should attempt to capture a small market within the locality as such products could be sold at a less price. The

project should also explore whether training and markets could be found for villagers to make handicrafts and other items using reed plants. Protecting herbal plants and making use of them for economic advantage should be explored. The Institute of Ayurvedic Medicine and other private institutions should be tapped for this purpose. If the project could link the villagers to such an institution they could supply them with the required herbal plants. At the same time an awareness programme on protecting such herbal plants and using them for better health should be also given to the villagers.

When developing social infra structure, in addition to the interventions mentioned before, a package covering several health improvement interventions is recommended. In order to arrest the problem of water borne diseases, construction of proper toilets and drinking well are absolutely necessary. Since the villagers do not have the financial capacity to build toilets and wells the project should supply the necessary materials. However, the labour for the construction could be envisaged from the villagers. Further to this, an awareness programme on proper utilization of these facilities and preventative aspects of health should be provided to the village.

In the package that covers health improvement interventions, improving the nutrient status of the villagers becomes important. In this respect a nutrition package is recommended to be introduced to the village. This package would contain an awareness creation programme of utilizing nutritional food items available in the rural environment. Right now such nutritional food items in the rural environment are not made use by the villagers. In addition to this, it is recommended to provide several laying hens for home consumption of eggs to selected households.

With regard to address the problem of preventative aspects of health it is necessary to begin at the household level. Since the kitchen space in the rural house is not very conducive to the health of the woman an awareness programme would be given to the villagers how to maintain a well-kept kitchen. This would help to lessen the drudgery of work as well as maintaining cleanliness. If the recommended kitchen development program is implemented, not only illnesses would be reduced, also a considerable amount of time would be saved. In order to implement this project the services of an expert on this field should be obtained.

Indiscriminate use of fertilizers is a problem in Krundawa village. This has become a threat to the people. As mentioned earlier introducing organic farming is recommended. Parallel to this an awareness program on the consumption of food items obtained through organic farming should be provided to the villagers. This could be introduced through training to the villagers.

Alcoholism is also a major problem in the village. An awareness programme on the prevention of alcoholism should reach to the village. In this respect, an organization, which works on the prevention of alcoholism and drugs, such as ADDICT, could be consulted. In such a training programme the youth could play an important role.

It is necessary to set up a participatory health programme in the village. An awareness program through an educational clinic on common misconceptions on illnesses, food habits and behavioural practices should be introduced. As Krrie de Koning and Marion Martin say, health is not something independent of human life and human life style (1996) Therefore, meeting the essential prerequisites of life and living ensuring a suitable life style become key variables affecting the status of health in any community. It is suggested that a participatory clinic could be set up with the help of the Medical Faculty of the University of Colombo. In this endeavour, it is also essential that two young volunteer from the village to be trained as health animators. Training of youth could be of a help to the villagers in a situation where there is a complete absence of medical personnel in the village.

### 10. Conclusions

This study clearly shows that the challenge for rural development does not lie in the lack of physical resources in rural area, but the under utilization of such resources. Therefore the study has clearly suggested that there are mechanisms and strategies that could be used to maximize the use of physical resources for the development of the rural areas. In doing so, it is very important that a whole package of interventions is introduced to the village rather than segmented or specific task oriented interventions. The study also showed the importance of human resource development in proper utilization of physical resources. Although these resources are taken separately they should be related to each other if rural development is to be achieved. In such an endeavour it is absolutely necessary to mobilize the external agencies and bring them into contact with the village. To do so the study project has a major role to play.

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# Participatory Rural Development and Administration System in the North Western Province

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# **Figures and Data**

Figure 1: Basic Framework for Participatory Rural Development

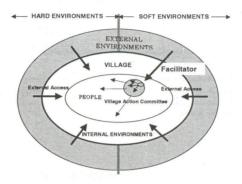


Figure 2: Administration System in Sri Lanka

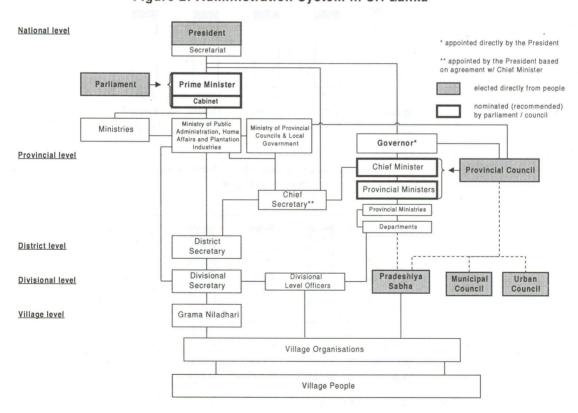


Figure 3: Administration System of North Western Provincial Government

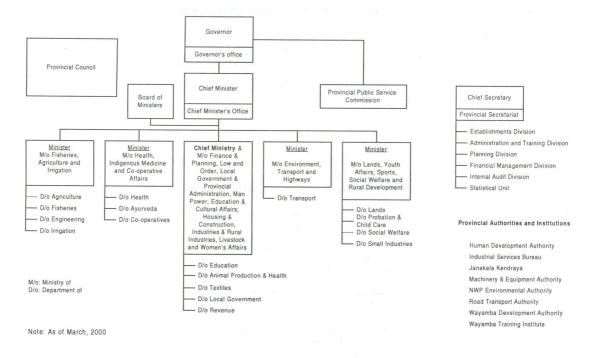
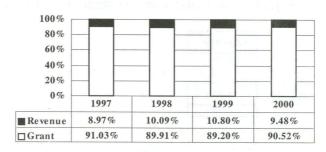
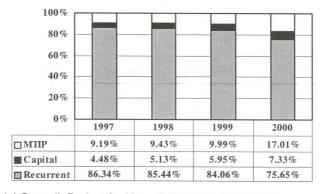


Figure 4: Receipts and Payments in the North Western Provincial Council (1997-2000)

# Composition of Receipts in the North Western Province (1997-2000)

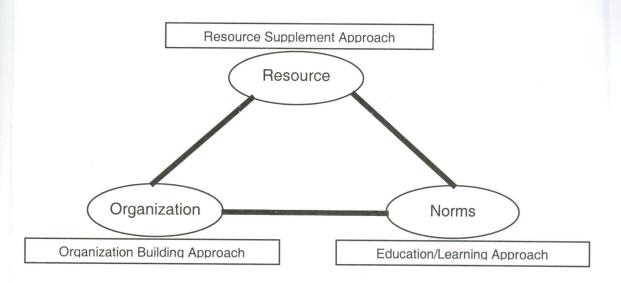


#### Composition of Expenditure in the North Western Province (1997-2000)



Source: North Western Provincial Council, Budget for Year 1997, 1998, 1999, 2000.

Figure 5: Participatory Approach and Three Development Elements



Source: Ohama, H., 1999.