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ROLE OF NONGOVERNMENT ORGANIZATIONS IN THE IMPROVEMENT
OF MINOR IRRIGATION SYSTEMS IN SRI LANKA

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Summary: An inherent feature of NCO interventions is the continuous involvement of beneficiary farmers to create a sense of ownership of the system by farmers which would ultimately reduce the farmers' dependency on outside assistance. The Government of Sri Lanka has also encouraged these assistance programs as operation and maintenance of minor irrigation systems has become a heavy burden on the government. Therefore, the experiences of NGOs are of paramount importance to government organizations such as the Irrigation Department and the Department of Agrarian Services that are directly involved in minor irrigation work. The workshop on the role of NGOs in the improvement of minor irrigation systems was organized to provide a common forum to review these NCO interventions, to share their experience, and to learn lessons relevant for both government agencies and NGOs themselves.

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Background

Minor irrigation schemes in Sri Lanka have served as the "nucleus" for villages since ancient times so that they are also called "village irrigation" systems. These ancient hydraulic systems by origin and operation, have been "Farmer-Managed Irrigation Systems" until they collapsed owing to the impact of foreign invasions and colonialism.

Both British rulers of the early 20th century and successive governments of independent Sri Lanka have paid much attention to refurbishing the ancient abandoned Farmer-Managed Irrigation Systems through different types of interventions. The colonial rulers made great attempts to revive the ancient customary laws (sirith) for better management of these systems, and to rehabilitate most of the ancient tanks and anicuts. During the post-independent period, particularly during the last 25 years the Government of Sri Lanka introduced a series of assistance programs aimed at rehabilitation, improvement, and water management of small irrigation systems. These assistance programs include the Village Irrigation Rehabilitation Project, the District Integrated Rural Development Programs, and the Anuradhapura Dry Zone Agricultural Project. It has been argued that these government interventions have caused the farmers to become more dependent on the government which naturally resulted in the deterioration of the traditional practice of self-management.

Apart from government interventions several Nongovernment Organizations (NGOs) are involved in different assistance programs, either solely for minor irrigation or as part of their rural-development interventions. Out of these NGOs, the Freedom From Hunger Campaign which is a government-organized NGO, the National Development Foundation, and the Rural Development Societies are directly involved in the improvement of minor irrigation systems, while some other NGOs such as Sarvodaya, the Participatory Institute of Development Alternatives, and the Federation of Thrift and Credit Cooperative Societies help the process indirectly. Recently several NGOs like the CARE International, the PLAN International, and the Nation Builders' Association have identified some assistance programs in this sector.

Purpose

None of these NGO interventions have been carefully reviewed, and their experiences have not been shared either horizontally or vertically among NGOs themselves or with government organizations. An inherent feature of NGO interventions is the continuous involvement of beneficiary farmers to create a sense of ownership of the system by farmers which would ultimately reduce the farmers' dependency on outside assistance. The Government of Sri Lanka has also encouraged these assistance programs as operation and maintenance of minor irrigation systems has **become** a heavy burden on the government. Therefore, the experiences of NGOs are of paramount importance to government organizations such as the Irrigation Department and the Department of Agrarian Services that are directly involved in minor irrigation work. The workshop on the role of NGOs in the improvement of minor irrigation systems **was** organized to provide a common forum to review these NGO interventions, to share their experience, and to learn lessons relevant for both government agencies and NGOs themselves.

Objectives

The workshop was organized to achieve the following objectives:

- a) Review the various assistance strategies of NGOs.
- b) Assess the results of the various programs including the physical performance of the irrigation systems, the economic productivity of agriculture, and the social welfare of the beneficiaries.
- c) Compare the methods of farmer mobilization.
- d) Assess the sustainability of irrigation-management practices.
- e) Consider the policy implications for government programs.

The workshop was confined to only one day and comprised four sessions dealing with the three different NGO interventions **and** group discussions, keeping in line with the workshop objectives. The tight schedule restricted detailed discussion of each individual presentation but the session discussions and group discussions were quite lively, resulting in constructive group recommendations.

A total of 35 participants and several observers took part in the workshop; they included representatives of relevant NGOs, heads **of government agencies like** the Department of Agrarian Services and the Agrarian Research and Training Institute (ARTI), the International Irrigation Management Institute (IIMI) staff, Agriswiss, and the Australian Freedom From Hunger **Campaign**.

The workshop was co-organized by ARTI and IIMI.

Acknowledgements

Grateful appreciation is due to Dr. Roberto Lenton, Director General of IIMI for his encouragement and support for the workshop and to Mr. **Nanda** Abeywickrema, Director, Field Operations, who opened the workshop on behalf of the Director General. The ready and continuous support extended by Dr. David Groenfeldt as the Irrigation Specialist in charge of Farmer-Managed Irrigation Systems is duly acknowledged.

The continuous encouragement and support given by Mr. Joe Alwis, Director, ARTI and Dr. Douglas J. Merrey, Head, Sri Lanka Field Operations, IIMI, are highly appreciated. The ready response and cooperation of the invited participants from seven NGOs who presented papers; and of Mr. Kapila Vimaladharma, Coordinator, Agriswiss and Ms. Inge Jungeling, consultant, IIMI, who presented the two special evaluation papers are acknowledged gratefully.

The workshop and these proceedings were supported with funds provided by the International Fund for Agricultural Development (IFAD) and the Federal Ministry for Economic Cooperation (BMZ), West Germany. The ARTI and the IIMI shared the actual costs of publications from their own funds.

Last, but not least, the contribution of all the participants which made the workshop a success is highly appreciated.

Summary

The papers presented are based on individual experiences of various NGOs that have either been in the process of implementing minor irrigation development work or formulating such activities. Depending on the specific role that the NGOs have played in the improvement of minor irrigation systems, the presentation was divided into four categories. In fact, the workshop was structured in such a way that these differences would be highlighted and attention drawn to them, at the subsequent discussions. It was hoped that this particular way of structuring the seminar would enable the participants to exchange views and learn from each other's experience in a more fruitful and effective manner. The papers were thus classified into: a) overview papers; b) papers by NGOs that prefer direct intervention; c) papers by NGOs that prefer indirect involvement; and d) papers by those who contemplate moving into the development process in the minor irrigation sector.

It is important to underline the fact that NGOs have differences in their stated objectives although all these organizations work within the broad field of rural development. Some organizations lay particular emphasis on the groups that are placed at a disadvantageous position in the society. Others would stress overall development. These differences resulted in the considerable diversity that was observed in the individual papers. However the differences are interesting at least from two points of view. First, it provided the logic for structuring the workshop the way it was done. Second, it carried serious implications and naturally raised questions as to the validity of the different approaches or strategies which have been adopted by NGOs in the improvement of the minor irrigation sector, given the country-specific situation of Sri Lanka.

The overview paper on minor irrigation systems in Sri Lanka deals with the definitions, the identification of different types of minor irrigation systems, and the socioeconomic assessment relating to the significance of this sector. It highlighted the fact, that although in the past the role of the water users in the construction and maintenance of the irrigation systems was primary, now it is the role of the State that is emphasized. The farmers' associations are helping the State machinery and as such play only a secondary role. It further observes that the term "village irrigation systems" found in the literature, is not truly meaningful in the context of Sri Lanka as a whole. It therefore argues that the term "farmer-managed water-control systems" is a preferable term as it incorporates all types of water-control systems such as tanks, anicuts, streams, water-lifting systems, and conveyance systems which have been adopted by farmers in different agro-ecological environs. This definition takes care of the farmers' problems as well; the farmers need water in and out of the field whenever it is necessary.

Following the historical account the paper discerns two significant factors, the labor mobilization and the relationship with the government. Accordingly, the paper highlights the following issues.

How to mobilize people and for what purpose? -- which **means** the question of popular participation. What is the nature of the relationship between the State and the community and what form should it take? This means the appreciation of the principle of devolution of power and authority to the communities and that of joint-management systems and the issue of accountability. The paper takes note of the penetration of State bureaucracy into the village and the need for interaction with the available local expertise in regard to irrigation technology. Having traced the changes in the institutional structure which have implications for NGOs, the latter has to operate within this framework. In socioeconomic, demographic, and political terms, the minor irrigation systems are of major importance. Although several programs have been implemented to further develop this sector the complexity of the process involved points towards the need to understand these processes through systematic and regular stud...

The overview paper on Nongovernmental Organizations in Sri Lanka deals with the definitions and the types of NGOs as well as the government policy, and the role and functions of NGOs in minor irrigation. The paper observes that the term "NonGovernment" *can* be contradictory since there is direct or indirect involvement of the government for some of the NGOs. The United Nations system uses the term "Private Voluntary Organization." However, the **paper** suggests that the term "Voluntary Organization" may be more appropriate, for the reason that participation is anyway intended to be voluntary. Any group that is voluntarily around a common purpose could be an NGO or a Private Voluntary Organization. Three broad groups i.e., international, national, and local have been identified in terms of the differences in scale, scope, objectives, structure, and level of operation. At the local level, the simplest type of local NGO is a Grass-Roots Organization. According to the usual concept of an NGO they are viewed as: a) being good at reaching the poor; b) using a participatory process; c) being innovative and experimental; and d) carrying their projects at low cost. The paper observes that the national and international NGOs follow too much of a top-down bureaucratic approach which has jeopardized their claim for being bottom-up and participatory in working with beneficiaries.

In Sri Lanka there are about 150 NGOs out of which **35** are international organizations. Some of the Grass Roots Organizations have been organized into formal bodies under the government. The only local NGO which does not receive any support from a higher level and functions effectively is the Death Donation Society. Only some NGOs engaged in agricultural and rural development have a national-level structure. Although many NGOs have received financial and other facilities from outside not all of them have fully utilized these resources owing to organizational weaknesses. The government policy is one of non-interference and positive facilitation. Legal and administrative provisions and procedures have been devised for the registration of NGOs.

The first NGO paper on the Freedom From Hunger Campaign Board titled the Role of FFHC in Minor Irrigation Improvement describes that it has been carrying

out a program of renovation and restoration of village tanks (both ancient **tanks** and abandoned tanks) with a view to enhancing people's participation and poverty alleviation, promoting of labor intensive projects, and upgrading environment/ecology and general living standards of the people. Work is organized through wew-sabha and all earthwork is done manually by the members of this organization and their families. Approximately **US\$1.30** (Rs **40**) is paid for one cubic foot (0.0283m^3) of earthwork. By June **1989**, **135 tanks** had been completed and in about **100** tanks, work was in progress. All the projects are funded by outside agencies. As a result of this program, land, water, labor, and other natural resources have been better utilized. The main lesson learnt relates to the need for simultaneous organization of **tank-rehabilitation** work and community-development work. Among the major constraints identified are the lack of experienced technical staff, introduction of new methods and techniques, rigidity and high degree of centralization of the Freedom From Hunger Campaign management system, insufficiency of funds, lack of coordination, and communication inefficiencies.

The National Development Foundation has carried out six major development programs, at least four of which are connected with irrigation and water management. It has started **16** selected minor irrigation renovation projects. The farmers are involved in the preliminary investigations including the technical surveys. Farmers' organizations are formed and a society fund is also organized. The Department of Agrarian Services is also **drawn** in when the final estimates and plans are prepared. Participation by the intended beneficiaries and the association of the state agencies are the factors responsible for the success of this program.

An attempt **was** made, in the paper on the Freedom From Hunger Campaign and the National Development Foundation in the Renovation of Village Irrigation Schemes, to compare and contrast the planning concepts as well as to relate the planning concepts and methods to the different strategies of field implementation. The comparison is acknowledged to be unfair given the differences in objectives and circumstances. Yet the strategy of mobilizing beneficiaries, labor, and their participation in construction, operation and maintenance is about the **same** for both agencies. Most of the shortcomings of the Freedom From Hunger Campaign would flow from its somewhat rigid adherence to a "blueprint." Having conceptualized a "model village" said to have existed in the past, planning has progressed toward resuscitation of a village of that nature. Naturally it becomes a top-down imposition, consequently restricting the scope or beneficiary participation from the very beginning. In contrast, the National Development Foundation **has** adopted an open, pragmatic, and flexible approach in deciding on the type of project. The National Development Foundation has no model. Its charismatic leadership and closeness to the rural people are the major factors that characterize its approach.

Eking a resettlement project, the Freedom From Hunger Campaign conceived it as a comprehensive one which encompasses technical, social, and organizational aspects. The perspective tends to make the project authority assume responsibility and to direct all activities. The National Development Foundation on the other hand, has mobilized the services of the government agencies in the area from the beginning. It **was** able to bring its renovated tank within the normal field programs of the Department. In the process, the

farmers have learnt a great deal from the National Development Foundation officers and from their own collective experiences and are quite confident about their own ability to sustain the renovated systems.

The paper on the Role of Rural Development Societies gives a full account of the relevant historical development, organizational changes which have taken place over the years, and deals with the minor irrigation work with which the rural-development societies have been associated. The projects included rehabilitation of old village tanks in the dry zone as well as minor irrigation works in the wet zone. Labor-intensive methods were employed in this connection and assistance from the World Food Programme was obtained to make an incentive payment for voluntary work done by the villagers. Under this project 6,000 tanks in the dry zone and 5,000 minor irrigation schemes in the wet zone were to be rehabilitated. In the implementation of the project the government agent was the central executive authority while the Rural Development Societies functioned at the village level. The field staff of the Department of Rural Development assisted in the process. Although the project performed satisfactorily at the beginning the progress was slowed down in the interim due to drought and a cyclone. An interim evaluation noted that the schemes in the wet zone were too small for the World Food Programme assistance and that hardly any technological support has been provided in the formulation or implementation of the projects despite the involvement of the Government Agent. The provision of structures such as spillways, outlet pipes etc., was not made in time by the Irrigation Department while there were many delays in the financing process as well. This led to the deterioration of the earth work completed even before they were put to use by the villagers.

The first of the next group of papers is by Sarvodaya which describes poverty as the manifestation of the inability of the individual to satisfy ten integrated basic needs; environment, housing, education, water, health care, clothing, communication, food, fuel, and spiritual and cultural needs. The satisfaction of these needs should result in individual as well as village awakening. Sarvodaya work is organized at five levels, namely, the Village, the Gramodaya Division, the Sarvodaya Division, the District, and the Region. The Sarvodaya Technical Services Division prepares the project proposals including social and economic analyses and offers them to the donor agencies. The funds are channeled through the Sarvodaya Shramadana Sangamaya. Each village would have a Shramadana Samitiya for the purpose of coordination. The Sarvodaya farms have been established for the purpose of offering training in matters related to farming systems. As such, water management is not within the core program of Sarvodaya. This is because Sarvodaya is involved in the broad area of rural development. It emphasizes mobilization of labor through Shramadana (self-help), and this process requires people to build up and manage their minor irrigation systems as well.

The paper titled NGOs as Facilitators in Minor Irrigation Development proceeds from the point of view that there is a contradiction between the diversity in minor irrigation systems and the rigidity of the government programs. Controlled irrigation management, the paper asserts, is only sustainable if it is supported by the water users, particularly because the innovations introduced often do not suit the interests of different water users. The results have been meager and this is attributed mainly to the legal

authority that remains in the hands of the officials. The intensity of staffing and the budgetary constraints of the departments do not permit the village-level officer to adequately cover the interests of the water users as well as the constant monitoring of the system. It is argued that irrigation-management responsibility should be, as much as possible, in the hands of the water users. According to the writer, the need of a facilitator arises from the fact that while the water users may be ignorant of the services that might be delivered to them and may not co-operate, the Department of Agrarian Services is not well-g geared to engage itself in a complicated and time-consuming communication process with water users. The paper mentions that the NGOs provide assistance in a variety of ways. It further observes that the government sponsored village-level organizations provide services on the basis of supply rather than of demand which dilutes the required commitment of the water users to the system. Some NGOs on the other hand, suffer from the project-specific nature of their involvement (the budget has to be spent regardless of the commitment of the beneficiaries). Furthermore, many water users have discovered the benefit of mobilizing such funds for their own goals which do not necessarily relate to improved irrigation management. The paper is based on the experience of the Norwegian Agency for International Development-funded Hambantota Integrated Rural Development Project. The main conclusion relates to the need to clarify the responsibilities between the NGOs, the intermediaries such as project officials, and the government departments.

The paper titled "Role of Participatory Institute for Development Alternatives" reveals that it started functions in 1981 and has 15 researchers who operate as catalytic interveners in selected locations in the districts of Hambantota, Matara, Galle, Colombo, Anuradhapura, and Kandy. The objective of this organization is to change the process of development in favor of the economically and socially disadvantageous groups by way of supporting and strengthening people's organizations and training their members in catalytic skills for such a process. The poorer sections of the village society are stimulated to undertake a scientific inquiry into poverty which results in social awareness leading to change of fatalistic beliefs and search for action to counter the impoverishment process. Consequently, the poorer groups begin to improve their access to resources and enhance their confidence regarding their own ability to change the reality. In this way a process of self-reliant development is initiated. The case study of the Ranna vegetable producers' co-operative society is presented to illustrate how the above process has been at work in Hambantota.

The last two presentations were on two NGOs having future programs; The paper on CARE (Cooperative American Relief Everywhere) about, its Role in the Improvement of Minor-Irrigation Systems gives details on the four-year project on rehabilitation of minor irrigation tanks which has just been formulated and presented to the donor agencies for funding. CARE has been involved in drought-relief programs where small tanks were rehabilitated by the rural people themselves who received food from CARE for work done. In due course, CARE gained knowledge and experience with regard to the problems affecting the agrarian communities in the dry zone. In addition CARE has also studied relevant work done by the IIMI and the ARTI. The proposed project envisages the rehabilitation of 280 minor irrigation tanks with a view to increasing cropping intensity and promoting the cultivation of vegetables and fruits in

the home gardens and the consumption of the same. The overall objective is to increase the income and the quality of life of small farmers and their families.

The strategy adopted by CARE involves the co-operation of the relevant government agencies and the beneficiaries. The farmer groups will be organized and tank committees will be elected. The farmers' contribution will be 25 percent of the estimated cost, and the provincial council and CARE will contribute 25 percent and 50 percent, respectively. The Department of Agrarian Services will provide technical assistance and heavy machinery. The project also has a large training component. The monitoring and evaluation mechanism involves field visits and observations, interviews with farmers **and** farm women, and scrutinizing of records. Baseline data will be collected before the commencement of work. At the end of the second year a formative evaluation will be conducted. At the end of the fourth year there will be a final evaluation which will measure the attainment of the final goal in terms of increases in total income, cropping intensity, and consumption of crops produced in the home gardens.

The paper on Plan International (PLAN) gives indications of its willingness to assist the target families in the construction/renovation of minor-irrigation systems in Gampola, **Kandy**, and Badulla where it has been operating programs in health, education, community development, and income-generating skills. The criteria of PLAN for selecting minor irrigation systems for assistance **focus** on target families, active beneficiary participation, and self-management of the systems. The strategy of PLAN for mobilizing people participation is through constant dialogue and active involvement of potential beneficiaries from the identification to implementation and monitoring of the project. PLAN considers the government institutions and other NGOs as valuable resources that should not be wasted due to duplication of effects. It welcomes interaction with these institutions to avoid such duplication and to ensure sustainability **and** continuity once PLAN phases out of the area.

Minor Irrigation **Systems** in Sri Lanka

Gamini Wickramasinghe

SOCIOECONOMIC **IMPORTANCE** OF MINOR IRRIGATION **SYSTEMS**

The area under the village tanks as a percent of total irrigated area is about 40. In relation to the total asweddumized area, the minor irrigation sector accounts for about 25 percent. About 90 percent of the holdings under minor irrigation are below 0.4 hectare (ha). This sector contributes 22 percent of the total rice production.

According to the surveys done by the Ministry of Agriculture and the Department of Agrarian Services there are 11,897 village tanks of which 8927 (75 percent) are located in the dry zone and 2970 (25 percent) in the wet zone. The 1986 implementation program of the Department of Agrarian Services states that there are 9796 anicuts and 9294 minor tanks in working order scattered throughout the country. According to the Ministry of Lands and Land Development there are 23,000 minor irrigation systems throughout the island, whereas the Freedom From Hunger Campaign puts it at 30,000 village tanks of which 18,000 (60 percent) are not in working order. Thus there is no agreement over the exact number of minor irrigation systems. Yet it is clear that there are a large number of small-scale irrigation systems and the problem of exactitude is also connected to the diversity of definitions used.

In demographic terms the minor irrigation sector is important because a large number of families are dependent on or connected with it. Owing to the vagaries of weather, their existence is precarious. As such, it is not incorrect to say that poverty is more pronounced in this sector. Thus both socially and politically, the minor irrigation sector assumes a great deal of significance. Making improvements to this sector would help improve the living standards of the people as well as arrest trends of migration whether from rural to rural or from rural to urban. It is also acknowledged that there could be important lessons learnt from understanding the process of work in the minor irrigation sector which may be applicable to the major-irrigation sector at least insofar as organization and management of crop production and operation and maintenance of the canal system are concerned. Although in recent times investments have been made and many organization have been implementing programs in this sector there is yet a remarkable lack of understanding of the factors involved in this process.

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DEFINITIONS

The minor irrigation systems, also known as small-scale irrigation systems are defined in the Agrarian Services Act of 1979 as one with a **command** area of less than 200 acres (80 ha) and more than **10** acres (4 ha) serving at least **5** farm families. The responsibility for refurbishment of the tank lies with the Irrigation Department while the operation and maintenance of the tank is the responsibility of the Department of Agrarian Services which is expected to enlist farmer participation. The rules and procedures for the preparation of irrigation works adopted in **1939** defined village-irrigation work as those under which the landholders do not, as a general rule, pay any rate but carry out the earthwork and jungle clearing necessary for their construction and maintenance in part or whole. The Irrigation Ordinance of **1946** also defined minor irrigation systems as those constructed and maintained by the farmers themselves. The International Irrigation Management Institute stresses farmers' involvement in irrigation management when it is apt to use the term "farmer-managed irrigation systems."

It appears that all these definitions have identified the role of the community as well as the State in different periods of time in relation to irrigation. The earlier definitions lay a major emphasis on the role of the community whereas the current one underlines the role of the State. The earlier definitions assumed that the village existed formally unconnected to the government whereas the latter assumes that the village has lost its autonomy and it now exists formally and directly connected to the State. The irrigation system now belongs to the State and the villagers are beneficiaries who are supposed to treat the irrigation system as a communal property or a trust.

In Sri Lanka, the importance of irrigation differs fundamentally from area to area. In the dry and intermediate zones it is a question of provision of irrigation. In the wet zone it is a question of drainage. Therefore, the term "farmer managed water control system" is, perhaps, a more applicable term in the case of Sri Lanka as it allows the incorporation of all types of water-control systems whether they are tanks, anicuts, wells, streams, water-lifting systems, or water-conveyance systems. A water-control system is defined as having several subsystems such as the delivery subsystem, the distributory subsystem, and the drainage subsystem. This definition should also be appealing to the so-called beneficiaries whose problem is that they need water in and out of the fields whenever necessary.

HISTORICAL BACKGROUND

Historically, the early settlements were established where water was available, i.e., on river banks. The crucial factor for the formation of agricultural settlements was mobilization of labor for water control. On account of the communal type of production relations there existed no class of landowners. Surrounded by jungles and other natural conditions these communities existed with no formal linkages to the administration from the government. Any one who could mobilize labor for the construction of a tank could organize a settlement and claim proprietary rights over the use of land thus asweddunized. The tanks which were constructed in this manner were called

gamika vavi or village tanks. When the population grew beyond what the tank-based economy could afford, similar settlements were made in the same manner by the members of the same community under a popular leader. In a social sense, several such villages belonged to one community called variga. Sometimes several small hamlets were constructed in the same locality around the original tank and these were called gamgoda, which in fact belonged to one village. The leader of the community used the title "Gamini" which meant popularly elected leader.

Thus, historically there have been two basic issues (which are also important today): First, the question of how to mobilize labor, and for what purpose? In today's context, this is termed as the issue of popular participation. Second, the question relating to the nature of the relationship between the State and the community; this means how much power and authority be devolved to the community and to what extent there should be administration from the government.

RESTORATION OF VILLAGE TANKS UNDER COLONIALISM

The Irrigation Ordinance of **1867** gave legislative authority to the Public Works Department to repair village tanks. By **1889** as many as 2250 small tanks had been repaired. This process was necessitated by the perceived need for the preservation of peasants as a special group and the furtherance of peasant proprietorship on the one hand and the need to reduce food import bill as well as collect public revenue through taxation, on the other. The restoration of tanks was achieved through the imposition of forced labor upon the peasantry although the Rajakariya system was abolished in **1832**. In this process the isolated "one tank-one village" type of social formations were linked to the Central Government through a unified system of administration. New government institutions and a hierarchy of both British and Sri Lankan officials with a knowledge of the new procedures were superimposed on the existing social structure. This newly imposed structure *came* to be a permanent feature in the social formations. These officials filled the absence of landowners who could purchase land from the peasants who failed to pay taxes or whenever the government sold or promoted land sales. The purchase of land by these officials resulted in absentee landlordism as well as a complex nexus of production and exchange relations. Once the class of landowners was thus created, the development of the rest of the agrarian hierarchy proceeded at its own pace. The village now having lost its autonomy remained connected to the central administration and these connections as a rule were through the top level of the village-agrarian hierarchy.

It is seen that the new set of productions and the institutional structures (including bureaucracy) constitute important dimensions which impinge on the process-making improvements to the minor irrigation systems. The relevant issues to the nongovernmental organizations which are working in this area, relate to the identification of production relations and the social and institutional structure of the community which either inhibit or promote change.

Nongovernmental Organizations in Sri Lanka

M.H.S. Dayaratne

WHAT ARE NGOS?

Independent voluntary organizations free from government control and committed to positive changes in the communities where they work is one definition of an NGO. The term "nongovernmental" can also be controversial since there is direct or indirect involvement of the government for some of the NGOs. The United Nations system uses "Private Voluntary Organization" rather than NGO (Tedler, Judith 1982). The term "Voluntary Organization" may be more appropriate for these autonomous bodies because people volunteer to participate.

Generally, any informal group of people voluntarily organized around a common purpose could be an NGO or a Private Voluntary Organization. NGOs differ from one another in terms of their scale, scope, objectives, structure, and level of operation. NGOs can be divided into three broad groups:

- 1) International
- 2) National
- 3) Local

International NGOs may have their operations in a few or many countries; national NGOs are characterized by a network of their operation within a context of a country following a top-down control. Local NGOs are more autonomous bodies in the context of their restricted functions within a confined jurisdiction, and may be either localized or cover one or a few villages. The simplest type of local NGO could also be categorized as Grass Roots Organizations.

The objectives of the NGOs at any level may be religious, cultural, social, economic and/or environmental. According to the usual concept of NGOs (or Private Voluntary Organizations), they have several themes of action. They are viewed as: 1) being *good* at reaching the poor; 2) using participatory processes of project implementation; 3) being innovative and experimental; and 4) carrying out their project at low cost.

Often the criticism leveled against well-organized NGOs (both international and national) is that they follow too much of a top-down bureaucratic approach which has jeopardized their claim for being bottom-up and participatory in working with beneficiaries.

NGOS IN SRI LANKA

The NGO sector in Sri Lanka comprises a diversity of NGOs involved in community development. The term NGO in the Sri Lankan context is rather debatable, as the government is often directly or indirectly involved. Many local-level NGOs, e.g., Rural Development Societies, Young Farmer Societies and Youth Societies have been either initiated or at least encouraged by the government. There are many other voluntary organizations where government officials participate as observers or nonvoting members (e.g., Cultivation Committees, Wew-sabhas, and Water Users' Associations).

The term "NGO" is used in this **paper** (and also in the Workshop) in the broad sense of all the "voluntary bodies" working with or without government involvement. This paper tries to briefly assess the NGO sector in Sri Lanka and give a summarized account on the NGOs that have been involved in minor irrigation improvement.

Historically, in Sri Lanka there have been informal religious and cultural groups organized at the village level. The earliest formally organized NGOs were started in the early 19th century with a religious, welfare, and educational orientation. At present a large number of "Grass Roots Organizations" are functioning in the country. These are of different types such as Rural Development Societies, Self-help groups, religious societies, Wew-sabhas etc. Most of these are self-financing and sometimes Grass Root Organizations have been supported by the government and NGOs.

All in all, there are about 150 nonlocal NGOs operating in the country, according to a study done by Perera and Samarasinghe (1988). Of these about 35 are international organizations each of which has an office in Sri Lanka. Some of the Grass Root Organizations have been organized into more formal bodies with the consensus of the government. Well-known examples are the Rural Development Societies, which have been formalized under the Department of Rural Development, and Youth Societies formed with the consensus of the Ministry of Youth Affairs.

Of the NGOs involved in agricultural and rural development, only a few have a national-level structure, (e.g., Sarvodaya, Mahila Samithi, and Federation of Thrift and Credit Societies). In the Sri Lanka context the "Death Donation Societies" have the reputation as the only local NGOs which do not receive any support from a higher level (Government Organization or Nongovernment Organization), and function quite effectively.

Finances and other facilities are available from many sources for NGOs and Grass Root Organizations. However, not all the NGOs *can* fully utilize the resources due to organizational weaknesses.

GOVERNMENT POLICY ON NGOS

Successive governments have increasingly realized the importance of NGOs, as they could play a vital role in development and have a tremendous scope for expansion. Although there has been no single policy declaration by the government about the NGO sector other than the publication of the ruling party

manifesto in October 1988, it is clear from the government's interactions with NGOs, that the policy is one of noninterference and positive facilitation. It is also evident that the government has accepted the view that NGOs have more advantages than government organizations in working with and in reaching the different groups of beneficiaries among the target population and that NGOs can mobilize additional local resources. As mentioned earlier the government actively encourages, through its own programs, the promotion of Grass Root Organizations like Rural Development Societies, Women's Societies, Youth Societies, Farmer Organizations, Self-help groups, etc. Legal and administrative provisions and procedures too have been devised for registration of NGOs.

The present government's overall policy of relying on the private sector and private initiative has served as the basis for the present policy on NGOs and no restrictions are imposed on NGOs in obtaining foreign assistance. The Ministry of Plan Implementation has been entrusted to coordinate and monitor activities of foreign NGOs operating in the country. The government cooperates closely with the NGOs, is well aware of the NGO programs, and appears to believe that any attempts to control the NGOs would be counterproductive. At present the government policy has explicitly provided a major development role for the NGOs including its "Janasaviya" Poverty Alleviation Program, during the next six years.

NGOS INVOLVED IN MINOR IRRIGATION

Of the nongovernmental organizations involved in minor irrigation, only a few have irrigation rehabilitation or improvement programs, while the others tend to play an indirect role providing supporting services. To keep a logical sequence in the degree of involvement, the NGOs involved in minor irrigation are divided into 3 categories: 1) directly involved in minor irrigation; 2) indirectly involved in minor irrigation; and 3) having future programs.

A brief note on each of these NGOs involved in minor irrigation improvement is given in the following sections.

Sri Lanka National Freedom from Hunger Campaign Board. The FFHC is a cooperation established by a government act in 1973 under the Ministry of Agriculture with the objectives of securing aid from NGOs and using it for the welfare and economic development of the country keeping in line with the government programs. The FFHC is not an NGO by its origin but it functions as an NGO and it receives financial assistance from several international nongovernment bodies. Therefore we consider it as an NGO. The FFHC has its operations in 10 districts, including the wet zone, but its major involvements are in the dry zone districts (e.g., Anuradhapura and Moneragala) and its work depends solely upon human labor.

National Development Foundation. The National Development Foundation (NDF) could be defined as a variant of the FFHC approach. The National Development Foundation uses both manual labor and machinery for minor irrigation improvement work. It has minor irrigation projects in Kurunegala and Puttalam Districts.

Rural Development Societies... Rural Development Societies (RDSs) have functioned as grassroots organizations from the early part of this century. They have been active in organizing farmers for minor irrigation improvement without any outside assistance aiming at agricultural development during the pre-agrarian services period. From the late 1980s they have been allowed to take various contracts under different government agencies, including the Department of Agrarian Services and the Irrigation Department. They receive priority in obtaining government contracts without tendering. However, at present most of the Rural Development Societies are highly politicized, resulting in mismanagement and deviation from their original objectives of rural development. In each village of Sri Lanka there is at least one Rural Development Society at least in name.

Sarvodaya Shramadana Samithiya. Sarvodaya emerged to help people in supporting themselves as a self-help (Shramadana) program. It has a more community development rather than a physical development orientation. Their overall program is geared to adjust the people's values and morale around achieving common goals. Sarvodaya is the most prominent of the national level NGOs with representation in about 5,000 of the country's 22,000 villages. Under the Integrated Rural Development (IRD) program of Hambantota, the task of community development in terms of organizing settled people into coherent groups and developing assets (e.g., land, water etc.) **was** entrusted to Sarvodaya.

Federation of Thrift and Credit Cooperative Societies (FTCCS). The **FTCCS** is a charity NGO geared to provide the rural poor with credit for different social and economic needs. The societies are organized as cooperative societies at the village level, and the federation coordinates and monitors credit and related activities. The **FTCCS** helps in a wide range of economic activities such as agriculture, small industries, self-employment, etc.

Participatory Institute for Development Alternatives (PIDA). The PIDA has a strategy to change the process of development in favor of the disadvantaged groups by means of supporting and strengthening people's organizations and training group members in catalytic skills in stimulating such a process. The PIDA operates in six districts at present.

CARE (Cooperative American Relief Everywhere). **CARE** is an international NGO, which has very recently identified itself with a minor tank improvement program in collaboration with the Department of Agrarian services. The program is to improve village tank capacity by desilting them in three districts (viz. Kurunegala, Puttalam, and Anuradhapura). The program was scheduled to **commence** in **1989**.

PLAN International. PLAN too **has** identified itself with a small-scale program for improving minor irrigation schemes in the mid-country starting **1989**.

National Builders Association (NBA). The NBA has conducted **some** major irrigation assistance programs in Nagadeepa Mahawewa Scheme (Badulla) and Pimburettawa Scheme (Polonnaruwa) and it has now identified itself with a minor irrigation project in the hill country to be initiated in **1989**.

Other NGOs: The other NGOs involved in minor irrigation improvement are the National Heritage Foundation (program in Kurunegala district ended in 1976), the International Human Assistance Program (in Kimbulwana), and Community Aid Abroad (in Moneragala district).

Role of Freedom From Hunger Campaign in the Improvement of Minor Irrigation Systems in Sri Lanka

Dunstan Fernando

ORGANIZATION

The Freedom From Hunger Campaign (FFHC) is a public cooperation established in 1973 under the Ministry of Agriculture. Its development philosophy emphasizes: a) people's participation and rural poverty alleviation; b) promotion and encouragement of labor intensive projects; c) changing chena cultivators into settled farmers by providing permanent land with facilities for irrigation; and d) assisting the poor people to enhance their living standards.

STRATEGY

The strategy adopted by the FFHC to achieve the aforesaid objectives insofar as the minor irrigation systems are concerned has been renovation **and** restoration of village **tanks** in the Dry Zone. The activities involved may be divided into two categories: refurbishment of ancient **tanks** and rehabilitation of abandoned tanks. Following a request from the village, a socioeconomic survey is conducted by the FFHC which is followed by a feasibility study. On the basis of these steps, a preliminary selection is made where availability of land is also ensured. A tank bund/capacity survey will then be made and clearance of the Department of Agrarian Services and the Irrigation Department obtained. After going through these stages, Wew-sabhas will be formed and tank renovation and restoration work will commence.

Instead of implementing a small tank renovation program of its own, the FFHC enters into a partnership with the farmers using the means of storing water as a focal point for rallying them into a Wew Sabha and then help these organizations to plan and implement their own development programs. All earthwork is done manually by the Wew Sabha members and their families. The FFHC pays approximately US\$1.30 (Rs 40) for 0.028 cubic meters(m^3) (one cubic foot) of earth which enables a family to earn about US\$23.00-33.00 (Rs 700-1000) during the first three months.

EXPERIENCE

The Wew-Sabha system is a familiar institution in the village community as it has been in existence over a long period of time. Traditionally, the system has been formulated to collect revenue and also to ensure that each tank and its

irrigation system **was** maintained in good working order. The Wew-Sabhas of the present day are democratic organizations with annually elected office bearers responsible for the maintenance of the tank and the irrigation system. It has been designed to motivate the village community to discuss common problems and to find ways and means to solve these problems by themselves. This will not only ensure the improvement of their standard of living and quality of life, but also promote self-reliance, leadership qualities and capacities in the village youth.

The main functions of the Wew-Sabha are: a) to function as a catalytic organization; b) restoration work; c) repair and maintenance; d) regulation and control of issue of water; e) planning and regulation of cultivation pattern in the irrigated areas; f) planning of and participation in village agriculture development activities; and g) planning of the participation in community development and social welfare work.

PERFORMANCES

As of June 1989, the FFHC has completed 135 tanks out of a target of 222 tanks. About 3,100 farm families are estimated to benefit from the village tank rehabilitation program which will develop about 2509 ha (6,200 acres) of rice and 1902 ha (4,700 acres) of highland. The FFHC projects are financed by the Swiss Inter Co-op7eration, the Swiss Inter Census, the FFHC Australia, Community Aid Australia, and **WELTHUNGERHILFE**. Out of 14 projects planned under the program, 5 have been completed. Others are in progress.

CONSTRAINTS AND PROSPECTS

Among the major constraints identified are: a) the lack of experienced technical staff; b) the need for introducing new methods and techniques; c) The need for flexibility in the FFHC management system; d) insufficiency of funds; e) absence of a well-established maintenance fund; f) lack of coordination with similar organizations; g) delays in communication between the head office and the projects; and h) the need for decentralization of the FFHC management system.

As a result of the village tank rehabilitation program the hitherto under-utilized village resources such as land, water, labor, and other natural resources such as animals, forests etc., have been put into better use. The main lesson that has been learnt in the process relates to the need for organization of village tank rehabilitation work simultaneously with community-development work.

Minor Irrigation Tank Renovation Projects
of the National Development Foundation

Upali Magedaragamage

INTRODUCTION

The National Development Foundation (NDF) established in **1979** is a non-governmental organization registered under the Societies Ordinance of Sri Lanka as a nonprofit voluntary agency.

The objectives of the National Development Foundation are:

1. Build up villagers' self confidence to handle their political, economic, cultural, and social affairs by themselves.
2. Help villagers to identify their resources and to mobilize them to their advantage with least external help.
3. Assist villagers in realizing their strength and power so that they are able to know their rights and to demand them.
4. Mobilize villagers at the grass-roots level with the help of change agents to organize into groups to carry out development efforts in rural areas.

The management council of the National Development Foundation (NDF) is the supreme **body** which decides its policies, projects, and areas of development. Four out of seven members selected annually for the management council are from professionals for rural development and related fields. The other three are coordinating committee members. The management council meets once in two months to study the progress of various programs, to provide necessary guidelines and to make decisions on the NDF activities.

MAJOR DEVELOPMENT PROGRAMS

The National Development Foundation has so far carried out six major development programs excluding various other special projects.

1. Water management and re-forestation **program** supported by the Australian Freedom From Hunger Campaign (AFFHC).
2. Biogas and integrated farming projects with the help of the foundation for International Training (Canada) and the Central Bank of Sri **Lanka**. The Women's Program ~~was~~ funded by the Canadian High Commission, and at present it is funded by the AFFHC.

3. The Buffalo Bank Project in Minipe settlement scheme with the assistance of the Canadian High Commission.
4. Integrated Village Development project in five villages with the assistance of the AFFHC.
5. Cottage Dairy Development Project with the help of the National Livestock Board and National Banks.
6. Renovation of minor tanks in Kurunegala and Puttalam districts with the assistance of the AFFHC.

STRATEGY OF TANK RENOVATION PROJECT

A project planned out by the National Development Foundation (NDF), has several activities.

1. Renovate village tanks with the beneficiaries so that they develop some sense of ownership over the tank and maintain it by themselves.
2. Initiate and develop a suitable institutional arrangement which effects a proper coordination system between farmers and government officials.
3. Introduce modern agricultural techniques to small farmer groups.
4. Train some local youth as change agents of agricultural development.
5. Pave the way to organize informal educational programs for farmers.

The NDF started 16 selected minor irrigation renovation projects in Kurunegala District in 1984. The criteria for selection of minor irrigation systems are capacity of the tank, economic backwardness of the community which depends on the tank, farmers' desire for external help to improve their irrigation systems, lack of help from any other source to renovate the tank, and the landownership pattern under the tank.

The NDF coordinators, prior to the renovation of a selected tank, reach the farmers to carry out several preliminary investigations such as the socioeconomic background of the farmers and technical aspects involved in the renovation program.

First they meet individual farmer families and an effort is made to bring them together for group discussions. Finally, farmers are influenced to organize themselves as independent farmer societies. Once they are formed they are compelled to contribute to the society fund. This process takes time, for example in one renovated tank it took nine months to form the farmer society.

The socioeconomic survey helps the NDF coordinators to interact with farmer groups freely. Once a report is submitted to them, farmers feel that their problems are being addressed. With the farmers' participation the technical survey is carried out by the Technical Assistants of the Agrarian Services

Department. The farmers take part in the technical survey of tank bed, catchment area, bund, and command area.

The collected data is tabulated and a report is prepared by the NDF coordinators with the assistance of the youth selected under the tanks for training as change agents. They help the farmers (society) to evaluate their own situation and collectively discuss at the intervention stage. As a result of this farmer participation in the technical survey, they know the capacity of the tank, the quantity of water that has to be released to rice once renovated, and how to maintain the catchment area.

These informal training programs for farmers have helped introduce an effective water-management scheme under each tank. The farmers also appointed, on their own, committees to implement water-management programs, downstream-development programs, catchment development, and forest-cover- conservation programs. They also have organized their own farmer fund to which they contribute 10.4 to 20.87 kg (1/2 to 1 bushel) of unmilled rice or their equivalent.

Farmer societies together with the NDF coordinator request the Technical Officer of the Department of Agrarian Services to visit the tank and conduct the surveys on the tank bund, tank bed, and command area, and on other relevant technical aspects. Once these surveys are over, a ratification meeting is held with the farmers and the Technical Officers after which a project proposal is drawn up and submitted to the international organizations for possible funding through the National Development Foundation Head Office. Once the project is approved it is notified to farmer organizations and with the assistance of the Technical Officers of the Agrarian Services Department, final estimates and plans are drawn up for renovation activities. These plans are then discussed with farmer groups to ~~make~~ them understand the technical aspects of the project.

The National Development Foundation looks forward to continue this program in the dry zone of Sri Lanka and to share their experiences with NGOs and other state institutions in the future.

PERFORMANCE

The first project implemented in Kurunegala district included 10 village tanks. The total number of farm families benefited by this project is 172. Farmer organizations were formed for each tank and together they contributed over US\$3330 (Rs 100,000) both in cash and kind for the renovation whilst the NDF spent US\$40,000 (Rs 1.2 million). The estimated government contribution in terms of services etc., is around US\$10,000 (Rs 300,000).

FFHC and NDF in the Renovation of Village Irrigation Schemes:
Some Comparisons and Contrasts in the Planning **Concepts**

Kapila P. Vimaladharma,

It was only in 1988 that Dr. Jayantha Perera presented a brief assessment of the National Development Foundation (NDF) approach to village tank renovation as compared to the Freedom From Hunger Campaign (FFHC) approach. The comparison was **based** on the findings of his appraisal of the National Development Foundation's tank renovation program in Kurunegala District (Perera, 1987), and an appraisal of a similar program of rehabilitation of scattered village-reservoir communities in Anuradhapura by the FFHC (Perera: 1987).

In summary, Dr. Perera noted the following points:

1. Whilst the **NDF** is an NGO the FFHC is a statutory body; the former having a flexibility that the latter cannot have.
2. The NDF is eclectic in selecting tank communities since it does not specify a minimum and a maximum number of beneficiary households as a selection criterion whilst the FFHC insisted on a minimum of 25 households thus limiting the latter's scope.
3. Both agencies have similar objectives although the FFHC additionally placed emphasis on land consolidation and land redistribution.
4. Both believed in a "nonregimented intervention style" **and** both encouraged the initiatives of the communities though the NDF was more successful in ensuring community participation and self-management.
5. Both had mobilized the communities "labor" (at only half the wage rate) and some cash for construction and maintenance **work**; for management purposes, the beneficiaries were organized into their own associations.
6. The FFHC attempted to resuscitate traditional agricultural practices whilst the NDF encouraged integrated farming systems and other income-generating activities.

In this short presentation the ruling concepts and methods in project planning adopted by the two agencies are dealt with in relation to the different strategies of field implementation. An attempt is being made to compare the NDF's Kurunegala program with the FFHC's Siyambalanduwa program in the Moneragala District.

NATURE OF PROJECTS

Perhaps it is unfair to compare the FFHC's resettlement-oriented irrigation program at Siyambalanduwa with the tank-renovation program of the NDF. First, the objectives of the two programs are different, and hence the strategies too tend to be varied. More importantly, the political climate and security situation in the Siyambalanduwa were not conducive to field work by the FFHC staff, and this led to delays and disappointments in achieving project outputs and farmer participation.

The NDF tried chiefly to increase the productivity of lands already cultivated, though haphazardly, under the renovated tanks. If there were any additional extents brought under the plough as a result of increased tank capacity or due to saving of irrigation water, the increment was only marginal.

On the other hand, in Siyambalanduwa what is attempted is a far-reaching land reform coupled with a technological quantum jump; hitherto landless, scattered, encroacher families eking out an existence from chena cultivation were brought together in a planned nucleated settlement and each family provided with three separate allotments earmarked as a home lot, for rain-fed cropping and for irrigated rice. The rice lands were reclaimed from pittani lands (lands left fallow after swidden cultivation and have become meadows) and are irrigated from a newly constructed or renovated small reservoir. The transition from chena-cropping (swidden cultivation) to settled irrigated rice culture and cash-cropping indeed demands a substantial technological adaptation on the part of the beneficiary settler-farmers and innovative action on the part of the officials.

Controlled irrigation, rice culture itself, use of purchased inputs, and collective actions were all hitherto unknown to the majority of the former chena-farmers. Land development, consolidation of holdings and redistribution of allotments, therefore were crucial objectives of the FFHC's irrigation schemes in Siyambalanduwa. Thus, for the FFHC, the challenge was much greater and results more likely to be delayed and difficult than for the NDF. The latter had the advantage of having to work with long-established rice-cultivating communities. In this context the varying experiences of the two agencies do not lend themselves to simple comparison and perhaps such an attempt would be misplaced energy.

BLUEPRINTS

The outline of the strategy of mobilizing beneficiaries' labor and their participation in construction and operation and maintenance of the irrigation system is about the same for both the FFHC and the NDF, though there are notable differences in its implementation by the two agencies.

Most of the shortcomings of the FFHC would flow from its somewhat rigid adherence to what can be called a blueprint. It means that the objectives and the strategies of the FFHC's irrigation-cum-resettlement projects are invariably fixed beforehand and that too at the headquarters. The ecological "fix" that chenaing (swidden-cultivation) is deleterious is something that is debatable.

A misperception of what is taken to be chenaing can be seen in the Siyambalanduwa project. The farmers themselves call their enterprise a pittani cultivation for by now there is no prime forest land easily available for the practice of traditional chena. The farmers return to the same plot allowing only a very short fallow cycle of about 2-3 years by which time what was once a chena has become a pittani (meadow) and not a jungle.

We have observed in the field a few (perhaps rich) pittani cultivators ploughing with tractors, using chemical fertilizers and pesticides, and cultivating high-value cash crops (e.g., pumpkins) for the market. Such farmers defy the known definition of chena (swidden) farmers. Even after becoming members of the FFHC Tank Association, and thus becoming the target beneficiaries of the FFHC program, they are reluctant to give up pittani cultivation. For them, pittani give the cash crops and the new rice fields provide their subsistence food crop. This view is at sharp variance with that of the National Development Foundation. It further illustrates the planning problem associated with any blueprinted development philosophy and its associated strategy.

The concept of the model village which inspired the Freedom From Hunger Campaign program (Ratnatunga 1982) was one derived from a romanticized version of an idyllic Sinhala dry-zone village; a village republic in which there was said to be ecological balance, self-management, self-sufficiency, and high social cohesion. Such a static "village in the jungle" if ever it existed is, in any case, a rarity today and it has rightly been noted that "The ideal picture of villagers living in perfect harmony is a figment of the imagination" (Howes 1983 p.16). It is not surprising that today's rural people would, in fact, resist the recreation of such a model. Planning for its resuscitation, has inevitably become a top-down imposition.

In the implementation of a blueprinted strategy the scope for beneficiary participation becomes restricted from the beginning. Participation is perceived merely as contribution of labor for construction works. Such a view disregards the community's felt needs and its innate capacity to think and prepare what its members perceive as important and relevant. It also puts a premium on the time and efforts of the field staff in their constant attempts to direct, control and keep the flock on the right path. Innovative thinking on their part tends to be discouraged. Motivating and training the implementing officials also becomes difficult, and is further aggravated when the training itself flows from another blueprint which takes no cognizance of alternative methods as well as client and locale specific sociocultural differences.

In contrast, the NDF has adopted an open, pragmatic, and flexible approach in deciding on the type of project. The NDF lets the community decide the project it wants. It only helps technically and organizationally to perceive, plan, and implement the project that the community has agreed is best for them. The NDF therefore has no "model." Its charismatic leadership and closeness to the rural people who are of diverse circumstances are factors that would discourage the tendency to build one's own National Development Foundation model.

FIELD STRATEGY

Eking a resettlement project, the Freedom From Hunger Campaign (FFHC) conceived it as a comprehensive one encompassing technical, social, and organizational aspects. That perspective tends to make the project authority assume responsibility and to direct all activities in the belief that the other officials who are considered as too bureaucratic and not well motivated might even pollute the concept of the tank-based community that the FFHC was trying to promote. The involvement of and coordination with other governmental and NGO bodies in the area become restricted. This was evident in the Siyambalanduwa project in the early stages where the project was isolated from the other institutions whose intervention was even resented. On the other hand, the FFHC itself did not have the expertise and experience within itself, in settlement planning, agricultural extension, and agrarian change. The situation became worst for the beneficiary farmers, the wew-sabha members, who found themselves falling between two stools.

What happened in Siyambalanduwa in maha 1987/88 might illustrate this point. The agricultural extension which would usually be provided by the officials of the Department of Agriculture under its normal programs was not forthcoming because the project was considered a special one outside the scope of the department. The services of the Agrarian Services Officers of the area, e.g., Agro-identity cards, kanna meetings, estimates of inputs, and arrangements for their supply were not available to the Siyamhalanduwa FFHC farmers. The FFHC's own attempts to provide seed and credit in time were not synchronized with the agriculture calendar which was itself not properly drawn up. In these circumstances the farmers rely on their own resourcefulness; some borrowed seed rice from friends; a few who were members of the Cooperative Thrift Society which had been there before the FFHC project managed to get credit from it and in the process to revive it; some approached extension officers and knowledgeable farmers and obtained advice on an individual basis; they devised their own water-management system. In four of the renovated tanks most of the farmers did some rice cultivation which was their first-ever cultivation. The ill-effects of the isolation of the FFHC projects from the normal agrarian administration and agricultural extension system was brought to the notice of the FFHC authorities who have since then tried to seek out and coordinate the Siyambalanduwa-project activities with other agencies in the area.

On the other **hand**, the National Development Foundation (NDF) has from the beginning mobilized the services of the government agencies in the area. In fact, the field investigations and surveys, estimates, and designs for the **NDF** tanks were prepared by the Technical Officer of the Agrarian Services and extension work done by the officials of the Department of Agriculture. Close links are established with the Assistant Government Agent of the area and the banks. The **NDF** was able to bring its renovated tanks within the normal field programs of the other departments, **The** farmers have learnt a lot from these officers and from their own collective experiences and are quite confident of their own ability to sustain the renovated systems.

CONCLUDING REMARKS

Two other FFHC resettlement-cum-irrigation projects which were completed earlier were the Tanthirimale and the Wagurumale projects. These two programs have been found to be successful (Richards 1983; Howes 1984). The unfavorable security situation was responsible for the shortcomings in the Siyambalanduwa project. However, the argument in this **paper** is that the planning concept itself constricted the strategies and styles of field implementation.

One measure with which to assess the result of the two approaches is to look at the unit cost. In the Kurunegala projects the NDF has recorded a per tank cost of approximately **US\$3,807** (Rs **114,200**) whilst the FFHC in the Anuradhapura program has spent **US\$7,167** (Rs **215,000**) per tank (Perera 1988, p.22; Perera 1987, p.12). Admittedly, the above figures are too gross for a comparison. In any case the Siyambalanduwa costs may be even higher because of the additional costs of resettlement which the Anuradhapura projects did not carry.

Also, it is too early to come to conclusions about the Siyambalanduwa projects because the majority of them are not yet completed. However, the present management is aware of the need to be dynamic and client-responsive in planning and implementation. Though it is saddled with an inherited concept the need for innovative thinking action is not ruled out.

Role of Rural Development Societies in the Improvement of Minor Irrigation Systems

G.K.G. Perera

ORGANIZATION

Rural development as a government activity was first started in 1940 under the Department of Commerce and Industry. Under this scheme Rural Development Officers were posted to villages where rural development service centers were established. The main idea was to develop the village on a self-help basis. In 1948, a separate department was established for rural development, and in 1951, ten Provincial Training Centers were set up to train the office bearers and members of Rural Development Societies in community development. In 1952, the department initiated women's rural development societies and in 1954, they were given assistance from the departmental funds. In the following year, the Department of Rural Development was amalgamated with the Department of Cottage Industries. Once again in 1970, a separate department was created for Rural Development. In 1978, a separate ministry was formed for Rural Development and recently it was brought under the purview of provincial administration.

PROJECT

Rehabilitation of old village tanks and improvement of minor irrigation works were undertaken by Rural Development Societies for which assistance from the World Food Programme was obtained. Labor-intensive methods were employed in this connection and aid under the World Food Programme used as an incentive for voluntary work done by villagers. Under this project 6,000 tanks in the dry zone and 5,000 minor irrigation schemes in the wet zone were to be rehabilitated using 11,200,000 man days. A total of 13.6 m³ (480 cubic feet) of earthwork and 13.9 m² (150 square feet) of turfing were to be performed.

STRATEGY

The implementation strategy included the Government Agent as the central executing authority at the district level assisted by field staff of the Department of Rural Development. The Rural Development Society, as the village-level organization, organized work in the village.

EXPERIENCE

The work commenced in 1972 and the performance during the first six months exceeded the target. However, it slowed down since then due to drought and the project activities were subsequently suspended. A new project which also included tank rehabilitation was implemented in the drought-stricken areas.

The original project after 4 years of operation had achieved only 51 percent of the target and had utilized only 40 percent of the food aid. The project was extended by one year and was reformulated as the National Shramadana Programme. Consequently, the activities were accelerated during the first six months. However, the cyclone of 1978 affected the progress. As an emergency operation a post-cyclone rehabilitation program was conducted and the World Food Programme agreed to another one-year extension.

An Interior Evaluation Commission reported 86 percent of target achievement and observed that the schemes in the wet zone were too small and that they could do without World Food Programme assistance. It further noted that hardly any technological support had been provided either in the formulation or implementation of tank-rehabilitation programs despite the involvement of the Assistant Government Agent. At the end of March 1981 when the project terminated, 4,102 village tanks and 2,925 minor irrigation tanks had been completed using 11,697,541 man days.

Although the overall responsibility for the implementation of this project rested with the Department of Rural Development the Government Agents at the district level were responsible for the selection of the schemes, designing, estimation of man days, **and** distribution of the World Food Programme's food commodities. Technical assistance was supposed to be provided by the technical departments such as the Irrigation Department. However, as the Evaluation Mission has reported the Government Agents failed to consult and to receive technical advice from the related technical agencies. Frequently the provision of the structures such as spillways, outlet pipes, etc., was not made in time by the Irrigation Department, and in **some** instances, the financing process for such structures was initiated only after the earthworks were completed ~~which~~ led to long delays in the installation of the required structures. This meant long delays for the completed earthworks to be used by the farmers and frequently it led to deterioration of the completed earthworks even before they were put to use by the community.

Discussion

In the discussion that followed, Mr. Joe Alwis the chairperson of the session observed that the nature and the role of the NGOs have been romanticized to some extent and highlighted the tendency of the NGOs to disappear after a short period which he described as a "characteristic drawback." Noting the flexible style of the management of the NGOs, he raised two crucial questions:

1. In what ways *can* the NGOs be mobilized for maximum effectiveness?
2. Are we looking at the sustainability of the NGOs or the minor irrigation schemes?

According to Dr. Douglas J. Merrey it is not too difficult to stimulate the farmer, but the real question relates to the next logical step after a group of people has been motivated. Mr. D.G. Dayaratne claimed that the farmer organizations are not sustainable and that the assumption that once farmers have been motivated they will go on their own is invalid. According to Mr. U. Magedaragamage the role of the NGOs is to get the farmers to interact and develop their own skills. In his opinion, the role of the NGOs should be that of facilitator only. The stimulation *can* be sustained provided the NGOs are able to secure farmers' involvement, boost self-confidence, and inculcate a sense of ownership. The NGOs should not stop at tank rehabilitation. They should *go* beyond that and help the farmers to start other projects. It is essential that the farmers learn to generate their own funds and resources.

Mr. Joe Alwis responded with another series of questions relating to source of **funds**, the command area of the tank, the relationship with the government officials, the definitions of irrigation schemes, and the perceived role of the National Development Foundation. Mr. Magedaragamage replied that: a) the National Development Foundation is funded mainly by Australian Assistance; b) the tank capacity varies; c) the Department of Agrarian Services provides free technical assistance; and d) the National Development Foundation bears additional costs of food, transport etc. He added that because of the barriers between the farmers and the officials for meaningful dialogue to develop the government officials cannot organize farmers effectively, and therefore that the question of training government officials to do the work of NGOs does not arise. Dr. Panabokke observed that it is not fair to expect NGOs to answer the question of sustainability by themselves alone as it is a complex question puzzling all the social scientists. Mr. Jaliya Medagama stated that the Department of Agrarian Services has rehabilitated a large number of tanks, has held a number of useful training programs, and has identified various management problems.

Mr. Magedaragamage replying to another question by Mr. Alwis stated that it is important not to promise anything at the outset but to familiarize with the

situation, with the people including the women, before talking about **tanks** and cultivation. Mr. Kapila Vimaladharma observed that farmers' involvement, effective training, efficient organization, and adequate funds are crucial for a project to be successful. The Australian counterpart of the National Development Foundation informed that their organization has a time frame of three years after the commencement of the project for withdrawing from the community. Dr. Merrey questioned the rationale of the heavy dependence of farmer training and involvement in relation to sustainability. In his opinion, the sustainability depends on the availability of funds and government assistance. Mr. Joe Alwis countered that no matter what resources are available planning is all-important and the smooth and efficient working of the bureaucracy would contribute to the sustainability in a major way. It is necessary to know the boundaries of government involvement in NGO work. Some kind of guidelines will have to be developed in connection with each aspect of the project. Mr. Wickramasinghe observed that given the specific circumstances and the socioeconomic factors one should not be too heavily weighed in favor of replication.

Role of Sarvodaya in the Improvement of Minor Irrigation Systems

Sama Gunawardhana

ORGANIZATION

Sarvodaya the largest NGO in Sri Lanka was formed in 1958. It is funded by international donors (the Netherlands, Germany, France, USA, and UK). About 500 villagers actively participate in Sarvodaya activities. The philosophy of Sarvodaya views poverty as a manifestation of the inability of the individuals to satisfy basic needs. It has identified 10 integrated basic needs as being fundamental to individual and village awakening; environment, housing, education, water, health care, clothing, communication, food, fuel, and spiritual and cultural needs. It believes that the present communities located in remote areas are denied institutional services and attempts to fill this vacuum by providing the services directly through its own agencies and where necessary with coordination between the village and line agencies.

Sarvodaya work is organized at five levels: The Village; the Shramadana Division (a cluster of five villages); the Sarvodaya Division (four clusters); District; and the Region.

SELECTION CRITERIA

The first step in the selection of a project is the preliminary survey conducted by the Sarvodaya Rural Technical Services Division (SRTSD) where the relevant data are collected and estimates are prepared. In the process of doing so the villagers are oriented to the proposed project and necessary technical skills are passed through. A technical survey would be carried out if the survey determines that the project: a) is outside the responsibility of irrigation development; b) is feasible; c) serves economic objectives; d) serves social objectives; e) utilizes local skills and resources; and f) is economically viable. The project is then offered to the donor agencies and if the project is approved the SRTSD conducts a social and economic analysis. The funds approved by the donor are channeled through the Sarvodaya Shramadana Sangamaya (SSS).

STRATEGY

Shramadana or collective voluntary work is the driving force of the SSS at all levels. On receipt of the request by the village to join the SSS a team of Sarvodaya volunteers visits the village for a briefing which is aimed at creating a sense of awareness. On confirmation of the villagers' willingness to subscribe

to Sarvodaya an inaugural Shramadana Camp lasting about a week is organized. Here the village is treated as a single family which is the concept rationalized in the development process. At the conclusion of the inaugural Shramadana Camp functional leaders are chosen and the essential infrastructure consisting of five elements, namely, Singithi (preschool), Mau (mothers), Yowun (youth), Govi (farmers), and Samudan (shramadana) is organized in haulas (groups). The activities of these haulas or gatherings are coordinated by the Shramadana Samithiya. The center provides a series of essential services such as education, health, water, credit for housing, vocational training etc., through several agencies and where necessary the Shramadana Samithiya is mobilized to provide labor.

SARVODAYA IRRIGATION-DEVELOPMENT PROJECTS

Killinochchi farm. The project was funded by HELVITAS of Switzerland at an estimated cost of Rs 500,000. Extending over an area of about 12 ha the project involved the construction of an irrigation canal from Iranmaduwa tank to the farm and the development of an on-farm surface-irrigation system for the benefit of the people who had migrated from plantations.

Puttalam farm and Anuradhapura farm. The main system was made up of a network of ferro-cement canals and several pumping systems to lift water from the wells to be fed into the network from which the waste water was siphoned into the terraces. Horizontal wells were also dug up to increase the water yield. All these farms were designed to provide training on farming systems, extension, and livestock management with a strong emphasis in the management of the ecosystem, agro-forestry, and appropriate technology.

Thanamalwila farm. Funded by NOVIB of Netherlands, this farm has three tanks providing supplementary irrigation to about 20.2 ha (50 acres) of rice in maha and about 8.1 ha (20 acres) in yala. An additional 8.1 ha (20 acres) are irrigated through a lift-irrigation system from Kirindioya. During the construction phase, 100 volunteers received practical experience in tank rehabilitation, construction, and infrastructure development. This farm aims at developing a rice-centered farming system. Experience has demonstrated that the success of this system is dependent on the seed bed being ready for planting by mid-October, the latest, and planting being completed by the third week so that the crop could be brought in by February to allow enough lead time for the yala program.

Tank-based community development under HIRDP. The Norwegian Agency for International Development (NORAD) assisted a community development program under "Rehabilitated Tank-Based Settlement Project" of Hambantota Integrated Rural Development Program (HIRDP) starting in 1981. **Three** clusters of settlements, namely, Weliwewa, Mattala, and Gonnoruwa consisting of a total of **18 tanks** were developed by HIRDP; and Sarvodaya was requested to organize farmers to receive the expected benefits. The NORAD assisted Sarvodaya to establish its community-development work in almost all of these tank-settlements. The movement helped farmers to organize themselves for downstream development, marketing, etc.

CONCLUSION

Sarvodaya involvement in irrigation management has been very limited due to the diversity of its concerns, which are within the broad area of village development. The main thrust has been on mobilization of labor on Shramadana basis.

NGOs as Facilitators in Minor Irrigation Development:
A Case Study from Hambantota District, Sri Lanka

Inge Jungeling

ASSISTING MINOR IRRIGATION SYSTEMS

In Sri Lanka, there is a contradiction between the diversity in minor irrigation systems and the rigidity of the government programs that aim to increase agricultural productivity under these systems. Minor irrigation systems show a great variety in the fields of assistance to these programs, the use of the physical system, and the way water management is pursued. This variety is basically expressed by the different interests of water users in one minor irrigation system compared to other minor irrigation systems (because of agronomic features, location of the system in a chain of small systems, and possibilities for marketing of irrigated crops in a certain location), **and** by the different interests of water users within one system (because of labor availability, other employment opportunities, and individual networks).

The programs aim to facilitate a more controlled irrigation management as this would lead to a more efficient water use and thus to more prospects for higher yields. Such a controlled irrigation management is only sustainable if it is supported by the water users; and because the innovations introduced (which are basically the same for every system under these programs and which are based on the Walagambahu model) often do not suit the interests of water users the results of the programs have been meager.

The consequence of these meager results was (as happened in Hambantota District) that often more responsibilities in irrigation management were assigned to the field-level officers of the Department of Agrarian Services, to provide more facilities to the water users (e.g., cultivation loans) and to promote discipline among the water users. Interaction between the officers and the water users had to be pursued through a farmer representative but the (theoretical) legal authority remained in the hands of the Department of Agrarian Services. Although the results measured in agricultural productivity may be **good** in some systems, in general, such a program is not sustainable from the points of view of quality control and cost effectiveness. The field-level officer may not be able to cover the interests of the water users and will not be able to monitor the system constantly as he has more systems to visit and many other duties to perform. If these irrigation-management responsibilities are to be applied in all minor irrigation systems as is the current intent, the staffing intensity and the budget of the department would have to increase dramatically.

Consequently, irrigation-management responsibilities should be as much as possible in the hands of the water users and they themselves should decide whether more controlled water management is a profitable affair, considering their own interests. Theoretically, this means that water users should create a demand for improvement of their system and that the Department of Agrarian

Services should consider this demand and **may** respond with a flexible service supply (e.g., assisting in repairs or construction of physical structures, and assisting in the design of appropriate time tables). Also, water users should bear as much of the costs of the assistance as possible to enhance their long-term commitment to the system and for the Department to maintain cost-effectiveness.

Yet, water users **may** not know about the possible services that might be delivered to them and **may** not be able to cooperate in a way that a sustainable demand is created. The Department of Agrarian Services, on the other hand, is not well-gearred to engage in a complicated and time-consuming communication process with water users, especially when it has to concentrate on the ways to meet technical demands of water users (Jiggins and Roling, 1982). Hence a facilitator is necessary.

WHAT CAN BE EXPECTED OF NGOS?

The major NGOs active in minor irrigation development provide their assistance either directly to groups of water users with the help of field officers employed by the NGO (e.g., the National Development Foundation, the Sri Lanka Freedom From Hunger Campaign, and the Nation Builders' Association), or indirectly through village-level societies supported by that organization (e.g., Sarvodaya Shramadana Societies, Rural Development Societies and the Youth Clubs). The organizations of the last group are often government departments and the societies are often existing organizations that are sometimes used to improve small irrigation systems. In all cases the village-level activities are guided **by** a higher-level organization or umbrella organization. Some NGOs provide the technical support themselves as part of their program, while other NGOs envisage to obtain technical support from the Department of Agrarian Services (or from the Irrigation Department). Here we are concerned with the NGOs that mediate between water users and technical supporting agencies.

Whether an NGO is suitable to fill the gap between technical support in minor irrigation development and the need to **respond** to local interests depends on the actual objectives of the NGO, its approach in practice, and the field of decision making the NGO is asked and be able to participate in. In line with the abovementioned considerations actual objectives should be to evoke a long-term commitment of water users to a system and to assist in matching the different interests within the system with a strategy to improve the performance of the system and the required resource mobilization. In its approach the NGO should focus on a clear target group, the persons who have an interest in the system and on facilitating an autonomous decision-making process pursued by the water users, whereby the different interests are adequately considered (e.g., in addition to the interests of the direct water users, the interests of landowners who do not cultivate the land, of fishermen who use the tank, and of politicians). Such an approach will vary according to different locations. The fields of decision making in which the NGO is able to operate and allowed to do so depend on the relations between the NGO and other supporting organizations (e.g., technical-support agencies like the Department of Agrarian Services and donors, and institutional support agencies like the Planning Unit in the Integrated Rural Development Programs).

Not all NGOs involved in minor irrigation improvement are in themselves suitable institutions to enhance such a process: in Sri Lanka many government agencies supporting village-level organizations provide their services on the basis of supply rather than demand to members of the societies who are not necessarily water users only. This dilutes the required commitment of the water users to a system. Furthermore, some NGOs suffer from the project-specific nature of their involvement: the envisaged budget has to be spent regardless of the commitment of the beneficiaries. On the other hand, many water users have discovered the benefit of mobilizing such funds for their own goals (e.g., some cash income) which do not necessarily relate to improved irrigation management.

A CASE STUDY

Although the involvement of NGOs in minor irrigation development in Sri Lanka has been successful in a number of cases in Hambantota District this involvement has not been very fortunate. Here the Sarvodaya Shramadana Movement (Sarvodaya) has been participating in a tank-rehabilitation project under the Norwegian (NORAD) funded Hambantota Integrated Rural Development Program (HIRDP). The project started in 1979. At the inception of the command area (of 18 tanks) the project provided the beneficiaries with a complex of facilities ranging from public facilities (schools and health centers) on a cluster basis to assistance in putting up houses, and to assistance in the development of both the irrigated and the dry land. While the facilities were basically provided without consulting the beneficiaries' (Leelasena, 1987), the HIRDP recognized that beneficiaries' participation would be instrumental to successful project implementation especially when regarding irrigation management. In 1981, the NORAD contracted Sarvodaya to address this issue in the project area. In part of the project area Sarvodaya is still continuing its assistance.

Sarvodaya's main contribution to irrigation management in a number of tanks was its initiation of communal work camps for repairs to these tanks. Yet, such work camps were not continued on a regular basis (e.g., annually). In later stages of the project Sarvodaya shifted its attention to welfare aspects of community development (e.g., housing and preschools). The involvement of Sarvodaya can be seen as a complex of decision-making processes conditioned by: a) the contributions of the project-supporting agencies; b) the actual objectives of Sarvodaya; and c) its approach in practice. Accordingly, a number of shortcomings can be recognized:

- * NORAD and HIRDP never made clear what they actually expected of Sarvodaya and therefore did not translate vague expectations into concrete programs. This had two important consequences. First, it was difficult to give concrete support to Sarvodaya when it was not made clear what activities had to be carried out. Second, it was easy to change expectations when current activities appeared to be poorly performed, but still without creating the necessary conditions to achieve expectations. Sarvodaya from its side rejected too much external interference; it was convinced that its approach would be an asset to the project and was therefore not very open to discussions on the contents of its involvement. Here, it should be noted that the project started at a time when both HIRDP and Sarvodaya had to build up institutional capacity (and their approach) in the area.

- * There was no technical line agency that could support Sarvodaya in its activities. The Department of Agrarian Services started operating in the project area in **1984**. It required a lot of effort from the **HIRDP** to assist and guide the Department in increasing its operational capacity, in general, and in performing its duties in the project area, in particular. The involvement of Sarvodaya in this would have been an extra burden because by that time Sarvodaya was proven not to be very successful in its irrigation- management activities.
- * Since the beginning of the project evoking the commitment of the beneficiaries has not been a project strategy; it was assumed that the water users would use the facilities provided as envisaged. It is hard to reverse this process since Sarvodaya became involved in the project at a later stage. In addition, a number of **tanks** experienced severe water problems (even when rainfall was sufficient) limiting the possibilities for **Sarvodaya** to be involved in irrigation management.
- * The Sarvodaya approach, however admirable its goals are, was not very suitable to assist water users in improving irrigation management. Sarvodaya did not recognize a specific target group: all villagers within their area of attention were allowed to participate in the activities initiated by Sarvodaya. A broad awareness of the advantages of communal efforts was assumed to have its positive effects on irrigation management as well. The communal camps for repairs to **tanks** were more valued for their attendance by outsiders than for its effects on long-term maintenance capacity of the system. Furthermore, Sarvodaya provided its services on the basis of supply rather than of demand. Although *many* of the facilities provided did not have a direct relation to irrigation management (e.g., assistance in putting up houses, latrines, wells, and community centers) it had its effects on the way Sarvodaya was perceived by the project beneficiaries. The role of the community workers who were staying in the project area has been minimal and they were too little informed about the project itself and about requirements of irrigation management for an adequate involvement in irrigation management.

Although expectations might not have been fulfilled completely it is beyond doubt that it was, in principle, a good idea to involve an intermediate organization to work with the project beneficiaries. As was foreseen at the inception of the project the **HIRDP** and other supporting government agencies would not have been able to obtain the commitment of the project beneficiaries by themselves, given their current set-ups.

CONCLUSION

Any involvement of NGOs in such development programs needs careful consideration about what the NGO is supposed to initiate, how the objectives and the approach of the NGO suit the strategy of the program, and what is expected from supporting agencies. If the intervention process is managed by an organization separate from the NGO itself (e.g., **HIRDP**), that organization should be responsible for ensuring that the strategies of the different actors (water users, NGOs, and agencies involved) are compatible with the end results

envisaged. This leads us back to the concern about what is expected from water users in terms of commitment, resource mobilization, and actual responsibilities in irrigation management and what (flexible) service delivery *can* be expected from the Department of Agrarian Services over the long term (and not on a project basis). There is a need to clarify this complex of responsibilities in the first place.

Role of Participatory Institute for Development Alternatives in the Improvement of Minor Irrigation Systems

S.P. Wickramarachchi

ORGANIZATION

The general objectives of the Participatory Institute for Development Alternatives (**PIDA**) are: a) to initiate and participate in development action aimed at changing the process of development in favor of the economically and socially disadvantaged groups; b) to support and strengthen people's organizations; and c) to organize training in catalytic skills for participatory and self-reliant development processes. Established in **1981**, the **PIDA** currently has 15 researchers who operate as catalytic interveners in selected locations in 6 districts, namely, Hambantota, Matara, Galle, Colombo, Anuradhapura, and Kandy.

PERSPECTIVE/PHILOSOPHY

The Participatory Institute for Development Alternatives views village society as having a fundamental contradiction between a minority of dominant interests and the majority living in poverty. The relationship between these groups is often asymmetrical with the rich minority being able to control the very survival of the poor. As a result, a considerable portion of the production value of the small producer gets into the hands of the dominant interest group through low prices paid for produce, high prices charged for inputs, high land rents, and corruption of various sorts. This process leaves the poor impoverished and suppresses the rural productive forces and keeps the productivity at a low level. It also further intensifies and consolidates dependency structures of the village.

Moreover, the poor are divided on the basis of caste, religion, and other factors. The dependency attitudes and the lack of unity *among* them inhibit the poor from taking an initiative to improve their lot and make them non-innovative and non-experimental. This explains why it is difficult, if not impossible, for self-reliant rural development action to emerge spontaneously, on the one hand and why catalytic intervention is more often than not a necessary initial input to stimulate the poor for self-reliant action, on the other.

STRATEGY

The **PIDA** strategy differs from other techniques of intervention adopted by governmental or nongovernmental organizations in that the **PIDA** intervention identifies the poorer sections of the village society and stimulates them for group action to investigate, analyze, and change the reality of the village situation, not on the basis of a neutral or a technocratic approach. It is a

process of scientific inquiry into poverty by the poor themselves which results in a social awareness leading to a change in the fatalistic beliefs and in a search for action that the poor could themselves undertake to counter the impoverishment process. They begin to realize their own collective power to retain the surplus of their production and protect it from exploiters and use it for their own consumption and investment and with each group action they consolidate themselves and enhance the collective fund which is expended to the group's advantage. In this process they improve their access to resources on the one hand and enhance their confidence regarding their own ability to change the reality on the other. In this way a process of self-reliant development is initiated. The Ranna Vegetable Producers Co-operative Society is an example of how independent small-scale producers could get themselves organized to find a solution for themselves through a self-reliant development process. It has been able to gain control over the surplus and control and manage the market in addition to providing various other services either directly or indirectly to the community.

Discussion

The discussion session chaired by Dr. Chris Panabokke highlighted the following points: a) Sarvodaya, the largest NGO, does not directly involve itself in irrigation-systems management; b) it is difficult for the government agencies to identify correctly the schemes to be rehabilitated and the NGOs could **play** a crucial role in this connection; c) the NGO is important as a facilitator; and d) donor contribution, mobilizing machinery, and other physical resources are important factors to be reckoned with.

Dr. Panabokke noted that each NGO has a different approach and that there is a need to clearly define the role of the **NGO**. Mr. Joe Alwis claimed that an NGO is essentially a helper rather than an organizer or a teacher. The biggest advantage that the NGOs have over the government agencies is better communication with the farmers. He observed that most projects tend to collapse after withdrawal of the "project" and the main aim of the NGOs should therefore be to strengthen the farmers to stand on their **own** feet and build up self-confidence. Mr. Dayananda (UNDP/WFP) brought up the view that the general perception that projects tend to fail after the withdrawal is an outsider's point of view. However, it was observed that looking at it internally one may realize the impact of the project.

Mr. Medagama argued that it is essential the NGOs and the government agencies work together. Mr. Joe Alwis pointed out that it is difficult to generalize the situation given the presence of a large number of variables. While noting that the government agencies can learn a great deal from the NGOs the government agencies can also provide them with much needed support.

Role of CARE in the Improvement of Minor Irrigation Systems

M.C.C. Illangakoon

CARE (Co-operative American Relief Everywhere) is a recent entrant to the Agrarian Sector having just formulated a four-year project on rehabilitation of minor irrigation tanks. It has been presented to the donor agencies and it is very likely that the project will be implemented soon.

PROJECT IDENTIFICATION

The fact that a large number of families are dependent on the minor irrigation systems has provided justification for intervention by CARE. Particular attention has been drawn to the relatively small extent of rice cultivated during the yala season, and its direct relationship to the reduced storage capacity of the village tanks which is due to inadequate maintenance and continued silting over the years. This has resulted in the reduction of crop area, yield, and even crop failures. A second crop in the yala season is virtually impossible due to lack of irrigation water. This has caused malnutrition; this has also caused the farmers to resort to chena cultivation practiced in the catchment area of the tank aggravating the problem through accelerated soil erosion, loss of water storage in the soil, and environmental deterioration.

Having identified and analyzed the problem besetting the agrarian communities in the dry and intermediate zones, CARE has proposed that if the present water-storage capacity of these tanks could be increased it will contribute to increased cropping intensities and agricultural diversification and minimize the incidence of chenaing, thus preventing further damage to the environment. The process of intensification and diversification would lead to increased women's participation and nutritional standards of the families.

CARE's perception of these problems and their interrelationship is admittedly a result of its past activities with small farmers and their families on the one hand and its appreciation of the relevant work done by institution like ARTI and IIMI on the other. During the drought in 1987 CARE was involved in a "food for work" program which mainly concerned itself with restoration of small irrigation tanks. Through need-assessment surveys and discussions that had been held with farm families, tank committees, and other village-level officials the farmers have aired their views of these problems and their suggestions on how to tackle these problems. Relevant work of IIMI and ARTI has sensitized CARE on the relative merits and demerits of various strategies as well as on the need to train farmers in the economic use of irrigation water, the efficient management

and maintenance of these small tanks, and the need to consult the farmers before restoration work is undertaken.

PROJECT GOALS

The final goal of the project has been "To increase the income and improve the quality of life of small farmers and their families who live on and cultivate land irrigated by small village tanks." Under this final goal three major objectives have been identified: a) to restore and rehabilitate 280 minor irrigation tanks through de-silting, strengthening of bunds, and effecting minor repairs; b) to increase the cropping intensity; and c) to promote the cultivation of vegetable and fruits in the home gardens, and consumption of the same.

PROJECT IMPLEMENTATION

The strategy adopted by CARE involves the co-operation of the relevant government agencies, mainly the Department of Agrarian Services and the Agricultural Development Authority. A brief description of this strategy in terms of each intermediate goal is given below:

Restoration and rehabilitation of minor irrigation tanks. The first step is the organization of farmer groups and the election of the tank committee, if none exists already, with a view to: a) explaining the nature of the work to be undertaken; b) obtaining the views of the farmers; and c) ensuring co-operation and participation of the farmers.

Farmers are expected to contribute 25 percent of the estimated cost either by cash or labor and the Provincial Council and CARE would contribute 25 percent and 50 percent, respectively. The tank will be surveyed so that any encroachment will be discovered. The encroachers are persuaded to quit and if persuasion fails they are evicted by the Government Agent.

The Department of Agrarian Services would provide an earth-moving machine and an operator. The tank committee would provide shelter for the machine and its operator and security for the equipment, fuel, and oil at the site. Desilting will not involve deepening the tank or raising the height of the tank bund. Once the de-silted earth has been deposited as required the earth will be consolidated and grass seeds planted.

Desilting operations are carried out in the dry season and the repair work needed on the spill, sluice, pole points, and steps as well as on the channels themselves would be undertaken once the desilting and the bund strengthening work are completed.

Increase of cropping intensity. The activities identified in this connection are the conservation and economic use of irrigation water, the correct timing of cultural operations, the use of rain water for land preparation, carefully controlled rotational water issues from the tank, and the adoption of better cropping practices such as dry sowing and the use of new or improved crop varieties which are less water-demanding but more profitable than rice for a

second crop. It is expected that as a result of these activities, cropping intensity will be increased from about 75 to 180. These innovations will involve training classes for farmers and members of tank committees. The farmers will require credit and marketing facilities and it is proposed to persuade Multipurpose Cooperative Societies and Cooperative Rural Banks to provide these.

Cultivation of vegetable and fruits in home gardens. It is hoped that by improving the diet which is deficient in minerals and vitamins the quality of life of the farm family would be improved. It is therefore intended to promote the cultivation of vegetables and fruits in the home gardens. This enterprise will be undertaken by farm women and surplus family labor will be utilized during slack periods in the cultivation of rice. With increased production not only will consumption of these items be increased but a surplus will also be available for sale thereby increasing income. This program will also entail training classes for farm women on nutrition, techniques of vegetable and fruit cultivation, and vegetable and fruit preservation.

Training. A large training component is involved in the realization of each intermediate goal. The target groups will cover government officers, farmer representatives and leaders, farmers, and farm women. The training program would be timed for the period when the desilting operations and cultivation operations for maha and yala are not being conducted.

MONITORING AND EVALUATION

The mechanism adopted involves field visits and observations at each location, interviews with farmers and farm women, and scrutiny of any written records maintained by farmers, farm women, and the government officials. Before restoration work is commenced baseline **data** will be collected **and** at the end of the second year formative evaluation is conducted which will recommend ways of improving the implementation.

At the end of the fourth year there will be a final evaluation which will measure the attainment of the final goal in terms of increases in the total income, cropping intensity, **and** consumption crops produced in the home gardens.

Strategy of PLAN International in the Improvement of Minor Irrigation Systems

Daya Peiris

INTRODUCTION

Foster Parents Plan International (PLAN) is a non-profit, nonsectarian intentional organization providing development assistance to needy children, their families, and their communities in 25 developing countries through 75 field offices in Asia, Africa and Latin America. It is supported and sponsored by individuals and community groups in Australia, Belgium, Canada, Japan, the Netherlands, United Kingdom, United States of America, and West Germany.

PLAN began working in Sri Lanka in 1981 on the invitation of the Sri Lanka Government. It works under the auspices of the Ministry of Policy Planning and Implementation at the national level. At the local level PLAN works with AGAs, Gramasevakas, and officers of other local establishments. At present PLAN operates in the AGA divisions of Gampola, Harispattuwa, Kandy Graverts, Patha-Hewaheta, and Minipe in the Kandy district. In Badulla district PLAN operates in the AGA divisions of Ella, Hali-Ella, and Soranatota.

STRATEGY

The primary objectives of PLAN is to strengthen the environment of poor children by assisting their families through programs in health, education, community development, and income-producing skills. PLAN development approach is people based. Hence PLAN assists in the formation of cohesive community groups under local leadership. Present and potential leaders are trained in a variety of leadership functions and are provided with skills necessary to utilize locally available resources and technical assistance to the fullest extent possible.

PLAN encourages, motivates, guides, and trains these leaders/groups to first identify clearly their most essential or burning problems; then they are facilitated to identify the causes and set objectives; select, plan, design, and implement project activities that will address these issues through the elimination of the causes. Past experience in assisting similar community-based infrastructure projects have shown that the beneficiaries support and maintain only those projects they have identified to be very needy and have been actively involved in. This ensures that the activity/project is of the beneficiaries rather than of PLAN (or of the supporting agency). These are designed in a manner that will make the maximum use of beneficiaries' own and available resources without depending entirely on PLAN. Further, PLAN does not provide

handouts or outright grants but only what the beneficiaries cannot provide/obtain by themselves.

MINOR IRRIGATION PROJECTS

Up to now, PLAN has not been involved in minor irrigation projects. However PLAN's target families in Gampola, Kandy, and Badulla have requested assistance for construction/renovation of minor irrigation systems that would facilitate their agricultural livelihood activities. PLAN realizes that this is a very important and needy area and is more than willing to assist such projects. However, as they do not have the necessary expertise/experience, they look forward to whatever technical assistance, advice, and guidance that agencies such as IIMI, the Department Agrarian Services and NGOs that PLAN considers to be valuable resources, could provide.

PLAN's criteria for selecting minor irrigation systems for assistance are as follows:

1. It should be a felt need of the beneficiaries of whom at least 25 percent should be PLAN target families.
2. It should be located within an operational area of PLAN.
3. Beneficiaries should be willing to participate actively and contribute their maximum in whatever form possible. i.e., labor, materials, supplies etc.
4. Beneficiaries should be willing or devise a method to look after and maintain the project after completion.

PLAN's strategy for mobilizing people's participation is through constant dialogue and active involvement of potential beneficiaries from identification to implementation and monitoring of the project.

As mentioned earlier, PLAN Sri Lanka has no previous experience in assisting minor irrigation systems. However PLAN has assisted similar community-based infrastructure activities/projects such as re-forestation, water systems, bridges/culverts etc. Some of the following lessons which PLAN learnt may be quite relevant to assistance for minor irrigation systems too:

1. The type of project should be based on the actual felt needs of the potential beneficiaries.
2. The beneficiaries should be fully aware of/made aware of the benefits of the projects prior to design and implementation.
3. The beneficiaries should be fully involved in all possible stages of the project and their views, opinions, and ideas considered/discussed at all times.
4. The beneficiaries should be given as much responsibility as possible during all stages of the project.

5. There should be a constant dialogue and rapport between the technical advisers and skilled laborers e.g., masons (with regard to estimates etc.).
6. All estimates, budgets, and controls should be discussed with the beneficiaries/implementing committees and agreed upon prior to starting the process of the project.
7. The convenience of beneficiaries should be given priority over that of the supporting agency/staff, particularly with regard to fixing times for meetings, activities, labor, and schedules.
8. Relevant aspects regarding monitoring, maintenance, and possible constraints (legal, political, etc.) should be considered at the start and planning stages.
9. A clear-cut, simple (as possible), practical plan of action of project proposals should be made and followed. Responsibility for monitoring and participatory evaluation should be delegated to beneficiaries too.

PLAN considers other NGOs and government institutions as valuable resources. Their assistance should be obtained whenever possible to ensure that resources are not wasted due to duplication of efforts, and also ensure sustainability and continuity, once PLAN pulls out of the area.

Discussion

The discussion session was chaired by Mr. Jaliya Medagama who highlighted that the ultimate goal of all NGOs and government agencies as well as the farmers is to increase the cropping capacity. The question of cost- effectiveness of tank desilting was raised in this discussion. However, it was observed that even though there will only be a little gain in production most of these tanks are also used for domestic purposes. The question as to who the real target group of the NGOs where tank renovation is concerned was also raised.

Whilst it was observed that the target group could be a section of the community or the whole community and that the approaches could also differ because of the donor's needs, likes, and dislikes there was a fundamental question relating to the suitability of NGOs to help the downtrodden and the exploited or disadvantaged group. NGOs sometimes tend to work independently of each other and of the government thus duplicating each other's work. It was observed that although the government agencies can learn a lot from the NGOs the government has more influence, power, and resources. Therefore there is a need for NGOs and the government agencies to work together in order to attain common goals.

Recommendations

At the final discussion session which was chaired by Dr. Douglas J. Merrey the house was divided into two discussion groups to make recommendations. After lengthy discussions two sets of recommendations were presented by two group leaders, Mr. Kapila Vimaladharma (Group I) and Dr. David Groenfeldt (Group II).

RECOMMENDATIONS OF GROUP I

Group I comprised largely of participants who were directly concerned, in one way or another with the policies and projects of NGOs in the field of improving irrigation services in small-scale irrigation schemes. After a review of the proceedings and discussions of the day the group adopted the following criteria and headings in making recommendations:

1. Resource mobilization
2. Sustainability
3. Cost-effectiveness
4. Equity considerations
5. Flexibility
6. Donor influences

The above listing also reflects the order of importance that the group placed on them.

Resource mobilization

NGOs seem to rely more on the external sources for funds and projects and less on mobilizing local resources. However, NGOs show a much greater flexibility and diversity in their approaches, and seem to be guided more by felt needs of the community and less by political pressure. Policy should encourage and facilitate these flexible approaches of NGOs. The same degree of accountability to the public that government institutions are required by law to adopt cannot and need not be expected of NGOs; only that NGOs should be more results-oriented than at present. NGOs could profit from closer collaboration with the government in order to draw upon the latter's resources and expertise. An improved and institutionalized communication and feed-back system between NGOs and the government could benefit both parties.

Action research to identify and evaluate the contextual factors that determine the differential performance of NGOs amongst themselves and in comparison to government organizations is a field in which researchers could contribute to a better understanding of the subject.

Compared to government organizations what NGOs seem to suffer from most is the lack of adequate technical expertise. Mobilizing the technical expertise and skills available within the government can have a positive impact on NGO's own performance. On the other hand, cooperation and coordination between NGOs also seem necessary to draw from each other's pools of skilled personnel and training facilities.

Sustainability

Physical, institutional, and management sustainability should always be made an explicitly articulated objective of any NGO project. A disengagement plan, specifying when and at what point the NGO will withdraw from active and catalytic type of involvement would best serve that objective. Development of farmer organization and management capability, savings accounts and local finances, trained members and leaders are some of the often cited indicators of sustainability. Postevaluation studies of completed projects are often neglected. There is a need for in-depth research on the determinants and the processes and sociopolitical contextual factors that ensure sustainability.

Cost-Effectiveness

It is an important factor for the government especially when it comes to the maintenance sphere. In the case of NGOs the variations in the unit costs are wideranging. A performance evaluation so that one could ascertain whether NGOs are more cost effective, as is claimed, becomes necessary.

Equity Consideration

Because NGOs are, in general, not subject to political pressure and non-bureaucratically organized they are better placed to deal with equity concerns and to target towards the disadvantaged groups. In the field of small-scale irrigation it was revealed that NGOs had picked up projects and communities that were left out by government agencies due to the latter's rigid adherence to technocratic selection criteria. This catholicity of NGOs is to be encouraged.

Flexibility

A distinguishing feature of NGOs is their flexibility in approach, style, and strategy. Interference with their flexibility should be discouraged. On the contrary, government agencies could profit from the experience of NGOs.

Donor Influence

It was noted that the ideology of the donor would, however imperceptibly, influence the strategy and approach of the national NGOs and also the type of projects and communities selected. On the other hand, NGOs are in a better position than the government to prepare sound projects which will certainly attract donors. On the contrary, where policies and projects are not well-prepared donors could get away with what they want.

Therefore, the advantage of NGOs to formulate sound projects should be exploited fully and this in itself can be fed back to government agencies.

RECOMMENDATION OF GROUP II

The members of Group-II included NGOs that are indirectly involved in minor irrigation work and other interested participants. After lengthy discussions on the relevant papers and the proceedings the following areas were identified towards improving their performances in this sector:

1. Identification of key persons to act as catalysts.
2. Knowledge on government policies affecting NGOs.
3. Potential for collaboration with the government.
4. Specific responsibilities of NGOs.
5. Coordination between Government Organizations and NGOs.

Role of Catalyst

The role of catalysts was observed as being crucial although as a rule it has been played by an outsider. This had implications for sustained system management. Therefore, it was recommended that there is need to identify these persons within the community to play the role of catalyst. A member who has a permanent interest in the community is better equipped to do the needful.

Government Policy on NGO work

The group observed that there has been a remarkable absence of clear-cut policies or even guidelines which would enable the NGO to identify areas of work and establish working relationships with the government. Hitherto it has been a case where the NGO decided, on its own, the areas of operation. It is an institutional weakness which debilitates transfer of responsibilities and sustainability.

Collaboration

There is a need to know what the government can do jointly with NGOs. NGOs as well as Government Organizations which exist to serve the people have their own limitations which would be overcome by way of collaborative work. It should be recognized that NGOs are not alternatives to Government Organizations. Rather they are meant to be complementary and supplementary to the government efforts.

Specific Responsibilities of NGOs

There is a need to avoid repetition and overlapping of work between Government Organizations and NGOs. More specifically it is necessary to know what NGOs can do than to know what Government Organizations can do in order to mobilize resources efficiently. It is an important aspect considering the financial constraints of the third world countries. The fact that the NGO staff is not bound by the same rules and regulations as the government officials gives them greater flexibility and freedom which makes it all the more necessary to know in advance what NGOs could do over and above what the Government Organizations can do.

Coordination

What emerged from the above recommendations was the need to recognize in principle the coordination between Government Organizations and NGOs. The group observed that at the national level and the district level this may have already been achieved though with little effect being felt at the project level. There should be coordination at least at the Assistant Government Agent level which is both practical and manageable.

Concluding Remarks

The papers and follow-up discussions of the workshop critically reviewed and assessed the approaches, strategies, experience, and performances of NGOs relating to the minor irrigation sector. The workshop was successful in achieving its objectives.

The NGO approaches vary from rigid blueprint type (e.g., FFHC) to flexible, problem-oriented, participatory type (e.g., PIDA). This reflected the difference of interest of NGOs which in turn indicated the preferences of the different donor agencies supporting the individual NGOs. However, it was a striking observation that each type of approach demonstrated its bent to motivation of farmers in groups. Nonetheless, the same concern did not appear to be present for evolving mechanisms for sustainability. It was also revealed that most of the NGOs too have created a certain degree of dependency for system management like the government agencies. Yet the essence of sustainable system management emerged during the workshop presentations and discussions. From the proceedings two aspects of sustainability were highlighted:

- a) Sustainability of system management through farmer involvement, effective training, and efficient organization within the community (community-centered sustainability).
- b) Sustainability of system management based on government-agency assistance and fund availability (agency-centered sustainability).

The community-centered sustainability has to be attained through motivated group involvement after NGOs are gradually pulled out. The mechanism imposed on the community responsible for system management should essentially be one that creates a sense of ownership in the community. This would probably bring back the sound "Farmer-Managed Irrigation Systems" (FMIS) which has been the experience in ancient Sri Lanka. The NGOs' inherent nature of flexibility and ability to motivate people for self-management has to be correctly used in creating the above mechanism.

Agency-centered sustainability would be a bureaucratic and complex affair as system management has to be achieved through officers or agents who are required to follow a certain set of procedures in order to get farmers' participation for sustained management.

The NGOs too have acted as officers creating a considerable degree of dependency for system management. The major reason for NGOs to behave like bureaucrats could be the fact that most of the NGO workers have originally worked in government or semi-government agencies.

The sustainability in system management has become a puzzling question for social scientists which has to be solved as a joint-venture between Government Organizations and NGOs. Both parties have experimented a series of participatory system-management projects during the past decade. Although the Government Organizations and NGOs have had cooperation there was no clear understanding between them as to their specific roles and functions. As such, there are evidences for overlapping, wastage of resources, and conflicting activities etc. NGOs are not perceived socially as alternatives to Government Organizations and as such, it is necessary that the government regulate NGO activities so that at least near optimism of resource use and sustainability could be achieved.

The system sustainability cannot be attained during a short period of time but the hitherto experimented strategies of both Government Organizations and NGOs could be systematically applied provided different environmental conditions are taken into account since a "rigid model" cannot be replicated in the context of sustainability. Thus, ways and means of such a feasible "Farmer-Managed Irrigation Systems" is mandatory for IIMI's future FMIS research.

It is encouraging to note that NGOs having future programs for improving minor irrigation systems (e.g., CARE and PLAN) have made the availability of active farmer organizations a prerequisite for their intervention.

BIBLIOGRAPHY

Agrarian Services Act No. 58 of 1979. Government of Sri Lanka, Colombo.

Arumugam, S. 1967. Water resources of Ceylon, its utilization and development: A Water Resource Board publication, Colombo.

Bastianpille, B. 1970. The revival of irrigation enterprises in Ceylon, 1870-1890: Ceylon Journal of Historical and Social Studies, Vol. 10, Nos. 182

Hower, Mitchael. 1984. An evaluation of the Sri Lanka National Freedom From Hunger Campaign Board's small tank renovations and rural development: A technical report of the human Resources, Institutions and Agrarian Reform Division, Food and Agriculture Organization, Rome, Italy.

Leelasena, W.M. 1987. Integrated rural development programs in Sri Lanka with special reference to Hambantota Integrated Rural Development Program: Progress, Vol. 7, Issue I, March 1987: pp 34-35. Colombo, Sri Lanka: Ministry of Plan Implementation.

Moore, M.P. 1988. Maintenance before management: A new strategy for small scale irrigation tanks in Sri Lanka?: ODI/IIMI Irrigation Management Network Paper 88/2e (Dec). London, England: Irrigation Management Network, Overseas Development Institute.

Perera, Jayantha. 1988. National Development Foundations tank rehabilitation program: An appraisal. Switzerland Inter Cooperation.

Perera, K.P.G.M; Samarasinghe, L.M. (1988). AD regional study on cooperation with non-government organizations in agricultural and rural development projects, Sri Lanka country profile report: Forum of Development. Kegalle, Sri Lanka.

Ratnatunga, P.U. 1982. Article on small wewa village community rehabilitation programme. Colombo: Sri Lanka National Freedom From Hunger Campaign Board.

Richards, Bob. 1983. The SLNFFHC/ECARD Tantirimale tank restoration and village development project. Colombo: Freedom From Hunger Campaign.

Tedler, Judith. 1982. Turning private voluntary organizations into development agencies: Questions for evaluation. AID Program Evaluation Discussion Paper No. 12. Washington, USA: United States Agency for International Development.

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