iii) Financing Methodology

Donors provided 80% of the total finance extended by the fund to the projects in form of a grant while the Government of Kenya provided 20%. Danida's total contribution was DK 215 million (equivalent to US$ 114 million) and their TA amounted to 77 person-years (estimated US$ 5.5 million). The RDF provided finance for investments only (civil works etc.) and did not maintain a strict monitoring of performance of the projects, such that it is difficult to tell exactly how many of them were completed and became operational. It has been reported that "... it is clear that many of the projects were never completed or never became operational for one reason or another."

iv) Outputs

An estimated 6,000 small investment projects were financed by RDF around the country and these fell in three major categories:

- *social infrastructure* (schools, village polytechnics and health facilities, etc.),
- *economic infrastructure* (water supply, roads and bridges, tree nurseries, cattle dips, etc.)
- *production-oriented projects* (small scale irrigation, dairy and poultry production, pigs and goats projects, bee-keeping, fishponds, handicrafts, etc.).

v) Evaluation

- Success of the projects depended on the availability of supplementary inputs, markets and funds for operation and maintenance, etc.
- An independent auditor review revealed that only 16% of the total funds made available to the RDF had been pilfered and 84% was in fact used to finance small projects as intended.
- Funded projects often did not follow the regulations governing the operation of the fund.

vi) Conclusions

- The impact of the RDF project was less than expected.
- The project was particularly "poverty-oriented" as it targeted poor rural communities.
- The project supported decentralisation by availing project funds to the district.
- While the objectives of the fund and its rules of operation were specific, the financial contributions to the RDF were not tied to specific inputs or projects. This resembles the idea behind the programme approach, whose aim is to provide aid as untied transfers.

CHAPTER 4

RELEVANT CONCEPTS

4.1 Village, Rural Area and Rural Development

The 'Allwords.com English Dictionary' defines a village as 'a group of houses, shops and other buildings, smaller than a town and larger than a hamlet, especially in or near the countryside'. The people living in it are regarded as a community. Villages are generally found in rural areas. A rural area may be defined as that which lies outside of cities and towns. In the USA, a rural area has been defined as an area which is outside the outer boundary of any city and its metropolitan area with a population equal to or greater than 50,000[25]. In Africa, townships may be smaller than this but still, the area surrounding them may be regarded as a rural area.

The demarcation between rural and urban areas, in many cases, is not clear because of complex features and variables including physical developments such as housing, factories, agricultural land, and so on. The demarcation is made even more difficult by the presence of infrastructure such as roads, bridges and railways which link rural and urban areas. Under such circumstances, a rural area could be defined as "a human colony or settlement which has derived its livelihood from agriculture throughout its history".

The concept of a local community may be easier to define because it relates to the physical extension of the object of the development scheme which may be a city, town or village, usually with clear administrative borders. Ordinarily, the target area for rural development does not include places where there are no inhabitants nor where there is an absence of a productive activity (mountains, barren land, desert, etc). Therefore, *'noson kaihatsu'* in Japanese may better represent 'local community development' instead of 'rural development'. It concerns mainly the differences between rural and urban community life. On the other hand, rural development is mainly concerned with decreasing the gap between the livelihoods of the village and urban dwellers.

Local community development appears to be geared to achieving agricultural (food production, fishery, forestry, etc.) development and community infrastructure improvement, while rural development mainly focuses on human development including the improvement of living standards in general rather than just agricultural development. The focus of economic development in these two paradigms is both the household as well as the national economy, where, in the former, the effects are seen in the changes in the household budget, and in the latter, the effects are seen in terms of the contribution of the rural economy to the national Gross Domestic Product (GDP).

4.2 Integrated Rural Development Programme (IRDP)

The Integrated Rural Development Programme (IRDP) is an approach to rural development that implies the involvement of multiple disciplines with comprehensive project components. This concept emerged in the early 1970's particularly in South Asian countries.

The IRDP approach emerged because it was found that the single sector approaches were not efficient and the "trickle-down effects" of macro economic development only widened the

[25] Inspector General for Tax Administration, Report Reference Number: 2003-10-177, Department of the Treasury, WASHINGTON, D.C. 20220, August 20, 2003

gap between the advantaged and disadvantaged groups. Therefore, the application of IRDP gradually shifted to poverty alleviation which is almost the same as 'rural development'. Rural development is defined by the World Bank in its 1975 Sector Paper as: "... a strategy designed to improve the economic and social life of a specific group of people - the rural poor. It involves extending the benefits of development to the poorest among those who seek a livelihood in the rural areas. The group includes small-scale farmers, tenants and the landless".

Thus the definition of IRDP took into account the "Trickle-down theory", which was observed to have had limited impact on poverty alleviation, especially in rural areas. Equally important during the last three decades was the introduction of social development aspects into the overall rural development process. The most critical of these were anthropology, sociology, and gender issues. The Human Development concept was first introduced by UNDP in 1990 in addition to the Human Resource Development concept. Basic human rights, capacity building as well as equal opportunity for education, paid employment, social welfare, etc. have been sought in such Human Development activities. The integrated approach took into account views from anthropology and sociology as essential considerations in any kind of rural development.

In its early stages, the IRDP concept was widely accepted in various parts of the world, and many attempts were made to alleviate poverty by its application. However, IRDP implementation efficiency fell short of expectations because of the many organizational, institutional, economic and technical problems encountered in trying to create project planning and implementation harmony between sectors with limited budgets. As a result of this constraint most IRDPs were forced to embrace partial or selective integration, which naturally resulted in reduced efficiency of the project or programme.

Based on the limitations of the IRDP, the incremental approach, in which several sectors would be involved in sequential order, is being popularized as an alternative approach to rural development. Various organizations including NGOs, implemented projects from many entry points which could be considered as falling under the incremental approach but still considered as IRDP. The incremental approach is particularly valuable as it is perhaps the most practical under limited budgets, a situation obtaining in most developing countries.

4.3 Community Information and Planning System

CIRDAP (see box) initiated the idea of Community Information and Planning System (CIPS) in 1982/83 when it jointly with Asia NGO Coalition (ANGOC) sponsored a study entitled "Selected Asian Experiences in Participatory Research to Promote People's Participation in Rural Development". The study noted a high level of participation during the village meetings when the data collected were reported to the villagers.

In August 1984 CIRDAP conducted a regional training workshop among participants from ten CIRDAP Member Countries (CMCs) to draw up a detailed methodology of Community Information and Planning System (CIPS). The first phase of the action research on CIPS (CIPS-I), started in 1984 and ended in 1987. The effective role of CIPS in promoting decentralization and people's participation in rural development was confirmed by the results of CIPS II project which was implemented during 1988-1991.

Active participation of the rural people in the development programmes and projects initiated for them has been cited as being a key determinant of the success of such efforts.

The CIPS is a mechanism to elicit community participation in data collection and analysis, planning, monitoring and evaluation of activities. The main objective of CIPS is to promote people's participation in the various stages of the project namely, planning, implementation, monitoring and evaluation.

CIPS is defined as a participatory process through which the community makes the decisions involved in planning, organizing, financing, implementing and evaluating the activities designed for their socioeconomic improvement. The long-term goal of CIPS is to nurture selfreliance and socio-economic development within a community. Box 4.3 contains details about CIRDAP.

Box 4.3: CIRDAP

The Centre on Integrated Rural Development for ASIA and the Pacific (CIRDAP) is a regional, inter-governmental and autonomous institution. It was established in July 1979 at the initiative of the countries of the Asia-Pacific Region and the Food and Agriculture Organization (FAO) of the United Nations, with support from Japan, other concerned UN bodies and donors. Starting with six members, CIRDAP has now 13 members. These are: Afghanistan, Bangladesh (host state), India, Indonesia, Lao PDR, Malaysia, Myanmar, Nepal, Pakistan, the Philippines, Sri Lanka, Thailand and Vietnam. Operating in member countries through designated Contact Ministries and Link Institutions, CIRDAP has access to government policy-makers, research and training institutions and non-governmental organizations. The main activities of CIRDAP are: (i) assist national action; (ii) promote regional co-operation; and (iii) act as a servicing institution for its Member Countries for promotion of integrated rural development through research, action research, training and information dissemination. Alleviation of rural poverty in the Asia-Pacific region has been the prime concern of CIRDAP. The Centre is committed to the WCARRD Follow-up Programmes. The programme priorities of CIRDAP are set under four areas of concern: (1) Agrarian Development; (2) Institutional/Infrastructural Development; (3) Research Development including Human Resources; and (4) Employment.

CIRDAP acts as a bridge among countries of the Asia-Pacific Region, between the government and the people, and between regions through sister centres such as CIRDAFRICA (now defunct, see Chapter 3 for details). CIRDAP promotes technical cooperation among nations of the region. It plays a supplementary and reinforcing role rather than a competitive or parallel one, in supporting and furthering the effectiveness of integrated rural development programmes in the Asia-Pacific Region.

4.4 Project Cycle Management

The Foundation for Advanced Studies on International Development (FASID) in Japan introduced Project Cycle Management (PCM) by modifying ZOPP (Objectives Oriented Project Planning focusing on Participatory Planning) method which was developed by GTZ. The PCM method consists of three steps - Participatory Planning (PP), Appraisal Planning (AP), and Monitoring and Evaluation (M&E).

These are interlinked with each other by a single format called Project Design Matrix (PDM), which was derived from the Logical Framework (Logframe) used in ZOPP. By using PDM, from project identification, formulation, appraisal, implementation, to monitoring and evaluation, PCM provides 'consistency' throughout the project cycle.

Another attribute of the PCM method is its logicality. It analyzes present conditions and problems by clarifying the causalities or 'cause and effect'; and through this, a logical 'means - ends' relationship can be attained. The third characteristic of this method is that it uses the 'Participatory Approach'. By having the representatives of the funding organizations, implementing institutions, and target groups participate right from the project planning stage, it enables the best use of knowledge and experiences of each participant. This involvement further facilitates communication, minimizes cultural and social impediments, and enables participants to gain more accurate understanding of the needs of the partner institution and the target groups. Finally, this inclusive approach enhances project effectiveness and sustainability through establishing consensus on all pertinent issues affecting the project.

However, the PCM method is defined as and confined to being a general project management and operational tool, neutral both to policies and politics of donor and recipient sides, which means that it may not be suitable for deciding on the priorities within the development sectors or among some projects. It has also been found that the use of this method can be limiting in some instances, depending on the nature and form of the project.

4.5 Rapid Rural Appraisal and Participatory Rural Appraisal

The philosophy, approaches and methods known as Rapid Rural Appraisal (RRA) began to emerge in the late 1970's (Chambers, 1994). In the early 1980s, RRA was argued to be cost-effective, especially for gaining timely information. RRA, known as "rapid reconnaissance," or "exploratory survey," uses a wide range of needs assessment techniques. Mainly, it emphasizes careful observation coupled with semi-structured interviews of farmers, local leaders, and officials during one or more brief visits. MaCracken (1988) lists five characteristics that qualify a needs assessment as RRA: (1) *quick*--will be completed within a few weeks; (2) *team effort*--two or more researchers are involved; (3) *multidisciplinary*--team members come from different disciplines; (4) *interactive*--team members share their different disciplinary perspectives during the appraisal; and (5) *repetitive*--techniques are repeated when doubts or inconsistencies arise. On the other hand, it is said that weaknesses may arise if team members fail to appreciate each others' disciplines, if team members insist on rigid control of variables, or if the process is allowed to become too open-ended.

In response to these and other criticisms of RRA, modifications were introduced and a new needs assessment methodology -- Participatory Rural Appraisal (PRA) -- was developed. PRA is RRA with full participation of the community.

According to Ford (1989), PRA is designed to focus on rural communities, systematize rural participation, and help communities establish resource management plans. PRA is useful in remote rural communities that are often ignored by macro-development strategies of national planning offices. Focusing on natural resource management, PRA involves specialists from various disciplines and representatives of different organizations who may not otherwise come together for a needs-assessment focused on a particular community.

In the same report, Ford (*op cit*) describes the theoretical steps of PRA, in which local villagers must cooperate actively as: (1) site selection, (2) preliminary visits by the PRA team, (3) data collection, (4) data synthesis and analysis, (5) ranking the identified problems, (6) ranking the opportunities, (7) adopting a village resource management plan, and (8) implementation of the plan. The PRA team is usually composed of four to six specialists at least half of whom are

technical officers assigned to the community or area to be studied. The specializations may include plant science, animal science, community development, forestry, health, education, civil/water engineering, etc., based on the characteristics of the local area.

Data collection emphasizes spatial, temporal, social and technical data. Spatial data come from a village sketch map compiled in cooperation with village leaders, a village transect (depicting land uses), and simple farm sketches. Six to eight farms are identified and sketches are prepared by team members and household heads to show distances, land use on typical farms, ecological variety, income variation, and ethnic distribution around the village. Temporal data include a time line of events important to local residents, trend lines of a 40-year pattern of changes in resources (rainfall, crop production, soil loss, deforestation, health, population), and a seasonal calendar (land use, food surplus, food shortages, disease, cash availability).

Social data are derived from farm interviews and discussions of village institutions. The interviews are carried out at those households where the farm sketches are compiled. Village institutions are described in diagrams that express their relative importance and relationships to each other. These diagrams result from discussions among groups of residents. Technical data show the economic and technical potential of resources (soil, water, etc.) needed for agriculture.

After the data are collected, the PRA team works with community representatives to organize the data and compile lists of problems and opportunities for possible action. Then villagers are assembled to discuss and rank the listed problems and create a priority list. Next, village groups rank the opportunities that seem to address the most severe problems. In ranking the opportunities, villagers are encouraged to consider the feasibility of implementing the opportunities and their likelihood of contributing to stability, equity, productivity and sustainability.

The highest ranking opportunities are written into a plan that describes each action to be taken, the committee or individual responsible, resources needed, and a deadline for completion. This plan, usually called the Community Action Plan (CAP), becomes the basic work plan for the community. It can also take the form of a contract among village groups, technical officers, and external groups such as donors or international agencies. Implementation of the plan is usually guided by a village leader or by elected project committees. The actual work is performed by the community's self-help groups.

Advantages of PRA include: (1) use of visual materials that are easy for villagers to understand; (2) promotion of systematic participation of villagers, village groups, and interested agencies; (3) provision for interactive problem analysis and interdisciplinary problem solving; (4) identification of village based priorities; (5) application in the field quickly and inexpensively; (6) strengthening of rural institutions; (7) helping communities prepare organized proposals for external support; and (8) motivation of participants to action.

One disadvantage of PRA is that it ends with implementation and omits evaluation, which could easily be added as the last step. A village meeting could be called annually to discuss progress in implementing the village resource management plan and update priorities for the coming year. Another disadvantage of PRA, until recently, is that it has focused primarily on technical and resource needs.[26]

[26] A. W. Etling and R. B. Smith, Participatory Needs Assessment: A Key to FSRE, Journal of Farming Systems Research-Extension, 1994.

4.6 Endogenous Development

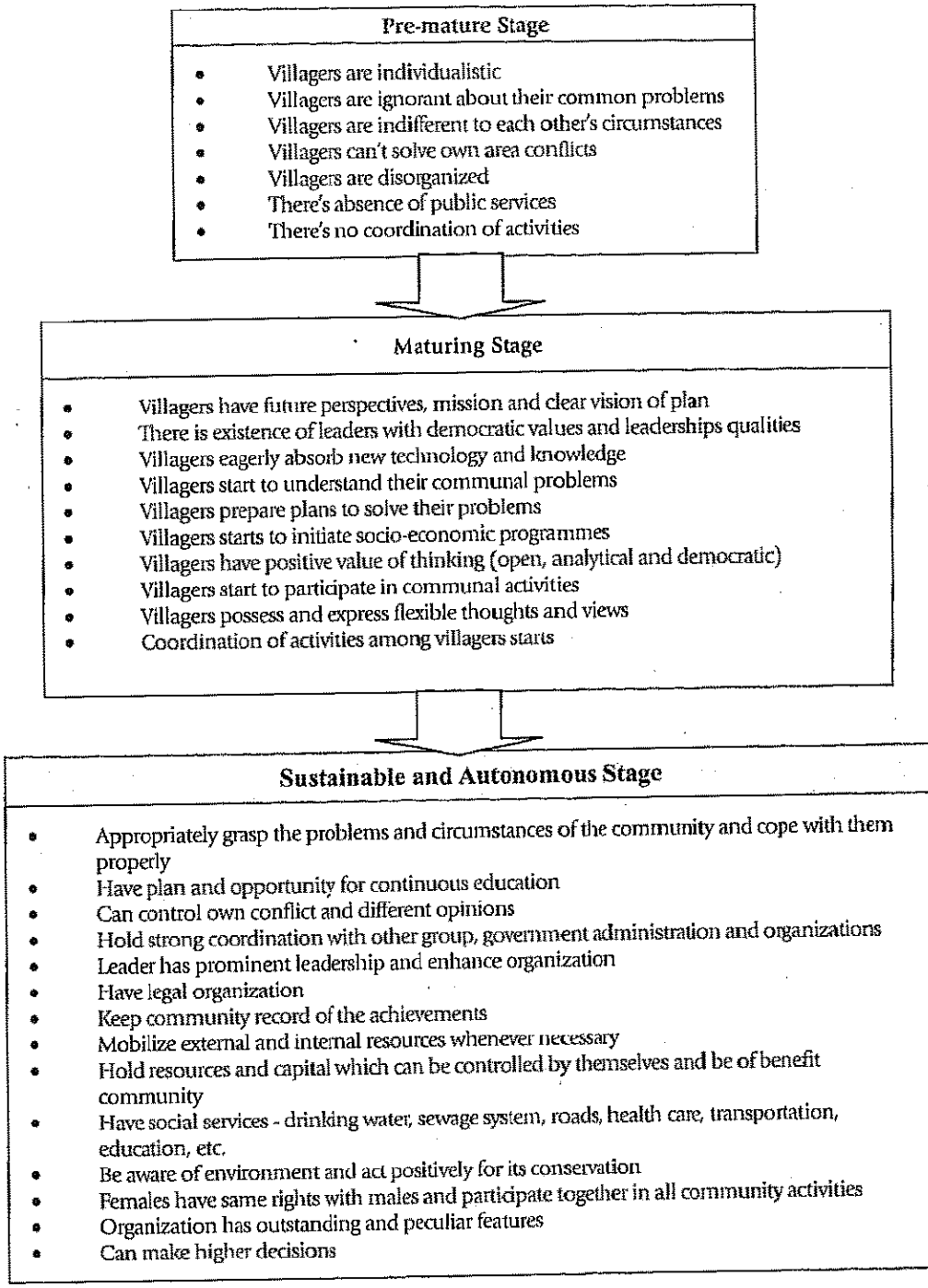
The concept of endogenous development was launched by Dag Hammarskjoeld and Kenichi Miyamoto in the middle of the 1970's. The concept was derived from efforts made in the course of development of local areas. Those local areas or local communities used to follow the modernization approach and to introduce the same logic as used in the development of urban areas which was based on the universality of rights. Recognizing the different circumstances faced by local areas as compared to urban areas, several local communities in Japan proposed a new approach, which was based not only on exogenous development but also on endogenous development. The concept proposed that the subject of any development planning and the ensuing activities must be the local people who are living in the community. Endogenous development bears the following characteristics:

i) It aims to achieve integrated local community development through protection of human rights, promoting human development and upgrading the standards of living in environment/ecosystem conservation and sustainable social development.
ii) It tries to link domestic industries within the community by maximum use of hardware and software, such as natural resources, technology, human resources and culture, focusing on economic integration and creation of various job opportunities. However, considering that a local economy should not be closed, it promotes the linkage with urban areas where the economy is more active, by stipulating the necessary regulations and guidelines. National assistance should be introduced by the autonomous decision of the community.
iii) It formulates local policy through the autonomous volition of the community. It also emphasizes community autonomy by decentralization and people's participation, and consequently targets implementation of projects that satisfy local conditions and meet local needs.

4.7 CIRDAP Approach to Rural Development

The CIRDAP Approach to Rural Development (CARD) has evolved through field experiences gained over time in various CIRDAP Action Research and Pilot Projects within CIRDAP Member Countries. It was once summarized as a "Handbook on CIRDAP Action Research Projects" (1996) and CIRDAP launched the concept of Village Development (see Figure 4.7). The recent CARD, reinforced with the modified PCM methodology, is a step-wise project management tool or methodology for rural development in which even the rural poor can participate in the decision making process regarding their own project components, thereby stimulating and harnessing their self-reliance. Therefore, CARD as used at present, can be said to be a product synthesized with Community Information and Planning System (CIPS), endogenous development and a modified PCM. It may evolve in future with better appreciation and new technologies. Meanwhile, only minimum modifications are necessary for the present CARD to be applied in any village situation irrespective of the social, political or economic background, stage of development, geographical location, market system, main industry, agricultural status, climate, vegetation, culture, history, religion, etc. This general applicability is one of the strengths of the CARD

Figure 4.7: Stages of Village Development (Model Village in Rural Development)



Source: CIRDAP, 1996

CHAPTER 5

ADOPTION OF CARD IN ZAMBIAN VILLAGES

5.1 Circumstances

The office of the Provincial Agricultural Coordinator (PACO), Lusaka, requested for grant assistance from the Government of Japan through Japan International Co-operation Agency (JICA) for implementation of a pilot micro-project on poverty alleviation. The grant was awarded in September 1999 to the tune of US$ 20,900 to initiate community-based micro-projects using the CARD approach. This was the first case of application of CARD in Zambian villages in an attempt to break the cycle of poverty through community empowerment based on the principle of participatory self-help. The micro-projects for poverty alleviation were implemented through a participatory approach based on field experiences of CIRDAP. Although this approach has been successful in Asia and the Pacific, there was a view that it couldn't be applied directly to the Zambian circumstances. Hence, the objective of the pilot could be perceived as ***"to apply and ascertain the effectiveness of the CARD to rural development in Zambian rural situations".*** The activity proceeded in 2000 as described below.

5.2 Trial villages

Two villages were selected to apply the approach namely; Mukunya Village in Chainda Camp and Malisawa Village in Chiyota Camp. Both are in Chongwe District, Lusaka Province.

(1) Mukunya Village

Mukunya village is situated 45 km East of Lusaka in Chongwe District. It had 106 households and therefore received a total of approximately US$10,600.

(2) Malisawa Village

Malisawa village is situated bout 30 km North East of Chongwe District, approximately 75 km from Lusaka. With 103 households, Malisawa village received a total grant assistance of approximately US$10,300. Malisawa village is the larger of several other smaller villages in the area - Mangoma, Matafwali, Mulabika, and Mwengwe Ngalande.

5.3 Project Components

(1) Mukunya Village

The project components undertaken by the village were as follows:

i) Construction of community development hall;
ii) Storage shed;
iii) Donkey animal traction;
iv) Sewing machines;
v) Rum press;
vi) Rehabilitation of village roads; and
vii) Supply of agro-inputs including fertilizers.

All the project component activities were implemented successfully and in conformity with the proposed plan of operation except construction of the weir and rehabilitation of some roads which had to be rescheduled due to the on-set of the rainy season. Community / beneficiary contribution and participation were tremendously good. This enabled all construction-related activities to utilize local skills, labour and materials where possible. They were completed to excellent standards and on time.

- ***Community Hall and Storage Shed***

The community hall and the storage shed were completed within schedule and within their respective budgets in spite of variations in the exchange rate of the Kwacha and the cost of materials at the time funds were released. The total money spent on construction of the two structures was K13,936,000. The structures were constructed to remarkably good standards beyond expectation. The community hall is now being used as a multi-purpose building for community meetings, women sewing club etc. by Mukunya village residents. When not in use by the village residents in Mukunya, the storage shed is rented out to various Agro-business organizations for storing agricultural inputs meant for distribution to cooperatives and outlying farming communities in Chongwe.

- ***Donkey Animal Traction***

The Donkeys in the project were meant to provide the community with agricultural animal traction service. Six (6) donkeys were ordered from Palabana Farm Power Training Institute. However, the institute did not have full grown trained donkeys at the time and hence only 3 untrained donkeys were bought. The remaining 3 donkeys will be brought to the village as soon as they arrive from Zimbabwe. Preparations for training of the three donkeys are underway while harnesses are also being locally manufactured for the remaining donkeys.

- ***Sewing Machines***

Four sewing machines were purchased at a total cost of ZK 770,000 as an income generating venture for the community. Lessons in design and manufacture of clothes including servicing and maintenance of the sewing machines were given to the local women club by hired skilled personnel. The women club has since won two contracts to manufacture school uniforms for two primary schools in and around Mukunya. The women are now proudly making clothes for sale to the community at affordable prices.

- ***Rum Press***

The Yenga Rum Press was purchased at a cost of ZK 420,000. The Rum Press is for extraction of cooking oil from sunflower and other oily crop seeds at village level. About 10 kg sunflower seeds were planted to initiate the scheme. The crop did very well. An NGO called AfriCare has been engaged in giving training on how to use the Yenga Rum Press.

- ***Fertilizer Inputs Supply***

A total of 100 x 50 kg bags of fertilizer consisting of 50 bags basal dressing and 50 top dressing were purchased at a cost of ZK 3,035,000. The fertilizer was distributed among 50 farming households on a loan basis. One bag of each type of fertilizer was loaned per household. The loan recovery ratio of 125 kg maize grain or equivalent to 1 x 50 kg bag of fertilizer was decided and agreed upon by village residents. A revolving fund will be set up from recoveries so that the farmers who did not initially benefit from the loan scheme will also be able to benefit from the scheme following the first harvest. Hence, recovery is expected to be 100 % since it is being monitored and supervised by the community itself and other farmers are also waiting anxiously for their turn.

- ***Weir/dam***

A multi-purpose weir was planned in order to irrigate vegetable gardens, provide water to animals and for fish culture purposes. The weir was constructed at a small stream near the village centre. The structure, however, is small due to the size of the budget.

- ***Rehabilitation of Roads***

The village roads used to be in a bad condition during the rainy season. Although the rehabilitation of village roads is inevitable every season, fundamental renovation by a motor-grader was planned by the project. However, the road rehabilitation works were postponed due to the on-set of the rains.

(2) Malisawa Village

The project activities undertaken by the villages were as follows:

i) Construction of storage shed;
ii) Farm power oxen (Animal Traction);
iii) Fertilizer input supply;
iv) Sewing machines; and
v) Rum press.

The project activities outlined above were implemented successfully as scheduled. Community contribution and participation was overwhelmingly good from all the villagers and this could be attributed to the participatory approach in the implementation of the project. However, there is a recent rumour that the solidarity of the five villages has disintegrated after the extension officer left the village for studies abroad.

- ***Construction of Storage Shed***

The storage shed in Malisawa village was designed and constructed by village residents in the project catchment. The structure is being utilized as a multi-purpose building for storage of agricultural produce, inputs and as a community hall. A total of ZK 9,900,000 was spent on the construction of the structure. The structure was fully designed and constructed by village residents themselves and except cement, door frames and roofing materials, all the remaining building materials, together with skilled and unskilled labour were locally provided by the resident beneficiaries. When not in use by the village residents, the storage shed is rented out to various agri-business organizations for storing agricultural inputs intended for distribution to co-operatives and outlying farming village communities.

- ***Farm Power Oxen (Animal Traction)***

As a farming community, Malisawa village residents purchased 8 cattle - 4 heifers and 4 steers - to provide animal draught power. One oxen drawn plough and harrow were also purchased. A total of ZK 2,446,000 was spent on this activity. Training of the animals has begun and is progressing smoothly in readiness for the following season. Three animals died within two months of being purchased due to corridor disease. The animals had to be vaccinated against the disease to avoid any further losses and it is pleasing to note that no animal has died since then.

- ***Fertilizer Inputs Supply***

A total of 100 x 50 kg bags of fertilizer consisting of 50 kg each of basal and top dressing fertilisers were purchased together with 10 x 10 kg bags of maize seed. A total of ZK 3,749,000

was spent on this agro-input supply scheme. The inputs were loaned to the village residents who are expected to begin paying back the loans before the next farming season. A revolving fund will be created to assist other farmers who may wish to obtain a loan of inputs.

- ***Sewing Machines***

Four sewing machines were purchased at a total cost of ZK 850,000. This is an income generating venture and is being run by a women club made up of village residents in Malisawa. The women are making school uniforms and clothes for sale. Training in sewing, machine servicing and maintenance was provided to the women and they are now confidently sewing clothes affordable by the people in the villages.

- ***Yenga Press***

The Yenga Rum Press was purchased at a cost of ZK 400,000 for extraction of cooking oil from sunflower and other oily crop seeds at village level. AfriCare has been engaged to provide some sort of training in the use of the Rum Press and extraction of seed oil.

In Malisawa all the project activities have been implemented and put in place as originally intended and village residents are more anxious to begin generating some revenue from income generating ventures as they become more confident.

5.4 Progress in the Projects (August 2000)

Provision and delivery of agricultural and extension facilities and micro-projects for rural development through participatory approach has been proved to be effective and sustainable in comparison to the current top-down approach. The results from the pilot projects implemented in two villages in Chongwe district have demonstrated that village residents do have ideas and a vision of what they endeavour to achieve. Given an opportunity, they are capable of producing tangible results when properly guided in a participatory based environment. The village residents participated fully in all the stages of planning, decision making and implementation of project activities and these ultimately created a strong sense of belonging, ownership and responsibility towards every aspect of the project in order to up-lift their own living standards through mutual and self-help. The grant assistance provided resources and much-needed impetus for breaking the cycle of poverty by stimulating village economic activities and creating a basis for subsequent future village development.

Empowerment of village residents through undertaking of such appropriate micro-projects at village level has stimulated and exposed the communities own latent potentials and strengthened their capacities and confidence for self-reliance. The villages have regained their sense of pride and dignity and now understand the essence of external or donor assistance and are now more capable than ever before of utilizing assistance responsibly to the fullest benefit of their village communities. A strong co-operative culture of mutual and self-help has been inculcated among village residents in sharp contrast to the previous dependency syndrome which used to be the norm and prevailed in the village communities. Village residents are now making serious attempts to address their own social and economic development issues and problems to improve their living standards.

The concept of participatory approach to village development was in retrospect a new concept and was not fully defined and understood in the Zambian context. Both implementers and beneficiaries of the poverty alleviation micro-projects have gained valuable practical experience and exposure to the fundamentals of bottom-up participatory approach which is a practical methodology applicable in virtually any rural Zambian situation. The Ministry of Agriculture, Food & Fisheries has just embarked on a programme that will see it transform and adopt "Participatory Extension Approach" (PEA) in the provision of agricultural extension services, facilities and agro-development projects. Hence, the pilot micro-projects for poverty alleviation which have successfully been implemented in Chongwe, could not have come at a better time for both implementers in the Ministry of Agriculture and beneficiaries alike.

5.5 CARD to PASViD

The micro-project for poverty alleviation through CARD approach in Chongwe district is the first of its kind in Lusaka Province and indeed in Zambia. The social and economic impact of this approach at the village level has been tremendously encouraging. A total of 209 households are direct beneficiaries of this poverty alleviation micro-project and as a result of the immediate positive impact, there has been a positive change in attitudes and perceptions towards development activities among rural communities. A similar approach to rural development called Integrated Rural Development Programme (IRDP) has been tried in the 1970's to bring about development in rural areas. However, the IRDP approach was deficient in that it was not strongly founded on the principle of community participation and for obvious reasons sustainability and viability of implemented projects was extremely difficult. The CARD has been proved to be a more viable and effective approach in Zambian conditions in comparison to the current conventional top-down approaches for effective delivery of rural development projects and agro-support facilities for poverty alleviation and sustainable village / rural development. The versatility and flexibility of this approach gives it a universal applicability and it can be duplicated in a variety of situations to address a wide range of rural development issues.

Meanwhile, many lessons were learnt during project implementation, and useful revisions were made to create the new approach which suites Zambian villages. The concept of Participatory Approach to Sustainable Village Development (PASViD) was, thus, born by modifying the CARD methodology.

CHAPTER 6

NARRATIVE SUMMARY OF PASViD

6.1 Definition

PASViD can be defined as "a planning and management concept and tool for rural development in a small village (project unit) aiming firstly at uplifting the livelihoods of the vulnerable groups, such as the poor, women and landless peasants (target group), by involving their lot in all stages of development including project decision-making process from component identification, through planning and implementation. This involvement is intended to vest the villagers with self confidence, pride and dignity (objectives). Thus PASViD aims to attain community prosperity and autonomy by making target rural villages as livable and as comparable to urban areas as possible by ensuring that they have the necessary amenities and conservation of comparative advantages, such as abundant natural space, a green environment and clean air. In this way these villages can co-exist as equals with urban developments (final goal)."

Although PASViD is an integrated approach, the word "Integrated" is not used, because "development" in PASViD connotes development in all the aspects which include human development, socio-economic development, physical development, agricultural and industrial development, and environmental conservation, etc. Although the idea of PASViD will be maintained for the future as it is, the methodology could be modified whenever the concerned group gains significant experiences in the field. Meanwhile, only minimum modifications are necessary for PASViD to be applied in any village situation, social, political, economic, stage of development, geographical location, market system, main industry, agricultural status, climate, vegetation, culture, history, religion, and any other differences notwithstanding. This general practicability is one of the strengths of PASViD.

6.2 Goal and Objectives

One of the aims of some national development interventions is social-economic growth. Such interventions will often involve creation of sophisticated infrastructure, industrial development, provision of energy, environmental conservation, disaster preparedness, and such other measures. In many cases, these form part of the national strategy for economic development, which is of course, one of the essential factors necessary for poverty alleviation. However, macro-economic growth is not a panacea for alleviation of poverty. More often than not, such growth will have a negligible effect on the reduction of the gap between the rich and the poor, and hence, between advantageous areas and isolated areas. Then the better-off sections inhabited by the rural rich, who usually locate along the main arteries of communication (rail, highway etc.) are able to compete and take advantage of the market mechanisms; whereas, the poor who usually inhabit the deeper isolated hinterlands are unable to benefit from the same. In other words, the more the macro-economies grow, the more the gap increases between the rich and the poor under the current situation. Therefore, special attention and measures should be taken to assist the poorer groups with greater emphasis on their development. This should be the very first goal of PASViD. Therefore, it can be concluded that the first and most urgent goal of PASViD is the eradication of absolute poverty from rural areas, and the ultimate goal of PASViD, consequently, is to make a village as livable as an urban area by preserving the comparative advantages, such as abundant green, natural space, humanity, tradition, etc.

By giving such projection of future reality (it can be perceived as a 'feasible dream'), the villagers, especially the younger generation, might be encouraged to remain in the villages devoting themselves to village development rather than migrating to urban areas.

1) Goal of PASViD

The goal of PASViD therefore is to vest villagers with self-confidence, pride and dignity, targeting overall community prosperity and autonomy by making those villages as livable as urban areas, with amenities and conservation of comparative advantages, such as abundant natural space, green and clean air, and mutually beneficial co-existence with urban development.

2) Objectives of PASViD

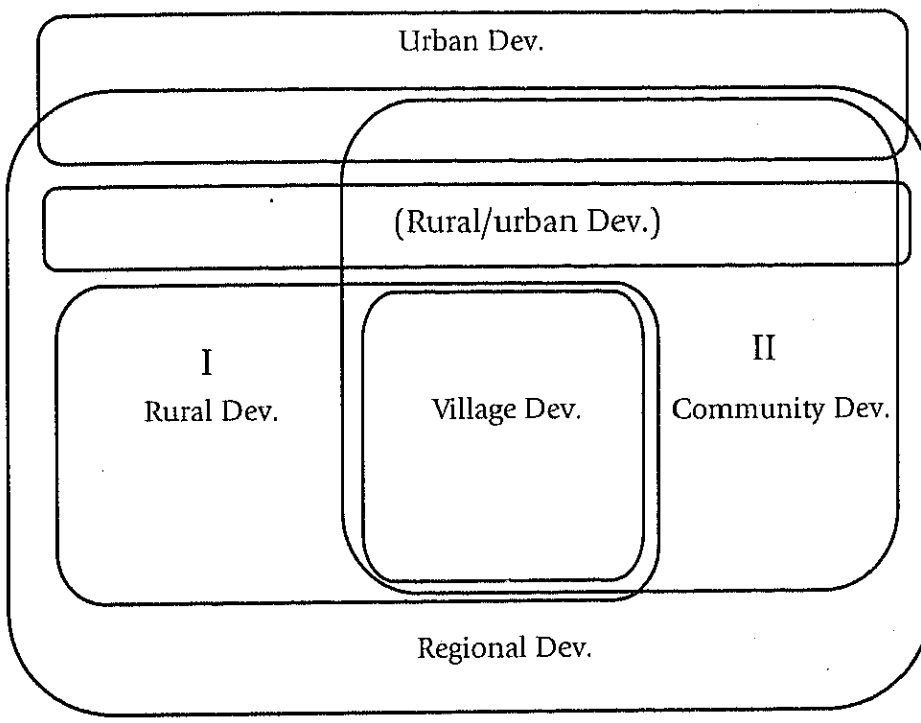
The main objective of PASViD is to improve the lives of vulnerable groups, such as the poor, women, disabled and landless by involving their lot in all stages of the micro-project and thus creating in them total ownership of their development activities, strengthening the villagers' capacity, fostering mutual-reliance, prospering the village economy, reinforcing social infrastructure, conserving the environment and tradition, and co-existing with urban development.

6.3 Target Area

One of the novel features of PASViD is its small coverage unit approach. What PASViD covers is a small community whose extension may be a village (or conglomerate of several villages) with approximately 50 to 300 households - that is to say, a natural cluster of households or a settlement. Since these hamlets are not necessarily administrative units and have been formed naturally through history, the villagers often know each other and are, in many cases, united because they share a common biosphere and ecosystem for agriculture. More often than not, it is found that these people used to be members of a family or relatives who lived together till recently. Therefore, the starting of cooperative activities among them can be expected to be immediate and smooth. This vitality and potential for cooperation for the good of the village is the driving force of PASViD. Its role is in turn, to stimulate and accelerate their power and effectiveness in building institutions and taking action for the good of the village. This snowball effect triggers the explosion of development at village level.

Another advantage of this small unit approach is that it doesn't require sophisticated modern technologies or materials for construction and maintenance of village infrastructure. It is therefore, a totally eco-friendly approach (see Figure 6.3).

Figure 6.3: Conceptual Relationship of Area-wide Development



I. Development of infrastructure for large and medium-size agriculture, etc.
II. Community development in urban areas without any agricultural activities
Source: Author

6.4 Target Groups

Unlike some regional development schemes which are oriented to land improvement, technology transfer, or physical structural change, PASViD targets vulnerable groups in its early stages. However, a considerable portion of PASViD programmes should be directed towards the socio-economic development of a wider area because their impacts on poverty alleviation are equally significant. Just as the dominant development paradigm of 'trickle down' effect did not eradicate poverty in the 1950s, direct poverty alleviation measures alone too can neither eradicate poverty nor reverse the migration of the younger generation to the urban areas. It must be a concerted effort.

Immediately after the workshop, the extension officer is advised to assist in the formation of a Village Committee (VC). It has been found that more often than not, the chairperson and the secretary are taken by elitist males who do not necessarily belong with the vulnerable groups of the rural population. For this reason, special guidance is required during the formation of the beneficiary group for income generating activities (IGAs) to ensure that at least one representative from each of the poorest sections of the community and the women are included as members of the executive or at least as committee members. Experience shows that enlightened village women perform the role of treasurer with distinction. A village that fails to fulfil the above conditions may not be eligible to receive support for a PASViD micro-project.

Note however, that the target group in PASViD is not necessarily the poorest within the community since the PASViD activities are diversified and not confined to IGAs only. Due to this diversification, all the villagers form the group targeted by the various project components - infrastructure improvement e.g. a road, bridge, school, community centre, health centre, and so on. From activity to activity, the target group differs although the final target of the development programme is the entire community.

6.5 Tripartite League in PASViD

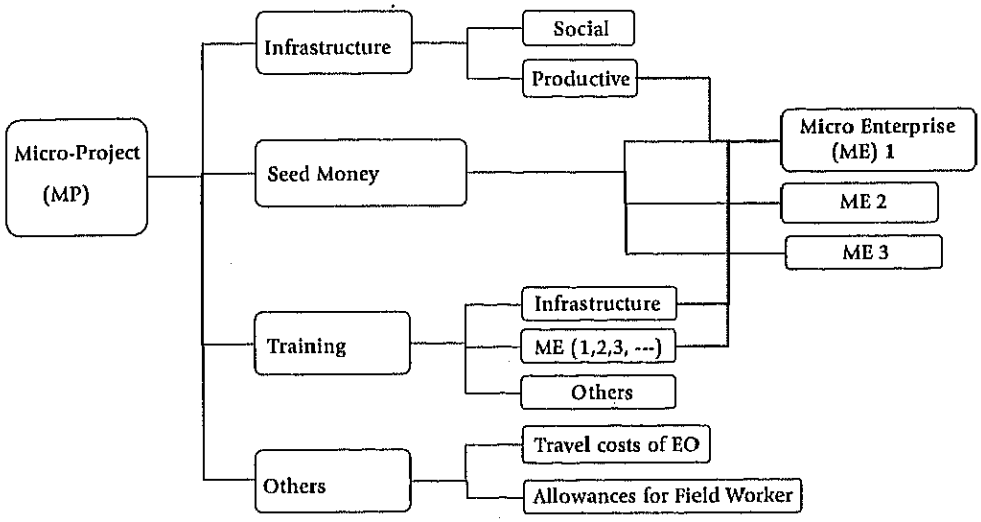
The question is often asked: Who should be the master of village development? Many say it should be the villagers themselves. However, this assertion needs to be supported with reasons. In many instances, the villagers have nothing or little to do with project formulation. They are often absolutely passive during the budget formulation process. In reality, PASViD considers village development as an effort involving a tripartite arrangement between villagers, implementing agencies/government and donor/financing agencies. The government needs to be pro-active because it is a key stakeholder particularly with respect to regional development coordination, institutional policy making, provision of extension in various fields, provision of research services, guiding future long-term village development and provision of social welfare.

A project may be initiated by any member of the above tripartite league and be implemented whenever a patron for the project budget, sometimes an external donor, is agreed upon. The uniqueness of PASViD, then, is that it delegates the decision-making authority of the project components to the villagers on condition that the decision-making process should be done in a modified PCM workshop attended by representatives of all the key target groups. Project ownership lies with the villagers. Through this process, they may extend their ownership to include long-term development programmes jointly implemented with other associates.

6.6 Components of Micro-Project

There are mainly three components in Micro Project (MP); namely infrastructure, seed money and training (see Figure 6.6.1). The fund for MP can be used for the transportation or travel costs of EO and the allowances of field worker. The above three components are recommended to be combined to an entrepreneur so that more efficient and effective business could be initiated. Taking a sample for irrigated farming, they are weir as infrastructure, cement for canal from seed money and observation tour of similar irrigation project as training.

Figure 6.6: Components of Micro-Project



Source: Author

(1) Infrastructure

In all developing countries, the development of physical infrastructure has been concentrated in the urban areas and/or in designated industrial zones. Rural infrastructure has not received adequate attention from planners and budgetary allocations. Development of infrastructure in rural areas has so far concentrated on rural-urban road networks, power generation and distribution, irrigation infrastructure, and communications.

Small-scale infrastructure such as roads, bridges, transportation canals, irrigation canals, village clinics, classrooms, markets, community centres, village training centres, communal ponds, drinking water systems, and sanitary facilities at the village level are not adequately developed. The inadequacy of these peripheral infrastructural facilities results in high costs of transporting necessities to and produce from villages. The impact of the peripheral infrastructure is often underestimated perhaps because its contribution to productivity is not easily seen. Rural villages lack the resources to develop such infrastructure and also lack the level of representation required for them to be considered as important interventions at the national level. Minimizing the cost of construction of such peripheral infrastructure would increase their economic impact. A good cost minimization strategy could be to mobilize people's participation in construction and to emphasize the use of low cost indigenous materials. People's participation could be achieved through the PASViD micro-project procedure.

Lack of peripheral infrastructure is a critical feature that sustains poverty, hunger and famine in isolated villages throughout the Eastern and Southern Africa Region. A key aspect of this inadequacy is lack of access to both domestic and overseas markets. Through the development of peripheral infrastructure and connecting it to the main national infrastructure network, production and marketing activities are expanded and accessibility of villagers to social welfare facilities improved. This is an indirect pre-condition to the achievement of the poverty alleviation goal.

(2) Seed Money

The poorest in a village constitute the landless, small peasants, seasonal employees, the jobless, women, the physically challenged etc.. These are people who are deprived in various aspects and have no capital of their own to start an income generating activity. The provision of seed money to support IGAs could target those disadvantaged strata primarily for their self-employment both on-farm as well as off-farm. Seed money must grow and revolve among all the villagers. Some regulations must be discussed and decided at the workshop in order to achieve the objectives of the seed money. However, it is important to bear in mind that not all IGAs will turn out to be lucrative ventures, and provision of seed money will not always give sustainability to these initiatives of the poorest. There is, at times, a risk of generating adverse impacts out of the application of seed money. Some examples of activities that may be started using seed money are listed in Table 6.6.

Some of the direct risks involved in the application of seed money are an increase in diseases of crops and livestock, failure of domestic and export markets to absorb farmers' produce, price decline of products due to over-production, high costs of production, etc. The health condition of the villagers is also an important factor in the smooth operation of an IGA. Thus, the group which fails to successfully operate its IGA becomes a defaulter to the village committee.

Provision of appropriate technical support must be given priority in the implementation and operation of an IGA. Such support should include general and financial management training of the villagers in charge of the IGA. Many villagers do not keep financial records, thereby making it difficult to assess profitability of a venture. Special guidance or group training needs to be a precondition in such a case.

Apart from technical and financial risks there are natural threats like floods, drought, hales, and so on, which are unavoidable. The coping strategies to be pursued for mitigating potential negative effects arising from such risks is a matter which needs to be carefully examined and discussed between the EO and each group.

Table 6.6: Some Sample Usages of Seed Money

1.	Utilization of land or water surfaces
(i)	Food crops increase (maize, cassava, millet, sorghum, wheat, rice, groundnuts, cowpeas, beans, etc.)
(ii)	Fruits crops (guava, mango, bananas, leichi, papaya, strawberry, melon, water melon, etc.)
(iii)	Vegetable growing (cabbage, tomato, cucumber, eggplant, okra, onion, long onion, garlic, rape, paprika, ginger, lettuce, celery, potatoes, sweet potatoes, Chinese cabbage, carrot, radish, sugar snack, etc.)
(iv)	Herbs (turmeric, coriander, sage, mint, etc.)
(v)	Flowers (rose, chrysanthemum, tulip, hyacinth, etc.)
(vi)	Other plants (coffee, sunflower, cotton, castor, kenaf, etc.)
(vii)	Aquaculture (breams, carps, tilapia, frog, catfish, etc.)
(viii)	Mushrooms (*Pleurotus* spp., etc.)
2.	Animal Husbandry
	Cattle rearing, rabbit, turkey, chicken, guinea foul, swine, goat, sheep, etc.

3.	Agro-industry Bean sprout, bean curd, spirits, juices, jam, butter, cheese, ham, bacon, sausage, potato chips, cassava chips, pickles, honey, weaving, milking, milling, oil extracting (soya beans, sunflower, castor beans, peanuts, cotton seed, etc.), coffee processing, etc.
4.	Agri-business Whole sales, retails, food processing, milling (maize, rice), etc.
5.	Forest products Bamboo or wood craft (chair, table, hut, basket, mat, slippers, etc.), charcoal, fire wood, cane craft, etc.
6.	Hand craft Bricks, adobe, ceramics, decoration ornament, toys, glassware, etc.
7.	Cottage industries Carpentry, blacksmith, animal traction and equipment (purchase and rental), etc.
8.	Others Rope, sewing, knitting, tailoring, paper making, tourism, small animal zoo, etc.

Source: Author

Above all however, a more dangerous pitfall is the cultivation of a loan dependency syndrome from within or outside the village. This psychological adverse impact is both complex and subtle. Therefore, it is the recommendation of PASViD that seed money should never be used as micro-credit.

(3) Training

Training of villagers is inevitable for the better use of seed money and increasing agricultural products and productivity. When initiating new businesses using seed money, relevant training is particularly vital and should be given beforehand. For instance, the purchase of a sewing machine for income generation must be accompanied by thorough training for its use as village women may be ignorant of its use, repair and maintenance. The women may also be ignorant of how to design garments to be sewn, necessitating training to be undertaken in such an area. Business techniques including sale of sewn products and book-keeping to ensure a true record of all transactions may be important issues for consideration too.

Training expenses are included in the project budget, and the training can be organized by the villagers themselves. However, the EO should take the responsibility for the relevant training. Collaboration with NGOs in this field could be a worthwhile alternative. Training includes observation tours to groups, institutions and facilities where villagers can learn by seeing how it is done. If there are suitable demonstrations of their interest, such as design of storage-shed, irrigation facility, field layout, land conservation measure, cottage industry, or an agro-processing facility, an observation tour that allows an on-the-spot visual appreciation of the activity would be justified.

6.7 Budget for Micro-Project

Based on the assumption that all communities should have some sort of development plan that specifies particular activities such as conservation of the natural environment and traditions, PASViD could be one appropriate alternative for the realization of such a plan at village level.

Since any country's budget would not be expected to be adequate to implement PASViD Micro-projects in all the villages at the same time, the budgetary aspect should be carefully scrutinized *a priori*.

The experiences of PASViD application in Zambia indicate that a budget of US$ 100 per household seems to be appropriate for micro-project implementation. A simple calculation based on the above data reveals that US$ 100 million is adequate for implementing PASViD in all the rural villages in Zambia. If priority is given to the isolated areas, it is estimated that about US$ 40 million would be required. A similar budget could apply to several other countries in the SSA Region.

If a country could secure this amount through foreign assistance, this would result in a significant achievement if the funds were to be utilized as stipulated above. This kind of national development programme which would extend the development agenda to include every village in the country can be observed in Korea, as *Semaul Un-dong*, or in Japan as "One Village One product Movement" or "*Mura-zukuri, Machi-zukuri*". These are community development movements. Should the budget be allocated partially, prioritization of villages or regions for the implementation of PASViD becomes necessary. The initiation of such a political decision for rural development should firstly be at national level where the whole process should be conceptualized and budgetary resources sought.

Nonetheless, the strength of PASViD is that it could be applied even in a small village of 100 households where the budget would then be US$ 10,000. Clearly, this gives PASViD considerable relative economic efficiency as a developmental approach. In addition, PASViD offers a sustainable development approach which allows for the execution of additional activities in the subject villages or in additional villages as budgetary resources become available.

6.8 Four Phases of PASViD

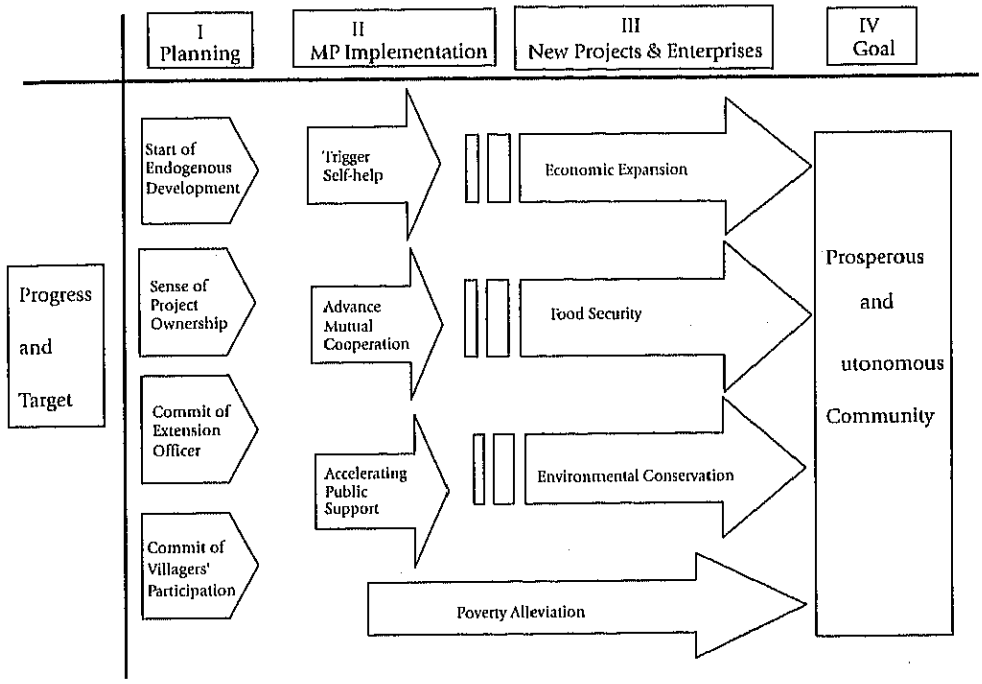
With the ultimate goal of creating a prosperous and autonomous community with rural amenities, villages under PASViD pass through four phases that lead to achieving the final goal. The desired village status is acquired through progressive and systematic evolution through these four phases.

The first two phases leading to a micro-project have a total of eleven steps. The very first step is the pre-workshop operation which could be placed within the first phase of PASViD, namely 'preliminary village analysis'. The phases are illustrated in Figure 6.8.1.

(1) Phase-I: Preliminary Village Analysis and Planning

Although sophisticated studies are not intended for analysis and selection of target PASViD villages, simple baseline data (see Table 9.1) must be gathered before applying PASViD. To be eligible for selection, villages must meet certain minimum qualifications such as having reliable leadership, the will to eliminate poverty, the willingness to reduce gender discrimination and the willingness and ability to participate thus sacrificing their efforts for the sake of the village. When it becomes necessary to select a few villages from a large number, appropriate criteria should be prepared for the purpose.

Figure 6.8: Four Phases of PASViD



Source: Author

During planning stage through a workshop, social mapping and village transects will particularly prove useful in providing the necessary information as the data would also be used as a reference point against which future changes can be viewed.

Workshop may stimulate villagers to be an owner of the project and thus endogenous development will be initiated. The villagers must commit their involvement in all the activities and works subjectively, and also the extension officer must promise his commitment in order to develop the village through information transfer, giving guidance, etc.

(2) Phase-II: Micro-project Implementation

The would-be project coordinator, who usually tends to be the agricultural extension officer, must communicate with the village head for the application of PASViD in the village. With the village head's consent, s/he arranges for the modified and simplified PCM workshop with the villagers. If a baseline survey is to be conducted in order to determine indicators, a baseline questionnaire is adopted. In this stage, self-reliance, mutual-reliance and public-reliance should be promoted in good balance.

(3) Phase-III: Initiation of New Projects and Enterprises

Poverty alleviation is only one of several mid-term targets which PASViD tries to attain. However, since poverty alleviation is a most critical issue in most of the rural villages of Sub-Saharan Africa, especially the ones in isolated areas, focus should be placed on the poor strata in society.

However, total village economy must soar from this stage with new projects and enterprises which would be initiated by the capital generated by the first IGAs. Food security of the village, especially small-scale farmers also must be sought through sustainable agriculture implemented using the first seed money. Environmental conservation and amusement of the villagers must also be considered from the beginning of the phase.

(4) Phase-IV: Achieving Prosperous and Autonomous Community

Alleviating the poverty situation of the absolute poor strata of the society entails a continuous effort towards economic growth. This requires a combination of interventions including development of agricultural products, development of cottage industries, agro-processing, increasing crop yields, handicrafts, eco- agro-tourism[27] and other businesses. The concept of agro-tourism is a direct expansion of ecotourism, which encourages visitors to experience agricultural life at first hand. This type of tourism is gathering strong support from small communities as rural people have realized the benefits of sustainable development brought about by similar forms of "green tourism". Visitors have the opportunity to work in the fields alongside real farmers and wade knee-deep in the sea with fishermen hauling in their nets.

One of the project components of PASViD is provision of seed money to facilitate the initiation and implementation of such entrepreneurial activities for local economic growth.

This final phase aims to co-exist with the natural environment and the urban areas. Symbiosis of rural areas, urban areas and the environment must be pursued by ensuring creation and maintenance of village livable space that resembles that found in the urban areas in terms of the availability of necessary amenities. These three areas are deeply inter-related. Consequently, improving livelihoods of the rural poor entails giving appropriate attention to the three areas.

6.9 Future Vision of a Village

The idea of a village development plan is long-term, targeting 20 to 30 years into the future. This could be discussed among all the villagers and articulated clearly in order to accommodate views from the younger generation in order to keep them in the village. The ideas raised in such a meeting should be carefully studied by the villagers together before long-term objectives are set. The following ideas may act as a guide:

i) Priority should be given to the minimization of the number of the absolute poor in the village.

ii) Supplement each other with agricultural development, give importance to the conservation of farm land, environment and ecological balance.

iii) More emphasis may be given to economic development at an early stage, and then shift to human development and improvement of amenities at a later stage.

v) Adequate infrastructure could be planned by keeping in mind future population growth.

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[27] The aims of an eco- agro-tourism strategy should be to:

- support sustainable rural development through small-scale, environmentally-friendly tourism,
- create new job opportunities for village people, and
- enhance the experience and knowledge of village entrepreneurs (education, information, materials, quality control etc.)

v) Demarcate from regional development or modernization, but coordinate with those development activities.

vi) Emphasis is to be given to the development of intensive small scale farming rather than full-mechanized extensive farming.

vii) Aim at sustainable development by tripartite support system of self-reliance, mutual-reliance and public-reliance.

viii) Consideration of communal interaction with urban folks.

ix) Stave off the flow-out of the younger generation and take countermeasures as priority for aging society in the early stage.

x) Due consideration to be given to the conservation of tradition and culture by creating an attractive cultural space and facility.

The above ideas should be translated into concrete visions such as the following:

a) Priority to be given to various aspects such as IGAs, training, social services, targeting vulnerable groups such as the absolute poor, women, suppressed strata, etc.

b) Create opportunities to strengthen their abilities and avail these opportunities to them.

c) Seek more lucrative and, at the same time, joyful agriculture and livestock production.

d) Create greater linkage between primary, secondary and tertiary industries.

e) Create and promote special value-added products of the village.

f) Some group activities which may include non-farmers should be initiated.

g) Promote the linkage between crop and livestock production by exchanging each by-product - especially manure or compost to be supplied to farms for improving soil fertility.

h) Integration of individual improvement and village development must be taken into account.

i) Agro-tourism can be an alternative.

j) Promote communication with nearby villages and towns to get latest information and technology.

k) Encourage young generation and foster leaders out of them.

l) Improve the surrounding environment with biotope[28], social forests, park with small animals, etc.

m) Create amusements such as sports, folk dancing place, TV room in the community hall etc.

n) Nurture tradition and culture of the village and provide small theatre for playing and to attract townsfolk.

o) Promote and improve social amenities of the village to the extent where they are comparable with those in urban areas.

These visions are to be shared by all strata of the villagers and the actualization of them would be helpful.

[28] A biotope is an area of uniform environmental (physical) conditions providing habitat(s) for a specific assemblage of plants and animals. Used in this sense, "biotope" is really synonymous with the term "ecosystem". However, some ecologists would limit the term to encompassing only physical environmental factors; essentially meaning: the habitat of a community of organisms. Thus, a species has a certain habitat, but the group of species that share an ecosystem with that species, share a biotope. Just as a habitat is the place where a species is found, so a biotope is the place where a specific biological community is found.

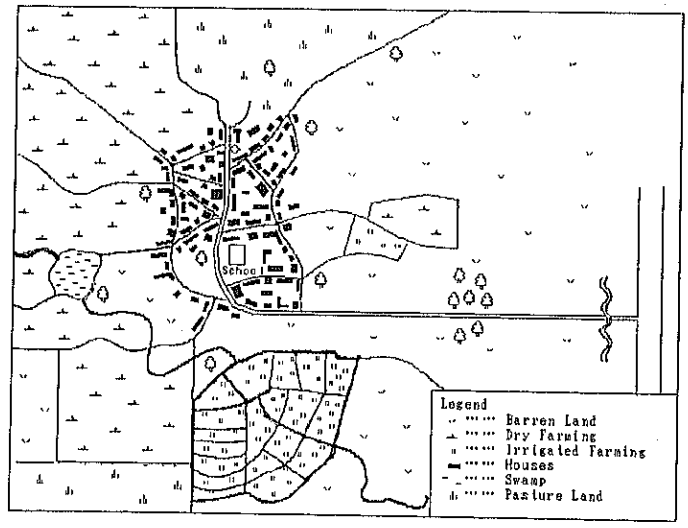
Uplifting the absolute poor, activation of agriculture, village economic growth, enhancement of social welfare, increasing job opportunities, environmental conservation, securing village amenities, reversing the migration of the younger generation, etc., cannot be tackled and solved either by a single project or a single programme. Comprehensive step-up programmes with a concrete action plan should be prepared. The village which made a great first leap by a micro-project with appropriate consecutive programmes can expect sequential leaps toward the ultimate goal, sustained rural prosperity with equal life quality as in the case of nearby urban areas.

Although PASViD can be applied to village development process within different situations, development fields and targets of each village in the subsequent stages must be well coordinated with the administrative organs in the region. In the context of such diversified village conditions, the villages should first be categorised. Secondly, the model village suitable to the region and the development stage should be conceptualized and visualized.

(1) Phase I: Before the Micro-Project (Workshop)

One village example in semi-dry zone is discussed with a simple blueprint in this manual. The sample village, Rukhumpally, is 100 km west of Hyderabad, capital of Andhra Pradesh State, India. The village population is about 500 (see Figure 6.9.1). This stage of village development may correspond to Phase-I in the village evolution model.

Figure 6.9.1: Phase I – Before the Micro-Project (Workshop)



Source: Author

(2) Phase-II – Micro Project Implementation

The Phase II in the sample village was the most critical, depicting actual progress realized by both micro-project and self-help activities of the villagers (see Figure 6.9.2). The main project components in it were:

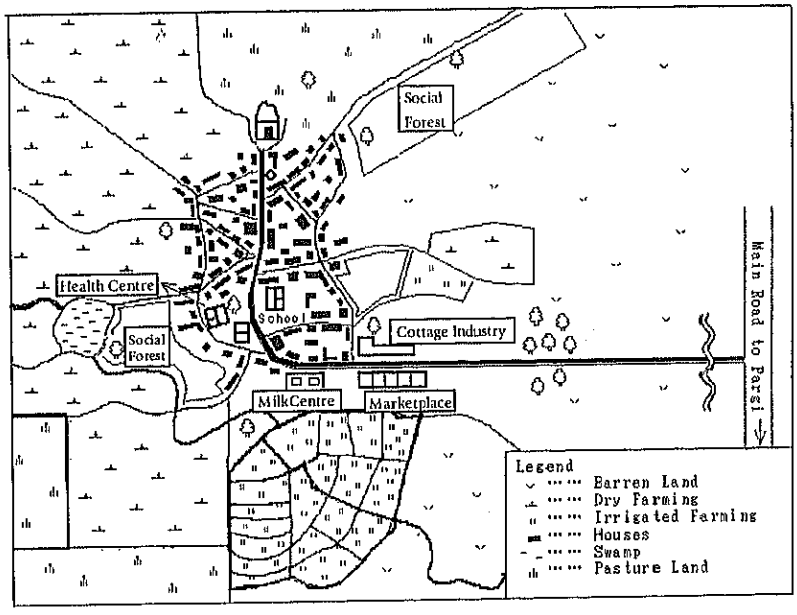
1) Construction:
   a. A 1.4 km access road to the main road (metal road with 6 culverts);
   b. Hindu shrine (by the villagers' self-help effort);
   c. School rehabilitation (assisted by the Japanese Embassy in India), and
   d. Community hall (by the villagers' self-help effort).

2) IGA by seed money (financed by micro-project)

The theme in Phase II is village consolidation with poverty alleviation and infrastructural improvement for economic activities. The principles are as follows:

a. Economic take-off of the absolute poor;
b. Solidarity of the villagers; and
c. Initiation of self-reliance and mutual-reliance activities.

Figure 6.9.2: Phase II – Micro-Project Implementation



Source: Author

(3) Phase-III – New Projects and Enterprises

Economic advancement would be pursued up to Phase-II. Phase-III should focus on macro-economic growth of the village, unlike the previous phases which emphasize poverty alleviation in individual household level (see Figure 6.9.3). Continuous advancement of production system and creating job opportunities, *inter alia*, are pursued by the village committee or each autonomous group. Intensification and fostering the products which are indigenous and advantageous, processing and marketing of the products, agricultural infrastructure, social forestry, strengthening of market, and land reclamation are to be considered. The local administration should give attention to education, health-care, service delivery, social welfare, etc., as part of public-reliance depending on the villagers' self-reliance and mutual-reliance efforts. The representative peripheral infrastructure and development components in this

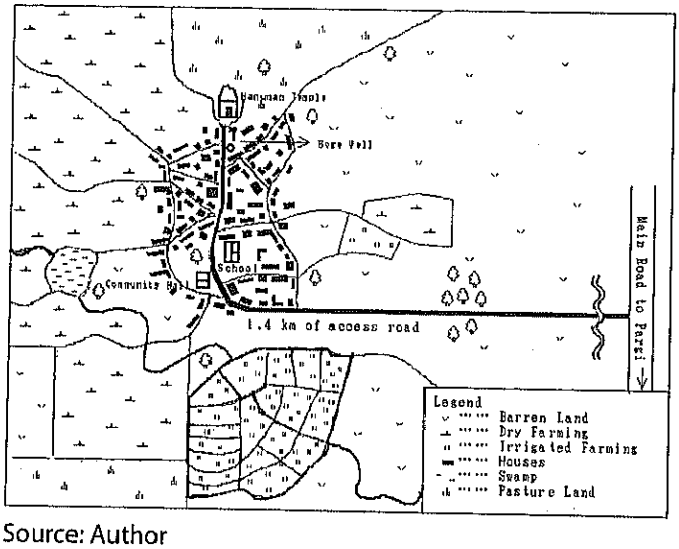
Phase at the sample village are:

1) Construction of infrastructure such as:
   a. Milk collection centre
   b. Milk processing factory
   c. Cottage industry (handicrafts, tools, furniture, etc.)
   d. Market facility
   e. Deep tube well and water tank
   f. Health centre
2) Afforestation
3) Land reclamation for pasture land

Meanwhile, the themes in this step involve a further economic leap with additional job opportunities and social equity. The important principles are:

1) Economic advancement at village level with special products or industry
2) Interaction with regional development policy
3) Consolidation of biosphere and production-sphere

Figure 6.9.3: Phase III – New Projects and Enterprises



Source: Author

(4) Phase- IV – Future Vision (Goal)

The ultimate goal of rural development is to create prosperous and autonomous community with equal job opportunities as are found in urban areas, a comfortable biosphere, maximization of rural advantages which foster human livelihoods and feelings by the presence of natural and green space, securing amenities, creating facilities and opportunities for amusement, etc. The following are examples of what embodies the goal:

1) Construction of infrastructure e.g.
   a. Water works and sewage disposal system
   b. Housing for second and third generation sons and daughters
   c. Park (with small animals)
   d. Theatre for folk arts (dancing, songs, etc.)
   e. Tourist lodge
2) Creation of biotope (for natural ecosystem and animals)
3) Initiation of lease farm for town people
4) Promotion of agro-tourism

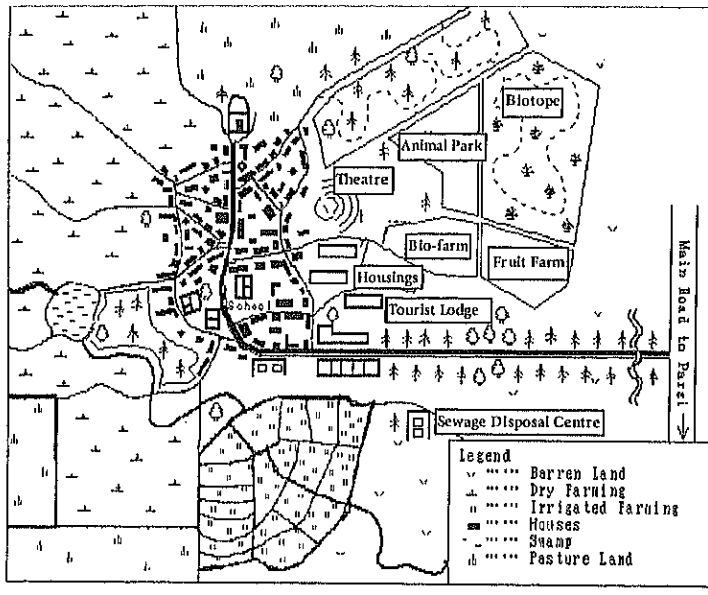
It is quite possible to invite tourists from town by arrangement and cause maximization of green space, which forms the very surplus value of the rural areas. Furthermore, the flow of the younger generation going to the urban areas could be reduced or reversed, which would reduce the potential for future urban problems. Consequently, the co-existence of rural and urban areas will be realized with mutual prosperity (see Figure 6.9.4).

The theme in Phase-IV is sustained prosperity with amenities and clean environment. The principles in it are as follows:

1) Social amenities
2) Creation of attractive green and pastoral space
3) Co-existence of rural and urban areas
4) Environmental conservation
5) Revival and fostering of traditions and culture

One may wonder whether it is Utopian to imagine that a village can reach Phase-IV development as perceived above (Figure 6.9.4). But there are several instances where such facilities are already available in rural villages. Agro-tourism, cultural troupes performing in villages with make-shift tents, rural picnic spots with horticultural farm houses, etc., can be observed in the rural areas, though rarely. However, it may not be so easy for each village to achieve such a phase of development in a short period, despite the fact that it is both desirable and attainable. Meanwhile, it is worth its while for both the villagers and the relevant organizations to work ceaselessly toward reaching this goal over time.

Figure 6.9.4: Phase IV – Future Vision (Goal)



Source: Author

CHAPTER 7

PASViD STRATEGY

7.1 Tripartite Reliance

(1) Self-reliance

Where there is no will, one cannot achieve any meaningful improvement of one's livelihood, regardless of the prevailing circumstances. In this regard, the key issue is how to stimulate, promote and maximize the self-reliance of the absolute rural poor who already have low morale arising from the many discouragements they have had to put up with due to their position in the social structure. Although the reasons for their powerlessness vary from community to community, the IFAD report on "The Status of World Rural Poverty, 1992" states that the poor are kept out of the decision-making process because they are powerless in job selection, consumption, etc.; and because they are isolated both geographically and socially. All in all, their choices and entitlements are severely limited.

The participatory approach to rural development, by which the absolute poor could be encouraged to be self-reliant, was launched with the hope that it would deal with this problem. However, the decision-making process is still not adequately addressed as it continues to remain at the "top" while the poor remain at the "bottom". Besides, no standard systematic participatory methodology was agreed upon - thus the absolute poor still remain voiceless and powerless. There should be some mechanism that guarantees the absolute poor some level of involvement in the decision-making process over relevant projects and future plans of their villages. This mechanism was not realized until the PCM approach was integrated with CARD. Under PASViD (modified CARD) planning, the absolute poor can attend the modified and simplified PCM workshop where the project components and future plans are decided. Through this process, the absolute poor could be stimulated to maximize their self-reliance.

There are five steps to strengthen the self-reliance of the villagers in PASViD:

i) Awareness building - in the workshop;
ii) Retrieval of confidence - through participation in the project planning step;
iii) Activation of their wisdom and tacit knowledge;
iv) Sustainability of self-reliance - by government follow-up activities; and
v) Realization of their dream for the future.

(2) Mutual-reliance

Mutual-reliance implies reliance on each other and may also be viewed as village community reliance on itself. This reliance plays an important role in improving the living standards of the absolute poor. The hamlets (or small villages) in Japan or in South East Asia usually have various types of cooperative systems such as *Goton Royon* in Indonesia, *Moyai* or *Yui* in Japan, which have been formed and strengthened during earlier periods of the villages. In most cases, these associations or committees tend to be independent from national or public institutions. Their purpose is to bring villagers together to help each other cope with their mutual problems and practices such as village development, irrigation scheduling, disaster management, and also personal matters such as helping with agricultural production between households, marriages, funerals, credit system, and house transfer or construction.

PASViD promotes those conventional group activities or creates similar new groups in order to manage the project components, e.g. construction or rehabilitation of peripheral infrastructure, their maintenance, seed money management, etc.

Group activity for village development is more meaningful for community level advancement as opposed to helping directly the poor individuals. Consequently, group ability is the key to achieving a future model village.

(3) Public-reliance

An important element for poverty eradication is public-reliance realized through the pursuit of national priorities, which may be translated into actual budgetary and personnel allocations in the country's development strategy. However, PASViD will not have such a stereo-type recommendation as "each government should try their best efforts in order to eradicate absolute poverty as soon as possible". This kind of recommendation tends to promote self-satisfaction. On the contrary, what should be reiterated here is the application and the follow-up of PASViD strategy in as many villages and as early as possible. Donor agencies/financing institutions are also to be encouraged to cooperate in this venture.

7.2 Integration of Fields

Although a project can deal with only a limited number of issues, none of the necessary issues should be left untouched in the long-term development scheme of a village. What should be of concern are their priorities on the time-dimension and consideration for their integration. Poverty alleviation should be a key and priority concern in the early stages of development, but several factors need to be taken into account to overcome this vexing problem.

Improvement of the living space is crucial in order to secure the future prosperity of the village. Special attention is needed to keep appropriate balance among the surrounding natural environment, the inhabited sphere and the production sphere. According to the village issues to be addressed and their magnitudes, trade-off relationships between these three factors must be sought and utilised. The time dimension should also be taken into account especially as it relates to environmental conservation. This is one main reason why a long-term village development programme is required.

Besides the spatial improvement issues, other important issues such as institutional arrangements must be addressed. Although some of them can be tackled by the villagers themselves, many of them lie in the hands of the government or implementing agencies. For example, the following issues cannot be initiated by villagers alone:

1) Land reform
2) Disaster management
3) Social security
4) Education system
5) Market system
6) Social welfare (including health care system)
7) Population control
8) Employment generation
9) Other institutional improvement issues

In addition, there are several issues which require technological expertise but are imperative necessities. They are:

1) Technological development of agriculture, fisheries, forestry, etc.
2) Industry such as processing, machinery repair, etc.
3) Means of mass-communication (in advanced stage)
4) Environmental conservation
5) Energy supply
6) Introduction of other modern technologies such as Information Technology (IT)

7.3 Poverty Alleviation

According to the "Human Development Report" (UNDP, 1996), poverty is not only an economic aspect but also a human development aspect. The Human Development Index (HDI), composed of the standard of living, longevity and educational attainment, was used to measure country-wise trends. Meanwhile, household level indices of rural poverty were given by IFAD in their report entitled "The State of World Rural Poverty", (1992). These include:

1) Material deprivation as measured by inadequate food intake etc;
2) Isolation as reflected in geographical location;
3) Alienation stemming from isolation and exploitative social relations;
4) Dependence which depresses the bargaining power of the rural poor in a world of unequal social relations;
5) Lack of decision-making power and freedom of choice in production, consumption, etc.;
6) Lack of assets;
7) Vulnerability to external shocks and internal social conflicts; and
8) Insecurity which defines the risk of being subjected to physical violence.

Poverty in rural areas, more specifically in villages, can be conceived in two dimensions: (a) the existence of the absolute poor at individual household level who are living below the poverty line defined as less than one US$ per person per day (or an annual income below US$ 370 according to the World Bank definition), and (b) relative poverty at community level in comparison with the urban areas. The former can be expressed in the number or percentage of the absolute poor in the village population, while the latter is usually discussed from the qualitative viewpoint of what constitutes the standard of life. In case of Japan, the income levels of farm households of full-time, primary part-time and secondary part-time in comparison with the income of urban households are often cited as indicators of the standards of rural life.

In addition to the individual income level, the following six social indicators of the community are sometimes used to indicate their standard of life:

1) road network development ratio,
2) paved road ratio,
3) water works ratio,
4) municipal sewage disposal ratio,
5) household usage ratio of sewer system, and
6) refuse disposal ratio.

The PASViD strategy for poverty alleviation, too, can roughly be divided into two parts: one for the absolute poor at individual household level and the other for relative poverty at community level. The alleviation of poverty at community level can be considered as a synonym for rural development, in which attention must be paid to the various development indices including the HDI used by the UNDP. Therefore, for convenience, when PASViD addresses poverty alleviation, it signifies the measures taken to reduce the numbers of the absolute poor who are living below the poverty line. Sometimes, the poverty line is defined within a specific economy – for example, the income required to sustain an individual's daily intake at 1,805 calories in Bangladesh, or Kwacha 20,181 per family (of 6 persons) per month in the case of Zambia (1996 values).

Some argue that poverty alleviation brings about economic growth in its wake (The State of World Poverty, IFAD, 1992). However, it seems that this investment in the rural poor is not so attractive to the majority of the developing countries. They are not convinced that committing a large portion of their fiscal budget to poverty alleviation measures will boost their national economies. The premise adopted by IFAD needs to be proved in the majority of the villages, which require a significant amount of allocations of budgets, manpower and other resources.

Governments with limited fiscal budgets tend to invest primarily in the urban and industrial sectors where the need for resources is visibly more acute, and where immediate results are seen to accelerate competitiveness within the world market. The key concern of such a move for the country would be survival in a severely competitive global economic system. It appears then like mere improvement of livelihoods for humane reasons cannot be a motivation for national strategy formulation. Therefore, it is safer to conceive that poverty alleviation in a country is to be motivated by social security, justice and equity rather than from humanity or economic aspects. Once poverty is alleviated, the economic impact may be tremendous, but economic aspects should not be considered as the sole objective of poverty alleviation, but instead, as a consequence. It is safe to conclude that the total national budget for rural poverty alleviation may not be increased drastically on the basis of the argument that poverty alleviation causes economic growth.

The question then remains: What is required for the development of the absolute poor individuals? As far as their individual situations are concerned, in many respects they lack the ability to improve their livelihoods due to their extremely vulnerable and weak positions. This includes lack of bargaining power. These deficiencies at individual level have tended to be the result of external adverse circumstances including lack of opportunities for employment, education, healthcare, and physical amenities. These external factors are critical and must be improved in order to raise the standard of living of the absolute poor.

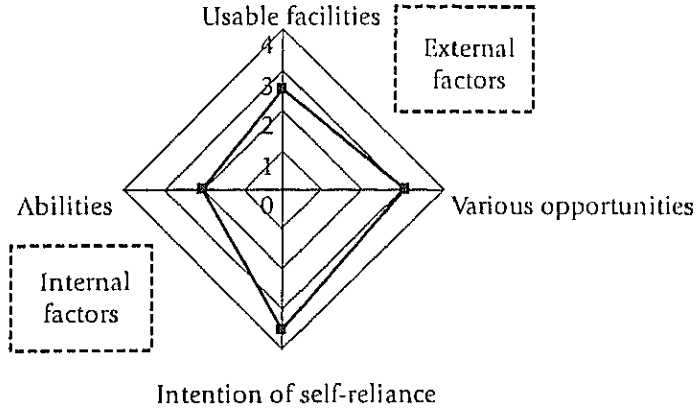
(1) Physical amenities

Provision or rehabilitation of infrastructure in or around the village may improve the standard of living of the absolute poor in the village as well as accelerate the alleviation of the relative poverty at the community level. Peripheral infrastructure such as irrigation works, water supply, sanitation etc. should also be addressed simultaneously.

(2) Opportunities for various necessities

It is a well-known fact that accessibility to credit for the absolute poor is extremely limited. Further, employment opportunities are so restricted that the only way forward in most cases is to create self-employment. Besides, they are often not covered under any health schemes nor do they have the resources to adequately take care of their health, a fact which reduces their competitiveness in many ways.

Figure 7.3: Individual Poverty Diamond



Key:
Ref.: 1 = poor, 2 = fair, 3 = good, 4 = excellent
(The bigger the diamond is, the greater the chances for the individual to get out of poverty.)
Source: Author

In order to meet these challenges, PASViD proposes to employ field workers (FW). The FW is paid by the micro-project for the entire project period. After completion of the project, it is proposed that the FW be sustained on the villagers' account. The FW salary can be generated out of the interest accrued from the revolving fund or the savings of the villagers from the proceeds initiated by the micro-project.

The FW should create and promote as many opportunities as possible in addition to his/her duty to obtain individual household data. In the course of preparing the conceptual diamond as shown in Figure 7.3 for each absolute poor individual, the FW should identify which opportunity is most crucial for each individual case. Then, the FW, in collaboration with the extension officer (EO), must try to maximize the possible opportunity by introducing new information, crop varieties, self-employment skills, etc., as well as preparing the recipe by which each poor family can get out of the poverty trap.

(3) Ability

Generally, the education level of the absolute poor is low because they cannot afford higher education. This illiteracy or semi-literacy limits their ability to advance in any way. In order to break this vicious circle, some sort of training or extension service messages should be given to them as a short-term countermeasure. New information and techniques can be disseminated at the village meetings, which would assist them to increase their abilities. The FW is a stakeholder in this case, and should take initiative for technology transfer.

S/he may contact the relevant service stations, e.g. agricultural office, experimental centre, handicrafts manufacturer - in order to obtain technology and information relevant to the needs of the villagers. Therefore, the innovative ability of the FW is a decisive factor in raising the abilities of the absolute poor. Although PASViD recommends that the FW be selected from among the villagers, there would be no harm in employing a FW who is an outsider as long as they have the required abilities especially those to enable him meet the demands of technology transfer. Adult classes for basic education Literacy and numeracy) can be organized by the FW as a long-term measure to bring up the abilities of the poor. A volunteer literate villager can play the role of teacher and resource person. Otherwise, some incentive system should be established for such positions, e.g. field trip to some centres or cities, new seeds or varieties of crops and useful manuals.

(4) Volition

The fourth and equally important factor for individual life improvement of the absolute poor is self-help or self-reliance. Their determination to improve their own lives is crucial, although this tends to be suppressed by the unfavourable external environment with which they continually interact. They are so discouraged that they are seldom prepared to face the challenges and harsh realities of life which come their way. Their willingness to help themselves must be encouraged through some external interventions like PASViD.

7.4 Cooperatives

Throughout the Sub-Saharan Africa (SSA) Region, the cooperative movement has thrived for over 40 years. The history of the cooperative movement in Zambia, for example, starts in the colonial era. Although the basic philosophy has remained unchanged over the years, the cooperative institution in any SSA country has undergone changes in concept, content and coverage with time. At first, cooperatives were mainly produce marketing and input supply organisations. But as their assets grew they went into manufacturing, credit and savings, and banking. Today, cooperatives in Kenya, Uganda, Zimbabwe and many other countries of SSA play a significant role in village development when they function properly. The village level cooperatives, such as those found in Zambia, are destined to play a key role in rural development efforts. Like other people's organizations, these cooperatives owe their origin to felt needs of the people, desires of the national governments to use cooperation as an instrument of socio-economic development, and efforts of the non-governmental organizations (NGOs) to serve through grassroots institutions.

In its report entitled "Monitoring and Evaluation of Village Level Cooperatives" CIRDAP expressed the view that it was necessary to identify the constraints that hindered the effective performance of village cooperatives and assess their future prospects as vehicles for socio-economic development, particularly for the poor and the disadvantaged groups in the rural areas. The book further discusses the views presented below.

(1) Effectiveness of Village Level Cooperatives

Village level cooperatives traditionally refer to cooperatives of agricultural producers or workers involved in agricultural production and are registered as cooperative societies. Such a limited view, however, is not consistent with the integrated development of the rural areas as it ignores the inter-dependence and linkages of rural economic activities.

Consequently, all types of village-level primary cooperatives are relevant. The recent trend in most of the countries is to establish multi-purpose cooperatives at the primary level to raise the socio-economic conditions of the villagers. Their size and scope of activities are set in accordance with the demands of the members to meet their complex requirements of planning and undertaking of farm and off-farm activities within a dynamic context.

With respect to effectiveness of village level cooperatives, it is rather difficult to arrive at a consensus as to what effectiveness really means. The problem of measurement of effectiveness raises a number of issues regarding quality and techniques of measurement. One needs to resolve questions concerning the relevant dimensions of effectiveness, their appropriate indicators, and the nature of impact of cooperatives that could be regarded as effective. In practice, certain impacts of the cooperatives on their members can be identified. But the value judgement on the desirability of these impacts crucially depends on the operational objectives of the cooperatives. Moreover, this is likely to entail coordination of the macro policies for development and the micro-policies for the cooperatives in order to identify operational criteria for assessing the effectiveness of the performance of the cooperatives.

A frequently applied methodology is to use a multi-dimensional index of indicators to monitor the effectiveness of the village level cooperatives. The indicators may be chosen to cover major aspects of their performance e.g. economic, social and self-reliance (CIRDAP 1989). The advantage of the approach is that it provides a comprehensive picture of the performance of the cooperatives both in terms of quantitative and qualitative indicators, which can be applied to a range of situations.

(2) Promoting Cooperatives as Institutions for Development of the Rural Poor

The historical evolution and the current status of the village level cooperatives in the Asia-Pacific region suggest the tradition of viewing them more as instruments of public policy rather than as voluntary organizations of the members. Within the above 'instrumental approach', both two- and three-tiered cooperatives and single- and multi-purpose societies have emerged and flourished in the region.

Despite country-level differences in the structure and performance of these cooperatives, a number of common features may be noted. In most countries, the functioning of these cooperatives is far from satisfactory. Most of the members belong to the rich and middle income groups resulting in gross under-representation of the poorer sections of the rural community. Moreover, the membership is mostly dominated by the male gender. The effectiveness of these institutions as well as participation of the members in the decision making process also vary widely across the countries. In many instances, the cooperative 'culture', with its emphasis on an impersonal accountability system, seems to generate conflict and friction in the traditional rural social system where personal relationships dominate and reciprocity and compassion at times of emergency are considered as important elements of security.

The success of village level cooperatives as institutions for the development of the rural poor is governed by several critical elements such as motivation towards joint action for a common genuine felt-need to achieve stipulated objectives; social cohesion among the group members; education in the benefits, principles and practices of cooperative actions; dynamic and active leadership; an economic, political and legal system conducive to cooperative development; existence of infrastructure including education, extension and advisory services to support cooperative development; and flexible social structure and supportive government policy.

In addition, the organization and activities of the cooperatives should be able to ensure membership participation in all aspects of their functioning to pursue activities as demanded by the members and generate growth momentum endogenous to the village societies.

The development of the rural poor requires improvement in their quality of life and involves desirable changes in all aspects of their environment - economic, social, human, cultural and institutional. While this suggests the consideration of multiple ingredients for the creation of a conducive environment for ensuring success, the evolution of well-functioning rural institutions is important to serve as effective delivery and receiving mechanisms for the poor. The cooperative institutions are best-suited to serve the purpose primarily due to their voluntary and democratic principles. The success of the cooperatives in the region as self-help organizations, however, is not encouraging due to interactions of a number of economic, social, administrative and structural factors which constrain their growth as self-reliant and pro-poor institutions.

In the midst of odds, several village-level cooperatives in a number of countries have emerged as effective and successful organizations helping the development of the rural poor. Studies on these cooperatives can identify and bring into focus the factors contributing to their success which can be emulated by others. A properly designed Monitoring and Evaluation (M&E) system, which ensures ultimate accountability to the members, when adopted and implemented can serve to guide the cooperatives to emerge as effective in serving the needs and demands of the poor.

7.5 Implications of the Participatory Approach

The participatory approach for project implementation is effective in creating a sense of ownership among villagers, which plays an important part during implementation as well as maintenance of the completed project. For purposes of ensuring survival of the project, the process of decision-making is more important than the project components. If a top-down decision-making process is applied, villagers tend to participate passively during implementation and maintenance of the project irrespective of whether or not they approve of the project components. For this reason, the top-down approach tends to create dependency and a rights consciousness among the beneficiaries instead of nurturing self-reliance. On the other hand, if the bottom-up approach is adopted, the chances of securing sustainability and autonomy of the village are greater. Nevertheless, a pure bottom-up approach would never guarantee funding for a project based on the identified needs. Therefore, PASViD is a synthesis of the two approaches – a 'stairs approach' in which an extension officer works as the staircase or bridge between the top and the bottom. PASViD could therefore be a realistic way of implementing a poverty alleviation scheme arising from the true felt-needs of the members of a poor community. Throughout the process of PASViD the extension officer must confirm that there is a common understanding of the concept among all the participants at the workshop as this is a critical issue at the initial stages of a PASViD approach. Unless this common recognition is assured, sustainability of village development initiated through PASViD cannot be expected.

The participatory approach not only aims at creating equality among project participants, but its ultimate target is to ensure implementation efficiency and sustainability of the project. It should be recognized that this approach should be accompanied by a commitment to duty and self-sacrifice on the part of every villager.

The participatory approach should embrace the following:

a) Representatives from all levels of the village hierarchy should participate in the workshop where the project components are decided.
b) A conducive environment in which everyone should be free to express their opinions should be created.
c) The village head should be consulted and sufficiently briefed on all important issues beforehand and his consent obtained.
d) Villagers' initiatives and self-reliance should be developed so that they recognize themselves as the owners of the project.
e) However, the sense of ownership is meant to operate and manage projects with full transparency, legitimacy, efficiency, equality, and so on, which could be attained only by long experiences with extension officer. Therefore, extension officer must participate also to their operation and management until the villagers become totally autonomous.
f) Management of conflict and interests among opposing groups.

Despite ensuring that the method runs according to the stated rules, there are usually several pitfalls in any participatory approach to project management. The biggest pitfall is that the means may turn into a purpose. The concerned persons may be satisfied with the fact that people's participation has been sufficiently secured, and that therefore the project is highly appreciated by the beneficiaries. Many development agents have been tempted to offer some direct incentives to enhance people's participation to get short-term success. This tends to overlook the fact that some participants get involved only for the immediate benefits which accrue from these incentives. Under such circumstances, ownership of the project and self-reliance would become a mere pipe dream. Consequently, the ultimate goal would elude the effort.

An ideal form of people's participation is not attainable. In this regard, it should be recognized that participation is only one of the many alternatives to encourage and approximate the achievement of a developmental goal. Based on this viewpoint, it should be realized that the creation of ownership and self-reliance through the participatory approach is what is important and not the methodology *per se*. A project which succeeded in the planning, implementation, operation and maintenance stages using the participatory approach at the initial stage may result in the achievement of sustainability of village development programmes. This may be an indicator of the extent to which a participatory approach has been effective.

7.6 Exploitation of Local Tacit Knowledge

Generally speaking, Japan values tacit knowledge and this tendency is salient in rural areas among farmers. Tacit knowledge is obtained through real life experiences and consequently is memorized. In a hamlet, individual tacit knowledge in farming or any other form of livelihood is shared and internalized by groups without the process of externalization, by which tacit knowledge tends to be explicitly consolidated and transmitted (Nonaka, I. and Takeuchi, H., 1996). The nature of groups varies from village committees to small women's groups.
It has been observed that the system of converting individual tacit knowledge to institutional tacit knowledge is apparently well established in a Japanese small village. The villagers share common experiences and values without employing any sophisticated means such as written reports, textbooks, or even the use of verbal communication.

Meanwhile, RRA and PRA could be considered as an effort to convert tacit knowledge to explicit knowledge. As long as exogenous development in a village is to be met, this process of externalization of knowledge is essential to prepare an alternative prescription for the village. On the other hand, PASViD aims at internalizing such tacit knowledge or wisdom among various village groups without making any attempts at its externalization. PASViD considers a small village as an active living creature which adjusts, controls and dominates itself. The value of conducting a workshop at an early point of a PASViD exercise is to ensure that individual tacit knowledge is triggered-off among the participants and/or villagers as in a spot-like melting pot. Consequently, the tacit knowledge is shared rapidly, facilitating consensus on common values and a future common vision. This achievement is possible because villagers share a common environment and destination through their history *a priori*, and because society is predominantly a small world of acquaintances.

The difference between the conventional approaches and PASViD could be demonstrated through the difference between the western and the Japanese approaches. The former emphasizes studies, analysis and logical prescription, while the latter cherishes tacit knowledge, integration and united actions. However, externalization through PRA social mapping is useful in sharing common future plans of a village. It gives a clear visual picture in several phases, and enhances the community volition to achieve the common goal. This process is assured when villagers are conscious of their autonomy. Therefore, PASViD is intended to promote this autonomy of the village in long-run through the process.

Use of seed money to support village enterprises is one way of stimulating development. Supporting several entrepreneurs at the same time may result in healthy competition leading to more efficient provision of services and cooperation. This healthy competition, business stimulation and cooperation encourage internal reliance. The inclusion of the poorest strata and women in a village development plan is essential. Their power, which has been suppressed in the past, would be fully harnessed and exploited through such a process. Consequently, they regain their self-confidence, pride and dignity.

7.7 Implications of Sustainable Village Development

To attain sustainable village development, each villager is expected to practice sustainable agriculture. Thus, a village, as a physical producing unit, must stave-off soil degradation (water and wind erosion, loss of fertility, etc.) in the entire area. Once this is done, total agricultural productivity of a village should be expected to increase, industries such as cottage industries and agro-processing are expected to prosper, total economic activity is enhanced, living standards of the villagers improve, etc. Once consciousness for a clean environment is raised, the emission of harmful substances (air pollution) is expected to decline and environmental amenity is pursued through carrying out appropriate measures in environmental conservation. Organizationally, sustainable village development is meant to bring prosperity and maturity of various village organizations such as VDC, youth association, women's groups, etc. In particular, focus should be placed on the activities of cooperatives, and they should be encouraged as they have great potential in promoting business at the village level.
The most important issues in a sustainable village in the long-run are economic prosperity and social welfare which are key aspects of the living sphere. These should be given their due attention by all villagers, and facilities established by use of public funds should be supported in operation and maintenance by the villagers. The ultimate objective of a sustainable village is to maximize the comparative advantages of the rural area and minimize the comparative

disadvantages of the village (see Table 7.7). The pursuit of such an overall goal should encourage the younger generation to settle in the village. PASViD provides a desirable future vision through a social map prepared using PRA. This will facilitate a common sharing of the future picture of the sustainable village by all villagers.

Rural and urban areas so far tend to complement each other only through movement of labour, food and raw materials from rural to urban areas, and manufactured goods and money from urban to rural areas. However, the potential for inter-cultural exchange between rural and urban areas seems to be underestimated. The exchange may bring tremendous benefit to both sides by supplementing each other's weaknesses. Table 7.7 shows the comparison of strengths and weaknesses of each area. The surplus value of rural areas in future can be necessarily shaped by the table.

Table 7.7: Comparative Advantages and Disadvantages of Rural and Urban Areas

Strengths of urban areas		Weaknesses of rural areas
Convenience in transportation and shopping	⇔	Inconvenience in transportation and shopping
Abundant health care facilities and education system	⇔	Scarcity of health care facilities and education system
More job opportunities	⇔	Fewer job opportunities
Strengths of rural areas		**Weaknesses of urban areas**
Abundant green, clean air and clean water	⇔	Little green, polluted air and polluted water
Quietness	⇔	Noisy, uncomfortable traffic
Abundant humanity	⇔	High crime and accident rates

Source: 'Way to inner development - Logic & prospect of community development', Youichi Moriya, 1991

PART-II

PRACTICE IN THE FIELD

CHAPTER 8

OUTLINE OF MICRO-PROJECT

8.1 Flow of Micro-Project

The threshold of PASViD is implementation of the micro-project. The success of village development through PASViD depends heavily on successful micro-project implementation and management of the completed micro-project. Therefore, this PART-II of the manual gives details of the micro-project.

There are eleven recognizable steps to a micro-project spanning over four stages: pre-workshop activities, planning, implementation and evaluation. The practical stages and steps for standard micro-project implementation are summarized in Table 8.1, with a description of the main activities. However, the process is flexible and could be modified to suit any particular situation.

Table 8.1: Stages, Steps and Main Activities of Micro-Project Implementation

STAGES	STEPS	MAIN ACTIVITIES
I. Pre-Workshop Activities	1 Selection of PASViD village	1) Set criteria to select or prioritize candidate village 2) Collection of Basic Village (or unit) Data 3) Decide candidate village for PASViD implementation
	2 Preliminary survey (Optional)	1) Study of natural, economic, social and administrative conditions of the village 2) Transect and social mapping by PRA
	3 Village classification (Optional)	1) Identification of village type
	4 Approaching the village	1) Meetings with village head(s) 2) Explanation of PASViD and micro-project (on their agreement, follow next steps) 3) Decision of project coverage village(s) or unit 4) Decision of workshop venue, date and participants 5) Preparation of social maps 6) Preparation of materials for workshop (cards, tape, chalk, reed mat, etc.)

II. Planning	5 Workshop	1) Confirmation of participants and invitation of any missing strata (participation analysis) 2) Explanation of PASViD and micro-project (on their agreement, follow next steps) 3) Explanation of workshop 4) Problem identification by use of cards 5) Realignment of the cards for Problem Tree 6) Explanation of Objective Analysis 7) Listing up project alternatives 8) Prioritization of project alternatives
	6 Finalization of Project Plan	1) Basic market study for MP 2) Preparation of project alternatives lists with cost estimates, PDM, PO and Risk Management 3) Decision of appraisal workshop venue and date
	7 Appraisal Workshop	1) Confirmation of project components and their participation in the project 2) Decision of schedule and responsible persons 3) Future blue print of the village by using social map 4) (Nomination of field worker) 5) Appointment of signatories for bank account
III. Implementation	8 Pre-Project Activities	1) Formation of village committee 2) Open account at nearest bank 3) (Training of field workers) 4) (Conduct baseline survey with field worker) 5) (Market analysis & training)
	9 Project Activities	1) Start purchasing material and book-keeping 2) Construction or rehabilitation of physical infrastructure 3) Start income generating activities 4) Start technical guidance and training by EO 5) Monitoring the project by PDM & PO
IV. Evaluation	10 Final Evaluation	1) End baseline survey 2) Analysis of survey results from 5 evaluation points (and to synthesize the report)
	11 Ex-post evaluation (Optional)	1) Survey for impacts and sustainability 2) Analysis of survey results & to synthesize the report

Source: Author

8.2 Role of Extension Officer

(1) In Overall PASViD Process

The role of the extension officer or any person in charge of extension in the selected village such as an NGO representative is much more important than in ordinary extension work. The EO is an inspirer of the villagers, a challenger who works closely with the villagers. Although villagers are told to be the owners of the development project through PASViD, the EO must continue to play his role until villagers become totally autonomous. Autonomy can't be expected to take place in a short period. It is a long process that grows slowly like a child through youth into responsible adulthood. However, the characteristics of the role change in accordance with the progress of PASViD especially in Micro-Project (MP). The PaViDIA Project in Zambia recognizes the following changes in the role of the EO:

i) Challenging or brain-storming stage
ii) Carrying stage
iii) Hand-in-Hand stage
iv) Watching stage
v) Go-it-alone stage

Though the depth of their involvement in the process of development decreases with time, the responsibilities of the EOs remain the same from the first to the last stage - Go-it-alone. Their role in the village expire once the village becomes totally autonomous.

(2) At Pre-workshop

The extension officer, in coordination with the line Ministry and District Office, must act alone in the selection of the village(s), approaching the village(s), particularly the village leadership and in preparation of materials for the workshop. One of the more sensitive and difficult tasks at this point is to explain the workings of PASViD to village leadership. Besides explaining the EO has to ensure that the village has good quality leadership and to interest the villagers and raise their enthusiasm.

(3) As the Workshop Moderator

The EO is also a moderator of the modified and simplified PCM workshop. However, unlike the orthodox PCM moderator, s/he must challenge and think together with the villagers and make suggestions or teach from time to time about technologies, markets, etc. S/he needs to remind the villagers that s/he is responsible for the smooth implementation of PASViD to try and achieve village prosperity. On the other hand, s/he should not forget that villagers must take ownership the MP initiative. This may appear to contradict the villagers, but it must be clearly explained and understood by the villagers. If too much top-down attitude dominates, the villagers may loose ownership, and if too much bottom-up respect to the villagers' initiatives prevails, inappropriate direction of the development may be taken. The EO, therefore, is required to maintain the best balance of this situation.

After the first workshop with the villagers, the EO may go to nearby market to search for the prices of the necessary materials for infrastructure. He also must ascertain the feasibility of the income generating activities. Those results are summarized and reflected in the Project Design Matrix which is explained later in this manual.

At the appraisal workshop, the extension officer may act as a moderator again. S/he must assist the village development committees in their preparation for MP implementation.

(4) During MP Implementation

Although the villagers through village development committees should take initiative, the EO must be involved in MP activities such as book keeping, management of the MP budget, banking and withdrawal of money etc. These activities continue until the villagers can manage their own finances with honesty and transparency.

The EO's advice is required during construction so that proper use can be made of the available technology. Business information should be made available to assist the income-generating activities (IGA). S/he must also check the Risk Management Table from time to time in order to keep the MP on the right track.

(5) At Evaluation

The first IGAs should be assessed by a joint team of extension officers and villagers. The lessons and plans of those activities should be thoroughly analyzed and incorporated in the next IGAs. Since the evaluation process requires a good educational background, the EO must take lead in this activity. An active EO would have a household socio-economic survey of the village at the beginning of the MP as well as some suitable point at the end of some IGAs.

CHAPTER 9
PRE-WORKSHOP ACTIVITIES

9.1 Selection of PASViD Village

If there are several candidate villages where PASViD is to be applied, they must be selected and prioritized well in advance. Criteria for village selection should be established and after selection baseline data should be collected for each village. A sample baseline data sheet is shown in Table 9.1. Basing the scoring on the set criteria, each village could be compared with others for purposes of prioritization.

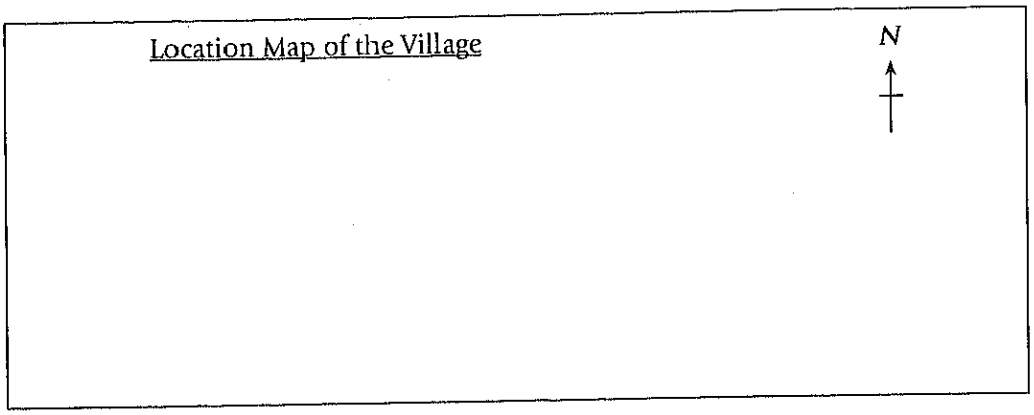
Table 9.1: Basic Village Data

Enumerator: _____

Date: _____

Province	District	(Block)	(Camp)	(Zone)	Village

No. of Households		Population	
List of Major Problems			
Percentage of Absolute Poor		Approx. _____ %	
School			
Health Clinic			
Existing Village Organizations			
Eagerness of the Villagers Towards Development	(High, Medium or Low)		
External Assistance			
Access Road to District Town	Road Type: _____ Distance: Approx. _____ km		



9.2 Preliminary Survey

Once the budget for the project implementation is secured and the project village has been decided, the EO may prepare to conduct a preliminary survey of the village. This is optional work. The preliminary survey should be thorough, sophisticated and with a complete coverage of all aspects relevant to the village in case this information is required for other larger projects later. But the survey recommended by PASVID should be relatively simple and quick. The survey items may comprise as much objective information and data as s/he can obtain, which is about the village and its surroundings without making it too rigid. The greater the quantity of information collected and the thorough the analysis, the greater the depth of insights about the village and its people that are likely to be obtained. Below is a sample checklist of issues to be considered for inclusion in the survey which can be built into questionnaires or interview schedules.

(1) Natural conditions

i) Climate (regional)
   a. Average minimum and maximum temperatures, rainfall, humidity, sunshine, wind velocity in each month for the last 10 years where possible
   b. Natural calamity: cyclone, flood, drought, cold wave, heat wave, hailstorms, earthquake, animal damages, etc.

ii) Geography
   a. Topography, river, sea, lake, pond, mountain, valley, area of plain land, marshland etc.
   b. Village border, distance from big city, nearest market, habitation, fauna, flora, forest, desert, barren land, grass field

iii) Soil
   a. Soil type and distribution
   b. Fertility, deficiency or excess of some minerals, poisonous elements, salinity, acidity

iv) Others
   a. Natural resources, water source, drainage of the area

(2) Economic conditions

i) Land use: Farm land, communal forests, fishery ponds, livestock (pasture land)
ii) Water utility: History and present status of irrigation and drainage facilities
iii) Agricultural (fishery, livestock) production, farm household economy, marketing

iv) Facilities for agriculture (storage, mills, etc.), mechanization, processing
v) Other industries: mining, construction, manufacturing, market, commercial activities

(3) Living conditions

i) School education, social education, kindergarten, hospital or health care facilities, consumption service, recreation and amusement
ii) Security, disaster management, energy, transportation, communication
iii) Housing, community hall, research or training centre, extension service
iv) Food security, drinking water, daily necessities
v) Factories, facilities for energy
vi) Public hazards (air and water pollution, industrial nuisance)

(4) Social conditions

i) Population, number of households, job classification by industries, household income
ii) Land ownership, migration, job opportunity
iii) Religion, tradition, custom
iv) Means of transportation and facilities
v) Infant mortality rate, life expectancy, maternal mortality
vi) Literacy rate, male and female education level

(5) Government administration system and development policy

i) Local government system, election system, role of organization, facility
ii) Development plan and budget
iii) External organizations: NGOs, international organizations

The survey proceeds in two stages: First, secondary data is obtained from libraries, government offices and other published sources; second, the EO visits the village to collect supplementary primary data from the villagers. In the primary data collection exercise familiarity with PRA/ RRA methodology could be handy.

Parallel to the survey work, the EO may receive guidance on PCM, which would probably equip him/her with the necessary ideas and skills for conducting the first workshop. If such information is not available, thorough study of this manual will give the EO the necessary skills to conduct the PCM workshop. Training the concerned personnel in PCM basics would also be helpful.

9.3 Village Classification

Villages are widely distributed and dispersed geographically due to the need for adequate land for the various forms of livelihoods for the inhabitants - agriculture, forestry, fisheries and livestock rearing. Villages exist on mountains and islands too, which greatly diversify the village environment. Although ideally, every country would like to implement projects in all the villages or give priority to specific regions, a village classification may be helpful.
An example of a village classification may be given, from a geographical and economic aspect and may cover the following:

(1) Urban fringe
The tide of urbanization is surging over the village, thereby leading many villagers to seek employment in the expanding urban zone. Agriculture is no longer that important and improvement of living conditions and conservation of the natural landscape conservation might be a key development objective of the community. The production of fresh commodities such as vegetables, milk and eggs for urban markets could also be a major objective of village development.

(2) Plain land
Agriculture (crop and livestock production) is the main economic activity and is fairly developed. Accessibility to cities is better compared to other areas, and in some cases, the villages belong to the same economic zones as big cities, so that product and commodity movements are dynamic. Drought- and flood-prone areas can be categorized separately. The improvement of agriculture that would supply products for urban markets may be a major objective of the village development plan.

(3) Marginal fringe (remote area)
Remoteness from big towns and cities is the characteristic of this area and consequently it makes it difficult to commercialize agricultural products. It is also difficult to bring in consumer products into the area from the urban areas. In many cases, the area is isolated from various social services and development schemes. Key development objectives in such an area may be the development and production of special regional products such as fruits, handicrafts on the one hand, and the mutual exchange of culture between the urban and rural dwellers.

(4) Marginal fringe (mountain)
There are many obstacles not only in production and marketing but also in daily life. Depopulation may be a major problem, followed by inadequate infrastructure such as roads, bridges, etc. Isolation from social services, especially health care and education are more severe in such areas.

(5) Fishery villages
The villages are developed near the sea, lakes and rivers where natural influences are more severe. They are far away from big cities in many cases and road networks are under-developed. The urgent tasks there are improvement of port, storage, as well as marketing system (including cold chain) and modernization of ships and fishing equipment.

(6) Infertile land
Special classification is necessary for the villages in hilly, rocky or swampy areas not so far from the urban centre. Access to the main city is rather developed and existence of physical obstacles for farming or subsistence is a common feature of these areas. Land improvement and the development of suitable alternative industry could be the first priority in these areas.

9.4 Approaching the Village

(1) Approaching the Leader of the Village

After gaining some insights about the candidate village, the EO should then make a preliminary visit to the village and meet with the chief and other leaders of the existing governance organ of the village. S/he should not have any pre-conceived ideas about implementation, nature

of project, its extent and components. Project implementation commitment is supposed to occur only after the workshop, provided that the villagers fully agree with the principle of the scheme i.e. to participate in all the stages of the project.

(2) Explanation of PASViD and Project

The EO should explain about PASViD, project and workshop to the village chief and leadership. The most important thing at this point is the explanation of the nature of PASViD and project, saying that s/he has approached the village not to give something but to assist and encourage the villagers in their self-help efforts. The concept of endogenous development (see Part-I) must be fully understood by the village chief. Upon his agreement, the process, especially the workshop, is planned.

(3) Decision of Project Coverage Village(s) or Unit

Since the project unit should not be too small (no less that 100 households for instance), the villages nearby could associate to implement the project mutually with the selected village. Therefore, all the village heads must be presented in the explanation meeting and their total cooperation should be confirmed then. As explained in Part-I, the bigger the associated project unit is, the weaker the mutual reliance in general. But if the number of households is small the budget will be equally small. The EO must give good advice on the number of households that would form a suitable unit. The experiences in Zambia through PaViDIA suggest that in order to have good solidarity, not more than three villages should be amalgamated.

(4) Decision of Workshop

The date and the venue of the workshop will be fixed in the meeting with the village chief(s)/ leadership. The EO should reiterate to the village chief that the participants of the workshop must be from all the social strata - poor, women, youth, physically challenged and other vulnerable groups. The venue must be large and accessible enough to accommodate all the participants who attend. Sitting on the floor could be an alternative if the workshop is held in-doors. The EO should confirm that the board or wall on which to patch cards to make a problem tree should be big enough. If no wall or board is available, the EO should obtain a reed mattress or other suitable substitute.

(5) Preparation of Social Map

If the preliminary survey was not done and the village map was therefore not prepared, it should be worked out at this stage with the voluntary assistance of villagers. The map is useful at the village workshop which should be held within a few days.

(6) Preparation of Materials for Workshop

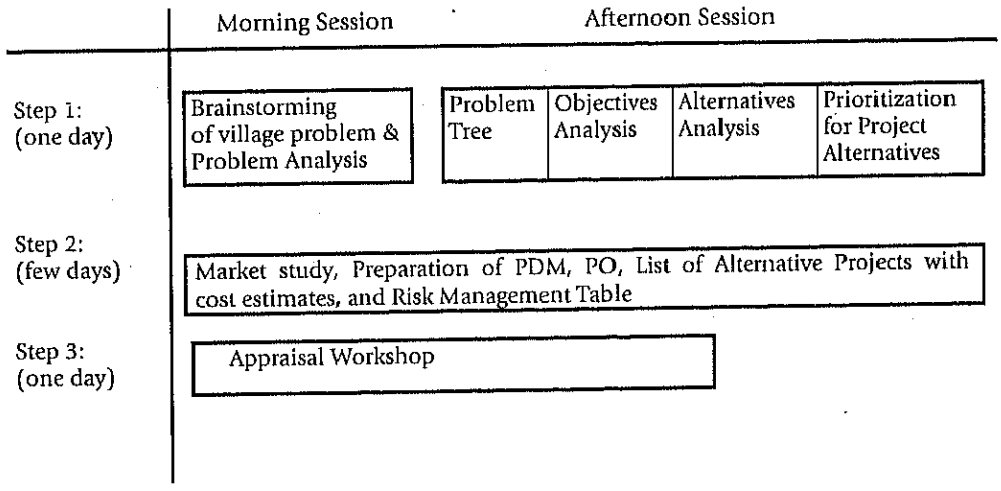
After finalizing all the necessary plans for the workshop with the village leadership, the EO may now start to prepare the required materials. Among them are big hard cards about 10 cm x 20 to 30 cm, adhesive tapes to patch cards to wall, bold felt pens to write problems on cards and note books and pens to take the record of the problems and project alternatives. Chalk is also useful to interlink the relationships among the problems.

CHAPTER 10
PLANNING STAGE

10.1 Steps in Planning Stage

To achieve greater impact from any kind of activity in PASViD, planning must be done with utmost care. The planning stage comprises of three steps: (i) Workshop; (ii) Market Study and Preparation of PDM and PO, and; (iii) Appraisal workshop. The planning process in PASViD should be completed within a short period, usually only a few days. This is the most delicate moment in the PASViD cycle. Whether the villagers' initiatives can be stimulated or not will depend mostly on the planning operation. The EO who manages the planning process should be thoroughly familiar with the objectives, the target and the methodology of the planning stage of PASViD. Although special training for this purpose is helpful, the guidelines given below are sufficient to guide the process and may be used by those who have not had the opportunity to undergo training.

Figure 10.1: Three Steps of Planning Stage



Source: Author

Table 10.1: Guidelines for Workshop

No.	Activity	Contents of the Operation
(1)	Pre-explanation	• Confirmation of participants • Explanation of PASViD and Micro-Project • Explanation of Workshop (with villagers' full consent, proceed to next step)

(2)	Brain-storming and Problem Analysis	● Free discussion about problems of the village ● Women and the disadvantaged should be appointed to speak out ● Each problem is symbolized and written on a card ● "Why can't the villagers solve the problem by themselves?" should be asked for every problem so that villagers think more about the real problems and express them in their own words
(3)	Complete Problem Tree	● Before afternoon session, the EO puts the problem cards on the wall or the reed mat so that [Cause/Results] relationships can be seen and explained ● EO tries to clarify the inter-linkages of all the problems based on the problem tree ● More opinions could be incorporated and the cards are relocated until everybody agrees ● Finally, inter-cards are marked with chalk or charcoal according to cause of the problem
(4)	Objectives Analysis	● Objectives analysis could be done simply by narrative explanation by EO
(5)	Listing up of Alternative Projects	● Several alternatives could be marked by grouping the branches of the problem tree ● Alternatives could be combined for convenience or efficiency
(6)	Prioritization of Alternative Projects	✶ Most desired projects for the village should be discussed from the viewpoints of budgetary availability and technological feasibility ✶ Villagers then vote for their felt-needs in order to rank all alternative projects in order of greatest preference or priority

Source: Author

10.2 Step 1: Modified PCM Workshop

The modified and simplified one-day PCM Workshop should be held in a spacious venue so that as many villagers representing different strata of the society can attend. A large board, wall or reed mat on which many cards can be placed should be made available. The workshop starts by confirmation of participants (participation analysis) and ends by taking decisions on candidate MP components.

Although this workshop is exclusively for the MP whose aim is to solve the most urgent and pressing problems in a short period of three to five years, hints for long-term development of the village can be discussed and future prospects for village development evaluated. The ideas exchanged at the workshop are useful when the alternatives of the long-term development plan are eventually prepared.

(1) Pre-explanation

i) Confirmation of Participants

Thorough examination of participants' strata is needed at this stage as not all strata may attend. The vulnerable groups, including women, should be invited to attend immediately if their attendance is inadequate. The PaViDIA Project in Zambia applies a strict rule that for a workshop to be held, 70% or more households and women from more than 30% of households must be present. However, care should be taken not to exert too much pressure and create negative attitudes with an obvious top-down supervisory approach.

ii) Explanation of PASViD and Micro-Project

The EO must give the same explanation of PASViD and micro-project to the participants as was earlier given to the village head. An important subject in this explanation is the clarification of the characteristics of PASViD, in which self- and mutual-reliance are to be anticipated from the villagers in line with public-reliance. This explanation must be repeated until participants agree fully to the level and type of participation and show commitment to the sacrifices that must be made for the good of the village. The villagers are expected to confirm their loyalty to self-reliance not only during project implementation but also in the development process afterwards. In case such an expression is vague or self-reliance activities, which the villagers seem to be able to perform without difficulty, are not accepted, the EO must be courageous enough to suspend the workshop at this point, in effect meaning that PASViD will not be applied in the village for the time being. The ownership of the micro-project and PASViD to foster autonomy of the community is, thus, to be confirmed and shared by the participants.

iii) Explanation of Workshop

Upon the villagers' agreement on the implementation of the micro-project and application of the PASViD process, the EO explains the objectives and methodology of the workshop. Their full participation through presentations should be emphasized in order to identify most critical needs and devise their countermeasures. No strict rules are necessary for this practice because it could be the first and in some instances the last such experience for the villagers. The EO must recall that the more important objective of this workshop is the creation of villagers' ownership of the initiative which will lead to their autonomy in the long-run rather than the logicality or consistency of workshop, which orthodox PCM workshops strictly adhere to.

The time frame of the workshop should be confirmed too, in order to finish the process within a reasonable duration so that farmers can be released to go back to their daily vocations. This aspect is particularly crucial during the rainy season.

(2) Brain-storming and Problem Analysis

Having explained the methodology and objectives of the workshop, the villagers start raising all their problems and issues without inhibition or restriction. The EO (or facilitator) should guide them through so that all the problems are expressed freely on their own volition. However, the EO should avoid intervening on their behalf to explain or correct anything that they say at this point. All the participants, without exception, should be given a chance to speak in this brainstorming session.

Because it is a truism, it should be taken for granted that heterogeneous opinions always exist even in a homogeneous village. What is important in village planning under such circumstances is thorough discussion without any kind of suppression. Lack of common sense, authoritative pressure, educational inferiority complex, gender or stratum discrimination and other weaknesses of the villagers should not be used to curtail their free expression of views. Even if the consequent final decision in the meeting is not what some villagers desire, they may willingly accept the results and show their cooperation if they have exhaustively discussed until they are satisfied that the majority desire that which they oppose. Majority decision-making should not carry the day until the last villager agrees with the position taken by the others. This process is the most important part of PASViD.

In many cases, problems and issues are not well differentiated by the villagers. The issues are something to be improved on, such as agricultural productivity. In the actual case, one may say "I would like to increase the yield from 15 to 30 bags of maize per hectare." The EO can ask the participant what are the hindrances to raising agricultural productivity. If the answer is shortage of water, then, issues can tentatively be translated into problems.

Following the discussion, the EO can enquire again as to why water is not available in the village despite there being a water source in the upper watershed. The villagers might say that there isn't a weir and canal from which water can be brought to the village. The EO can ask again why the villagers cannot prepare those facilities by themselves. Ensure "why" is repeated all the time until the group grasps the real problem. In this case, the following issues might be given as the real problems constraining productivity and growth; (i) absence of a suitable organization to facilitate cooperative construction work of a canal; (ii) villagers are too busy on their own to engage in communal labour; and (iii) prohibitive cost of materials beyond the villagers' financial capcity, such as stones and pipes.

While coordinating the workshop, the EO advises the group from time to time, to maintain consistency with the regional and/or national development schemes and explore future prospects. However, this must be kept to the minimum so that no bias or prejudice enters the decision-making process of the villagers.

(3) Realignment of the Cards for Problem Tree

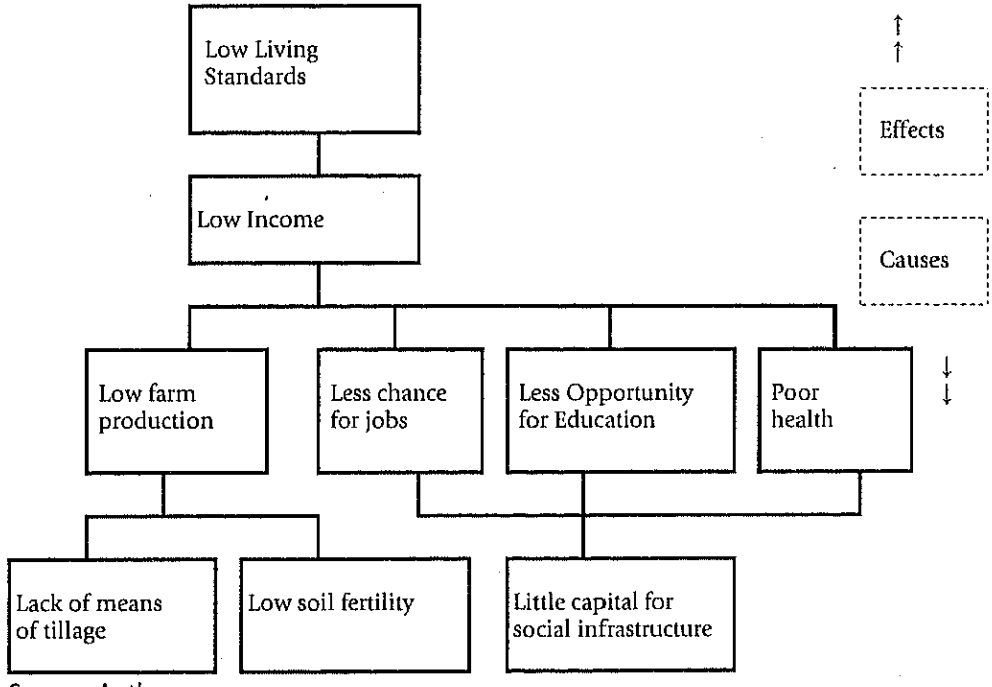
After all the problems (and issues) are expressed, the EO should proceed to the next activity of problem analysis. Problem Analysis visually establishes "causes and effects" relationships of the existing problems of the sector by using the Problem Tree (see Figure 10.2.1).

Each participant writes on one card one problem which s/he considers as the central point or the core element of the existing problems in the project area or the sector. If illiterate villagers are participating in the workshop, the EO or his/her assistant should fill all the cards according to the villager's claims. This work can be done during the lunch break before the villagers return to the meeting venue.

The core problem is tentatively selected by the EO as a "most focal point". The core problem does not necessarily mean the "most important problem", as it is only the starting point of constructing a problem tree. Rather, that which comprehensively covers overall cause-effect relationships in the problematic area is suitable to be identified as the core problem.

After deciding on the core problem, place the card in the centre of the board. Then, identify substantial and direct causes of the core problem. Next, place the problem cards in parallel with each other underneath the core problem. Add the causes for each problem and work downward, which now takes the shape of a tree (see Figure10.2.1).

Figure 10.2.1: Problem Tree (Sample)



Source: Author

In the same vein, place the substantial and direct effects of the core problem above it. More effects may be added to each card before finishing the upper half of the tree. Usually there are several causes and effects per problem. Also, cards that are identified as independent of each other, or that have similar degree of importance should be put at the same level.

As the Problem Tree is being consructed, participants should check for proper wording, adequacy of the cause-effect relationships, and completeness. The overall explanation of the Problem Tree by the EO is important because it is the basis from which future project components will be developed.

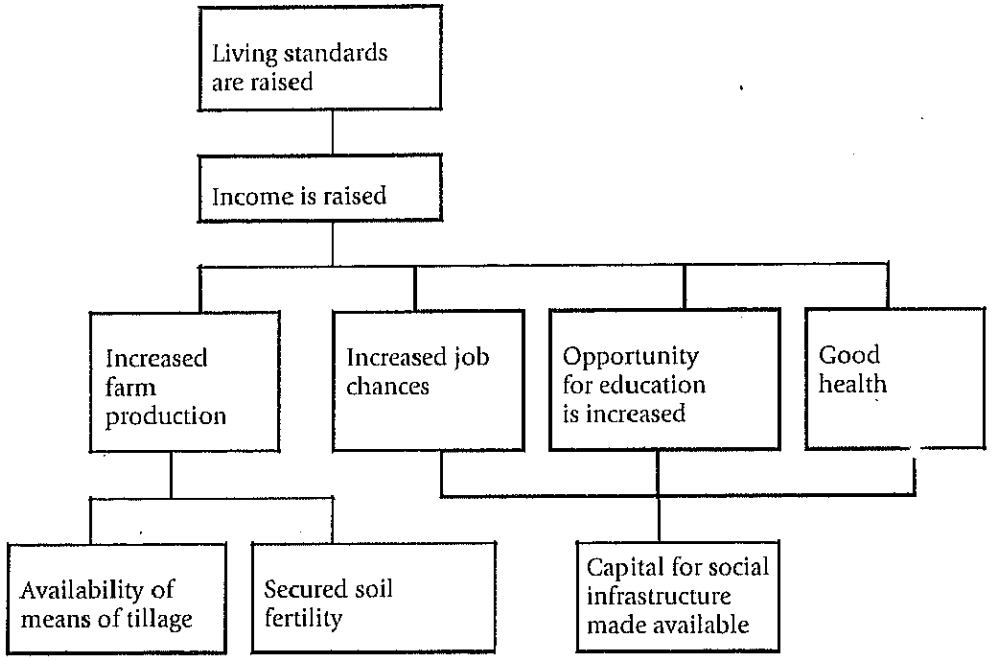
(4) Explanation of Objectives Analysis

In the Objectives Analysis, the Problem Tree is transformed into an Objective Tree that describes the means for solving the problems and the effects of the solutions. However, expression in cards is not necessary to save precious time. The workshop proceedings will not be affected much without this process on cards. An experienced facilitator should however, guide the participants in the use of cards for this step too.

The Objectives Tree identifies the "desirable conditions" after the problems are solved, and becomes the basis for the examination of the approaches for improving the situation. By rewording the negative "cause-effect" relations of the Problem Tree into the positive "Means-Ends" relations, "desirable future conditions" can be attained.

When the statement cannot be reworded positively, re-examine the problematic situation that the card tries to depict. Also, if the "desirable conditions" are excessively unrealistic, or illogical, the cause-effect logic must be re-examined. Anyway, understanding the process of objectives analysis may help the EO to proceed to the next step of the workshop. Figure 10.2.2 gives an example.

Figure 10.2.2: Objectives Tree (An example)



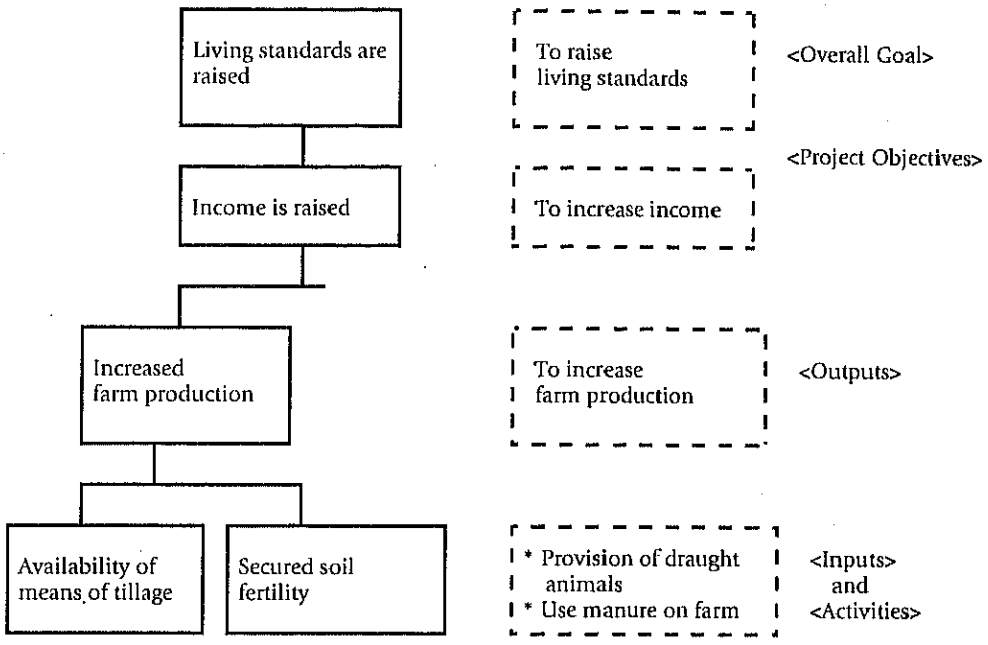
Source: Author

(5) Listing Project Alternatives

The Alternatives Analysis identifies the project components and feasibility, and selects concrete project strategies based on the information attained in the Objectives Analysis.

When one looks at the Objectives Tree, one can see several groups of "Means-Ends" branches that assemble towards the centre, each in their own individual orientation. The first step of the Alternatives Analysis is to identify these approaches, circle them, and name them as "Production Approach" or "Training Approach" etc.

Figure 10.2.3: Alternatives Analysis (An example)



Source: Author

At this point, one or more combined branches, or one part of the branch might become an independent approach. Regardless of how it looks, each approach can be an independent project. Moreover, it is possible to enlarge a project by combining two or more approaches, or to select only one part of the branch, or to combine parts of other branches and so on.

If the branches are taken as approaches, then the leaves become the components of the project. It is also important to examine who would be affected when certain components are integrated into the project. The potential for future group conflict should be deliberately minimised by thorough discussion during this occasion.

(6) Prioritization of Project Alternatives

After the identification of project options by combining approaches and components, it is important to scrutinize which of the combinations would be the most viable. Although the examination criteria may differ according to the project, workshop participants can select the criteria from among the following:

Possible Criteria For Selecting a Project

i)	Priority:	Poverty alleviation
ii)	Inputs:	Feasibility of costs, materials and manpower
iii)	Technical aspects:	Appropriateness of the technology level in relation to sustainability
iv)	Target group:	Size, ratio of men/women, poor strata, young and old etc.
v)	Social factors:	Socio-cultural constraints, social risks, local involvement and motivation, etc.
vi)	Environment:	Environmental effects in negative and positive forms
vii)	Financial/Economy:	Cost-benefit analysis, economic impacts, financial sustainability, etc.
viii)	Compatibility:	National or regional development policy, relationship with other organizations
ix)	Achievements:	Probability of achieving objectives

When selecting a project, besides arranging information logically and sequentially based on prior analytical process, past experiences must be taken into account to ensure final materialization of the project. Even when there is no need for an alternative option since one surpasses all others, or when there is no room for an alternative option due to political constraints, investigation of alternative plans is still beneficial because sudden changes may be required at the implementation stage.

Giving priority to the project components which are listed during a workshop may sometimes be sensitive because it may be directly related to the benefits or crisis of villagers. The beneficiary group does not always involve all the villagers. For instance, if there are two access roads from the village to town, say north and south, the rehabilitation of one of them may benefit one group, while it may negatively affect the other group due to the change of the main route in transportation. At other times, the location of an irrigation facility may be a controversial subject. Therefore, careful prioritization based on democratic discussion is necessary. The EO should insist on full justification by the participants. Once the participants have reached consensus, the final process of voting should be undertaken. If the potential project components are more than five, three votes per participant would be appropriate as each participant can be three chances to vote for alternatives. Some participants may choose to allocate all the three votes to one alternative, while others may allocate a vote to each alternative. This purely depends on a participant's preference. Ultimately, the choice of the villagers should be respected.

The matrix method is where all the alternative project components are compared with other components one by one if they are less than five and the number of participants in the workshop is less than 50. This is also a democratic way of arriving at a decision which the participants may agree on. However, its major weakness is that it is time consuming.

10.3 Step 2: Preparation of Project Plan

After the PCM workshop, the EO or workshop facilitator is expected to summarise the results of the workshop through the Project Design Matrix (PDM), Plan of Operation (PO), and list of alternative projects with cost estimates and Risk Management Table. This operation could be done with the assistance of the village head or other representatives from the village. Usually it takes a full day to complete the operation.

Table 10.3: Guidelines for Preparation of Project Plan

No.	Activity	Contents of the Operation
(1)	Market Study	● The EO will study market prices for IGAs and materials for infrastructure at nearby town
(2)	Preparation of Project Design Matrix (PDM)	● Summarize the project components in PDM. ● The objectives should be written in clear words, and the means of verification should be clarified at this stage. ● Indicators could be decided after benchmark survey.
(3)	Preparation of PO	● PO is prepared then with all the main activities, time, responsible persons, etc.
(4)	Preparation of Risk Management Table	● After completing PDM and PO, all risk factors should be identified and listed in the table.

Source: Author

(1) Market Study

According to the priorities set by the villagers, the EO will study market prices for IGAs and materials for infrastructure at nearby town. More accurate cost estimation for infrastructure could be obtained and future business chances may be clarified by the study. Those prices will be reflected in the selection of alternatives.

(2) Preparation of PDM

Project design is concerned with the elaboration of the major components of the project. The results of the previous analysis are recapitulated in the Project Design Matrix (PDM). The general format of PDM is shown in Figure 10.3.1 and bears close resemblance to the Logical Framework. A PDM must answer the following questions:

a) What is the objective of the project? (try to avoid having more than two objectives)
b) How can the objectives (and/or activities, inputs and outputs) be achieved?
c) What kind of external factors are needed for the successful achievement of each component?
d) How can the project be evaluated?
e) What are the inputs and activities for the project?

The preparation of PDM as well as PO can be done jointly by the EO, the field workers, donors (if any), local experts (if necessary), etc., most probably the day following the workshop. A typical procedure to prepare PDM is as follows:

i) Identify main project elements

When the project approach is determined, the main elements of the project summary can be derived from the Objectives Tree. The project objectives are set first, then, the overall goal is selected.

a. Project Objectives

The project objectives can be selected from among the objectives cards that describe the "improved future conditions" of the Objectives Tree (see Figure10.2.3). The example in Figure 10.2.3 is "Raised Income", so that the full statement of objectives can be "To raise the income of the target group in the village". It indicates the "concrete benefit and impacts for the target group(s)" when the project is implemented. However, vague terms should be avoided for stating the objectives as much as possible, such as improve, promote, enhance, strengthen, service, upgrade, develop, assist, expand, coordinate, raise quality or augment. Instead of these words, definite terms are recommended for stating the objectives, such as establish something, build something, complete something, reduce from A to B, eradicate or raise something from C to D (see 'Logical Framework' by USAID). These definite terms should preferably describe measurable attributes so that evaluation can be done easily.

Figure 10.3: Typical Project Design Matrix (PDM)

<table>
<tr><th>Narrative Summary</th><th>Verifiable Indicators</th><th>Means of Verification</th><th>Important Assumptions</th></tr>
<tr><td>Overall Goal:</td><td></td><td></td><td></td></tr>
<tr><td>Project Objectives:</td><td></td><td></td><td></td></tr>
<tr><td>Outputs:</td><td></td><td></td><td></td></tr>
<tr><td rowspan="2">Activities & Inputs:</td><td colspan="2" rowspan="2"></td><td></td></tr>
<tr><td>Pre-condition:</td></tr>
</table>

Source: Author

b. Overall Goal

This is the "long term development objective" which the project would eventually contribute. It can even be an ultimate goal which seems to be somewhat idealistic, so that the orientation of the project cannot be misunderstood. Thus, the Overall Goal card is located higher (usually one level) than the Project Objectives card.

c. Outputs

These consist of the objectives, which should be achieved within the life span of the project. Several outputs are usually set, although each one should correspond to each objective in order to indicate which output is to achieve which objective. Outputs can be chosen from the Objectives Tree, but at times, new "outputs" that correspond to the project activities may be added too.

d. Activities

Activities refer to the actions necessary to produce the outputs of the project. As there are many activities, record only the major activities required to realize each one of the outputs. Just as in the above case, each activity should correspond with each of the outputs. It is important to include the monitoring and evaluation activities needed for the management of the project.

ii) Identification of important assumptions

Important assumptions are the conditions that must exist if the project is to succeed, but which are outside the control of the project management. The procedure for identifying important assumptions starts from the bottom of PDM and works its ways upwards. It becomes easier to identify when such questions as: "what are the necessary conditions to attain project outputs after finishing the activities of the project?" are to be addressed. In addition, some elements in the Objectives Tree that were not incorporated in the project may also become important assumptions.

Important assumptions are written in concrete terms as positive conditions, and must be tangible (if possible, together with verifiable indicators) so that monitoring whether the conditions are met or not, can be done easily.

iii) Set verifiable indicators

Indicators determine how one can measure the achievements of the Activities, Outputs, Project Objectives and the Overall Goal. Good indicators should be substantial, independent and factual. Indicators should be identified objectively so that they can serve as the standard for monitoring and evaluation at a later stage. Verifiable indicators must include the following elements:

Measurements:	By What?
Target Group:	For Whom?
Quantity:	How Much?
Quality:	How Well?
Time:	By When?
Location:	Where?

iv) Specification of the means of verification

Whether the targets marked as the indicators have been achieved or not must be confirmed objectively. In order to do so, it is important to specify at the earliest possible project planning stage how to verify the achievements. Official statistics, recorded data, reports and studies can serve as the means of verification.

Usually, means of verification are attained outside the project activities. If, however, the required information cannot be found outside the project, new data must be collected, processed and preserved by the project activities.

Furthermore, when the costs for collecting information are estimated to be high (more than 10% of the total project cost), alteration of the indicators may be required. It is also important to examine the reliability of these sources.

In the early stages of project planning, it is difficult to set Verifiable Indicators or Means of Verification since information concerning the project area or project village is not usually sufficient. Instead, select simple Indicators and Means of Verification, and reformulate them at the later planning stage or after the baseline survey is undertaken.

v) Inputs

Detailed estimation of personnel, goods, and costs required to implement the project must be laid out. Inputs can be expressed by the total project costs, or they can be described in such terms as the number of personnel and length of their sojourn in the partner institution, goods according to their types, or local costs.

Moreover, the share of costs between assisting sides (government, donors or implementing agency) and the village side should be mentioned as well. When the input list is completed, a re-examination of the relationship of the inputs and outputs should be done from a cost-benefit viewpoint. This inputs column can be refilled after completing the PO according to the needs and the actual agreement with the villagers.

Usually, it takes a long time to complete a project, and the cost of inputs is likely to rise over the years. Since it is difficult to predict the inflation rate accurately, this should be treated as one of the project's risk elements.

(2) Plan of Operations (PO)

The Plan of Operation (PO) is what the project implementers, both assisting side (government or implementing agency or donor) and the village side, prepare based on the PDM and other information. The PO is a tool for operational management of the project, and is an essential ingredient for monitoring and evaluation. Although its format may vary according to project characteristics, the items listed in Annex 4 are an example and every effort should be made to include them. It is also important to note the schedule for monitoring and evaluation of the project as well.

(3) Preparation of Risk Management Table

After completing the PDM and the PO, the EO should carefully review the plan to avoid all the possible risks. As much as possible, all risk factors should be identified and their respective countermeasures worked out before project implementation.

However, those risk factors and problems which arise or are identified during implementation likewise have countermeasures worked out for their mitigation. The inevitable risk factors regardless of project type should be prepared *a priori*. The typical risks and their

countermeasures *a priori* and *a posteriori* are listed in Annex - 1. The countermeasures *a priori* are both important and effective to avoid the project risks so that all the measures should be taken into consideration. Despite taking all these measures, many risks might appear in the course of the project implementation. The countermeasures *posteriori* shown in Annex-1 are examples of possible risks and earlier remedial actions are recommended in every case. Consultation with local experts for construction of decided infrastructure or for IGAs may be useful to complete the PDM and the PO.

10.4 Step 3: Appraisal Workshop

Preparing the PDM and Plan of Operation PO after the workshop, the EO can propose the feasibility of each future option at the Appraisal Workshop with the villagers. If more time is required, the idea for future blueprint could be prepared at a later stage of the project. In other words, this operation is aimed at sustaining the activities of the villagers in the development process after the completion of the project.

(1) Confirmation of project components

The prepared plan should be carefully discussed from the various viewpoints in order to avoid the possible negative effects to some group(s) or environment. The responsible person and organization as well as detailed schedule should be clarified and reconfirmed in this meeting. Another important matter is the invitation of concerned personnel or experts in this meeting for them to provide appropriate professional input or guidance to the project or IGAs. The final modification could be made according to the advice of the concerned personnel or on the request of the villagers.

Table 10.4: Guidelines for Appraisal Workshop

No.	Activities	Contents of the Operation
(1)	Confirmation of project components	● A convenient day is set for the final confirmation of plan and roles of all the concerned people according to the PDM & PO ● Responsible persons as well as time schedule should be decided for each item of the activities
(2)	Decision of schedule and responsible persons	● Final schedule with responsible persons in each development committee should be decided ● Responsibility of each person should be clarified
(3)	Proposal for Future Prospects	● Capital generated by seed money should be invested in the next lot of entrepreneurs and their nomination should be agreed upon by the villagers
(4)	Nomination of Field Worker	● If villagers agree, a field worker could be nominated ● Field worker should be paid from the budget of PASViD
(5)	Appointment of Signatories for Bank Account	● Two from village side and two from government side are to be nominated as signatories of Bank ● One from each side should attend to withdrawal of project funds from the bank

Source: Author

(2) Decision of schedule and responsible persons

Based on the draft PO prepared by the EO, a final schedule of the project implementation including material procurement as well as the responsible persons for each sub-project must be re-confirmed. This operation ensures the future progress of the project. The EO should affirm that all the responsible persons had full understanding of their accountability requirements according to the schedule. Negative effects by delay of material procurement or implementation should be discussed at the earliest opportunity.

(3) Proposal for future prospects

A normal development plan starts with a long-term planning strategy, and short-term projects are decided on within the framework of the long-term plan later. Whereas PASViD proposes the process to be reversed, the long-term plan of the village follows the workshop and will be decided after the decisions on the project implementation. Several options, which are to be generated by the DO, may be projected in line with the decided project orientation. The following example may be observed in Japanese history:

> "Having convened the extraordinary session of the Diet in 1932, the Japanese Government started several movements for the rural development. The villagers then were suffering with the damages caused by the Great Depression of the world economic crisis in 1929. The movement had unique characteristics, like a) requesting villagers to prepare a plan of rural reconstruction by themselves, starting from improvement of household economy of each farm family, then proceed to planning improvement of hamlets (small groups of farm families), and finally of the village as a whole; b) the central and the local governments jointly made efforts to assist villagers in preparing and implementing the plan of improvement; and c) those officers assisted villagers in individual financial crisis." (Movement for Rural Reconstruction in the 1930s, Sadao Hatta, *Journal of Agricultural Development Studies, Vol. 7 No. 1*, October 1996).

(4) Nomination of field worker

Field worker, as discussed in "Poverty Alleviation" in Part-I, will be appointed in this Appraisal Workshop. S/he could be a full-time or a part-time assistant of the EO as well as promoter of the businesses initiated by the seed money of the project. Hence, their initial work involves all the assistant works for the project implementation, market research, interview for baseline survey, etc. If the villagers agree, s/he can be recruited from outside of the village.

(5) Appointment of signatories for bank account

As soon as the project budget is ready to be disbursed, an account should be opened at the nearest bank. This procedure needs signatories. Two from the village and two from the government side are to be nominated as signatories. The village chief, group leader, or opinion leader could be candidates from the village, and extension officer, relevant personnel from Divisional or Locational office could be the counterparts from the government side. At least two, one from each side, should attend to withdrawal of the required amounts of money from the project account. Total transparency on the use of funds should be maintained.

CHAPTER 11

IMPLEMENTATION STAGE

11.1 Pre-Project Activities

During this stage the EO is expected to coordinate the total management of the MP. The villagers too, in their various committees for each micro-enterprise, must prepare to implement all the activities. Table 11.1 presents the guidelines for Pre-Project Activities during the implementation stage.

Table 11.1: Guidelines for Pre-Project Activities

No.	Activity	Contents of the Operation
(1)	Formation of Village Committee	● New committee is formed if there is no existing competent organization ● Assure that the members of the committee originate from all the social strata
(2)	Open Account at Nearest Bank	● New account must be opened at nearest bank. ● All the signatories for MP should attend when account is opened ● The EO must give guidance for book-keeping and finance management until the committees become autonomous
(3)	Training of Field Worker	● If a field worker is nominated, s/he should be trained by the EO on-the-job, especially in book-keeping
(4)	Conduct Baseline Survey	● This operation is done when field worker is well trained for the purpose
(5)	Market Analysis and Training	● Market information should be gathered and passed on to the EO from time to time ● Skill training for IGAs and construction of infrastructure should be initiated by the EO or external experts

Source: Author

(1) Formation of Village Committee

It is not necessary to form a new village committee if there is one organization already functioning which can serve the purpose of operationalizing the project. In fact, it is recommended that such an existing organization be used it probably has similar experience and a worthy track record. A new village committee must be formed in case there is no competent institution to implement and manage the project. In either case, representatives should be drawn from all the social strata of the villagers, especially the vulnerable groups such as the poorest of the poor and women.

(2) Open Account at Nearest Bank

An account must be opened at the nearest bank to facilitate efficient management of project funds. All the signatories for micro-project are expected to attend to the activities related to the opening of the bank account. The maintenance of the account as well as book keeping records must be transparent so that there is no room for corruption and mismanagement. The EO must guide each committee over this budget management until they can be totally autonomous.

(3) Training of Field Workers

The field workers should be preferably selected from among the villagers. S/he should sometimes act as an extension worker who can introduce necessary technologies from outside especially for IGAs. Therefore, appropriate skill training is beneficial at the initiation of the project, which accompanies the main component of IGAs. Training of the field workers should be planned in PO and the funds for the purpose should be secured.

Book keeping skills for them, on the other hand, are essential in order to keep the seed money or the savings accounts. After the project has come to an end, the field workers are supposed to be paid from the interest accrued from the revolving fund of seed money and/or thrift savings. The villagers must be informed about it and they should give their consent at the commencement of the project itself.

(4) Conduct Baseline Survey with Field Workers

The field worker is supposed to be an interviewer in order to collect relevant answers of the questionnaires, which the extension officer prepared as a benchmark survey. Special training for this purpose may be necessary if it is new for the field worker. Collected data are compiled and analyzed by the extension officer in order to complete the column of "verifiable indicators" in PDM. At the same time, the target in each indicator should be studied and set. Those indicators are preferably from economic or financial figures. Thus, PDM is substantially completed.

(5) Market Analysis and Training for IGA

Depending on the location of the project villages and/or season, most lucrative business differs. The market information must be gathered and analyzed by the field worker and extension officer in order to give guidance to the business initiated by seed money. Technical feasibility also should be examined for each IGA. If necessary, skill training should be considered as a component of the project.

11.2 Project Activities

When the preparatory works are done, actual project activities start. These activities usually take place during the dry season because this is when villagers are available to do the work. The activities are so complex that flexibility is required for every task. However busy everyone is, it should not be forgotten that all the payment vouchers and receipts should be kept in order and proper book-keeping should be sustained. Table 11.2.1 gives Guidelines for Project Activities.

Table 11.2: Guidelines for Project Activities

No.	Activity	Contents of the Operation
(1)	Start Purchasing Materials and Book Keeping	● Withdrawing funds from the budget, the committee starts purchasing materials and book-keeping ● The EO is requested to accompany all the important moments
(2)	Construction of Physical infrastructure	● Although villagers take initiative for the designing infrastructure, the EO must confirm the technical feasibility ● Too ambitious design should be avoided so that funds are abundant at the half-way point
(3)	Start IGAs	● Concurrent with construction work, if conditions are suitable, IGA could be started
(4)	Start Technical Guidance and Training	● The EO may engage in guidance and training of the villagers ● Some external expertise may be needed for the training
(5)	Monitoring the Project	● The EO, with the help of field worker, should monitor the progress and risks from time to time

Source: Author

(1) Start Purchasing Materials and Book Keeping

Withdrawing financial resources from the newly opened account, the responsible persons with the assistance of the extension officer, who acted as a facilitator/moderator of workshop, may initiate the process of purchasing materials. Book-keeping must be started immediately after such action. The field worker could take the responsibility upon themselves for such an arrangement, too. These decisions should also be discussed with the village committee and consent obtained.

(2) Construction or Rehabilitation of Physical Infrastructure

If the project consists of physical construction such as a village road, bridge, pond, irrigation or drainage canals, community hall or school, planning with proper design should be studied by the committee *a priori*. Technology for the construction could be drawn from the wisdom of the villagers as much as possible and so should be the materials for construction. All the available resources in the village must be mobilized if it will not harm the environment. As such, the construction costs come to a bare minimum. Any existing government rules must be respected.

Being the managerial body, the village committee shall take responsibility with regard to the progress of construction, provided that no modern and sophisticated buildings are required.

(3) Start Income Generating Activities by Villagers

If the project core action is only physical construction, no further activities by the group are expected. However, in many cases, rural development projects may comprise agricultural activities including livestock production, fish culture and reforestation. Meanwhile, healthcare, family planning, education (including vocational) and other group activities can form one of the activities of the project. These project core activities, having rather long project duration, should be motivated by the local social service delivery as much as possible.

(4) Start Technical Guidance and Training

In case the project core activity is not relevant to IGAs such as healthcare or family planning, suitable specialists could be invited in conjunction with relevant office. Meanwhile, IGAs by seed money may need technical guidance and training at the village site or outside of the village. The EO takes the initiative for this purpose.

(5) Monitoring the Project by PDM and PO

All project activities are to be monitored according to the PDM and PO, which were prepared at the planning stage. Especially the progress under the time framework in PO should be checked from time to time in order to ensure the success of the project. If some serious delays are observed or anticipated, the committee should call for a meeting immediately and discuss the causes and the countermeasures for the delay. Necessary modification of the project components or change in implementation schedule may be considered in accordance with the monitoring results. Risk management for the project operation will be useful (see Annex - 1).

CHAPTER 12
EVALUATION STAGE

12.1 Purpose of Evaluation

The objectives of project evaluation differ from project to project. Nevertheless, the more common objectives of evaluation may be summarized as follows:

i) to identify the achievements, constraints and future perspective of the project, and assess the necessity for additional activities, (or modification of the schedule in case of a mid-term evaluation) in consultation with all key stakeholders;
ii) to improve future project and programme implementation performance as well as policies of the concerned organizations through a feedback of lessons learned and/or standardization of the experiences; and
iii) to provide a basis for accountability, including the provision of information to the public, donors and other concerned stakeholder organizations.

Through the evaluation of the achievements including failures and successes, valuable information is generated which, if properly fed back, can improve future programme and project performance. The resources for rural development are scarce in the face of many competing needs. In this regard, implementing and financing institutions (government, donor, etc.) should be enabled and given the opportunity to draw from the wealth of experience gained through project evaluation to ensure optimum resource utilization.

Evaluation promotes dialogue among all key stakeholders and particularly with the villagers. Consequently, cooperation between such stakeholders is improved through sharing of experiences during the evaluation.

12.2 Evaluation with Five Issues

The evaluation process should be impartial and independent and the project impact should be assessed using objectively verifiable indicators (OVI) set out in the PDM. Each evaluation must be planned and simple terms of reference drawn up in order to:

i) define the purpose and scope of the evaluation,
ii) describe the methods to be used during the evaluation,
iii) identify the standards against which project performance is to be assessed, and
iv) determine the resources and time required to complete the evaluation.

The purpose of the evaluation must be explained, e.g., "to contribute towards improving the performance of specific organizations through streamlining their procedures and techniques or to assess the necessity of continuity with respect to implementation of specific current activities, etc." It is essential to carefully formulate the questions which will be addressed in the evaluation - these are often referred to as "issues" of the evaluation. The issues will provide a manageable framework for the evaluation process and the basis for a clear set of conclusions and recommendations. The following are basic groups of evaluation issues (items):

(1) Rationale (Is the project well founded?)

i) Internal consistency of the project in the general context (political, economic, etc.)
ii) Consistency of implementing organization and personnel
iii) Appropriateness of implementation timing and duration
iv) Appropriateness of objectives setting
v) Rationale of budget, materials and personnel (Inputs)

(2) Efficiency (Are there better and more cost-effective ways of achieving the same results?)

i) Project size
ii) Balance between inputs and outputs
iii) Duration of the project
iv) Linkage with other relevant schemes
v) Factors causing delays in project implementation

(3) Effectiveness (Are results achieved in line with planned schedule of activities and outputs?)

i) Effects of outputs in achieving the project objectives
ii) Analysis of factors and assumptions for achieving objectives
iii) Expected dates for achieving the objectives, if not yet realized
iv) Any constraints in achieving the objectives

(4) Impact (What effects have been produced as a result of the project?)

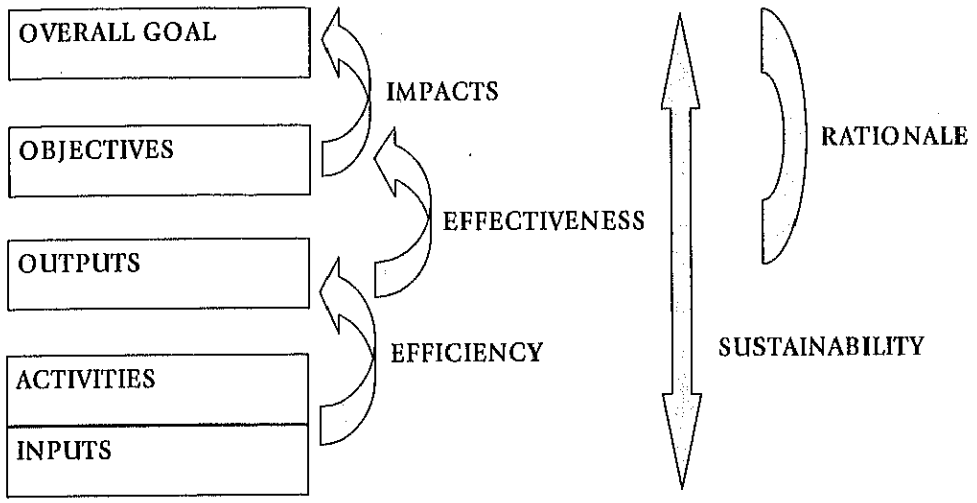
i) Positive and negative effects, anticipated or not, in the target area or sector of activities concerned (social, technical and economic impact)
ii) Consideration from the viewpoints of environment, women and poverty alleviation
iii) Any other impacts to be anticipated in the future
iv) Any constraints in the realization of impact

(5) Sustainability

i) Sustainability of the development process after the project life
ii) Replication of the project in other areas or sectors
iii) Self-reliance of the villagers in organizational, financial and technical aspects
iv) Fostered ownership
v) Any other development achieved by the villagers

Interrelationship between PDM and the five issues (items) of evaluation is given in Figure 12.2 Scoring for the five issues (items) can be done objectively if the evaluation of the project is considered important provided there are sufficient resources to do so.

Figure 12.2: PDM and Five Items of Evaluation



Source: Author

12.3 Quantitative Evaluation

(1) Significance

Most of the project evaluation is usually done qualitatively. Although there is no standardized methodology for quantitative evaluation, a methodology was introduced by Japan International Cooperation Agency (JICA) for the purposes of evaluating their projects but it may not necessarily be the best for evaluating rural development projects. Those who intend to use this methodology should understand and bear in mind its strengths and limitations. These are some of the strengths of this methodology which is described below:

i) The results of the evaluation can be clarified objectively not only for the third person but also for the evaluator himself.
ii) The average opinion, in case of the evaluation team, can be obtained easily and quickly if it is so desired.
iii) Several projects with the same design can be compared objectively.
iv) There is no language ambiguity in the results.

(2) Preparation of the Table

This quantitative evaluation starts from the preparation of the evaluation table. Five items of evaluation, i.e. effectiveness, efficiency, impact, rationale and sustainability may not be applied to all projects depending on the situation and stages of the projects. A blank score-card is prepared as shown in Table 12.3 and distributed to all the evaluators.

Table 12.3: Summary of Overall Evaluation (sample)

Level I		Level II							
Evaluation Item (Weight of Score)	Score	Detailed Item (Weight of Score)	Evaluation (Score) Results					Sum of Scores
			4	3	2	1	0	
Effectiveness (30)	18	(1) Achievement of the Objectives (30)				*		60.0
		(2) Achievement of the Outputs (30)		*				
		(3) Achievement of the Inputs (20)	*					
Impact (20)	6.5	(4) Achievement of the Activities (20)			*			32.5
		(1) Beneficiary Level (Number and Quality) (50)			*			
		(2) Area Level (20)				*		
		(3) National Policy Level (20)					*	
Rationale (10)	5.0	(4) Other Impacts (10)				*		50.0
		(1) Compatibility with National Programme (30)		*				
		(2) Justification of the Schedule (30)			*			
		(3) Rationale of Inputs (10)			*			
Efficiency (10)	1.9	(4) Appropriateness of the Objectives and Goal (30)				*		18.8
		(1) Efficiency of Inputs (25)			*			
		(2) Efficiency of the Activities (25)				*		
		(3) Velocity to get the Outputs (25)					*	
Sustainability (30)	10.5	(4) Linkage with other Organizations (25)					*	35.0
		(1) Project Sustainability (30)			*			
		(2) Organizational Sustainability (20)			*			
		(3) Replication of the Project (10)					*	
		(4) Self-help (40)				*		
Total Score	41.9							

Source: Author

(3) Weight

Weight of the five items (level-I) as well as each detailed item (level-II) is to be determined by discussion if the evaluators are more than two. This weight is a percentage, signifying a ratio of importance in evaluation at the time. Therefore, a higher weight is given to more important evaluation items according to the evaluator's criteria. For example, if the project has just been terminated and "Impact" is still too early to be assessed, a lower weight is given to "Impact" and higher weight, for example, is given to "Efficiency" instead.

After weighting the various evaluation items, it should be ensured that the total sum of the weights is exactly 100. Detailed items are given their weights in a similar manner.

(4) Conversion of Qualitative Expressions into Figures

Unlike a scientific experiment, the primary information of project evaluation in rural development tends to be qualitative. However, if the indicators in PDM which is prepared at the beginning of the project are quantifiable, such as "Percentage of households that increased income during the project life", such figures may be used directly. The assessment for each detailed item (evaluation results) is to be done in five categories as follows:

Excellent	4
Very Good	3
Good	2
Satisfactory	1
Poor	0

Each evaluator gives his own score to all the detailed items independently. This avoids influence from the other evaluators. This is followed by a discussion by all evaluators who then work out an average score for each detailed item. After the discussion, each evaluator should reconsider his/her score for the last time. Thus, the scores for each detailed item are finally determined.

(5) Calculating Sum of Score

Each sum of scores for five evaluation items (right hand side column in the Table 12.2.1) is to be calculated simply. Each score of a detailed item can be calculated by multiplying evaluation result score and its weight, and summing the product before dividing by 400 and multiplying by 100. The following example would suffice: (30x1 + 30x3 + 20x4 + 20x2) x100 / 400 = 60.0. It can be expressed in one formula as:

$$\text{Score of each evaluation item} \sum_{i=1}^{n} [\text{weight (i) x score (i)}] \times \frac{100}{400}$$

(6) Calculating Overall Score of the Project

The last step to obtain the overall score of the project can be done by a simple calculation. It is the sum of the product of "the Score of each evaluation item" and "Weight of each evaluation item" divided by 100. The following is an example: (60.0x30 + 32.5x20 + 50.0x10 + 18.8x10 +35.0x30)/100 = 41.9. This can be expressed in a formula as follows:

$$\text{Score of the Project} = \sum_{i=1}^{11} [\text{weight (i) x Sum of score (i)}] \times \frac{1}{100}$$

(7) How to Read the Quantitative Score

The score thus obtained from above is the overall assessment of the evaluator(s) for the project. This score should be read as follows:

0 - 20	.....	Poor
21 - 40	.....	Fair
41 - 60	.....	Good
61 - 80	.....	Very Good
81 - 100	.....	Excellent

12.4 Final Evaluation

(1) Final Impact Assessment Survey

The role of evaluation in the project management is as important as the one in planning. The final impact assessment survey should consist of almost the same issues/items as the baseline survey, so that the transition of indicators during the project life could be quantified. As a second step in the final evaluation, the achievements in those indicators should be articulated in the PDM format corresponding to Activities, Inputs, Outputs and Objectives (see Table 12.4). These operations can be done with the collaboration of the EO, villagers and field workers. If the project is to be exposed to a third party for external evaluation, any data and information collected before the evaluation should be availed to the evaluator. Interviewing the relevant persons and groups as well as making project site observations must be carried out by the evaluator.

(2) Analysis of Survey Results from the Five Evaluation Issues

The evaluator, whether external or internal, will analyze all the facts obtained in the survey work at the end of the project term. Usually, five evaluation issues or items are used in order to assess the overall project performance, as explained above.

Analysis of all the facts can be translated into achievements and constraints which are possible causes of the failures to achieve, and the lessons are drawn from the factual analysis. Final results are summarized in a report with the recommendations of the evaluator. The recommendations should be firmly based only on facts and lessons. Where recommendations are not based on the facts in the project, the background of such recommendations should be articulated thoroughly. More emphasis should be given to rationale, effectiveness and efficiency in this final evaluation.

Table 12.4: Evaluation Summary Note of PDM

	Narrative Summary (Project Plan)	Achievement
Overall Goal		
Project Purpose		
Outputs		
Activities Inputs		

Source: Author

12.5 Ex-post Evaluation

(1) Survey of Impacts and Sustainability

Depending on the nature of the project, the effects may appear in different time spans. Consequently, part of the objectives could be realized during the project life while others could be realized several years after project life. This can be contrasted with the outputs which are supposed to be obtained during the project period. Ex-post evaluation is purposely carried out in order to determine the impacts of the project in terms of the realization of the objectives, as well as sustainability of the village development activities or organization. Usually three to five years after the completion of the project will be an appropriate time to conduct an ex-post evaluation. The data for indicators relevant to the impacts and sustainability are collected through various means such as interviews with the villagers or from institutions providing social statistics.

(2) Analysis of Survey Results

Since the real value of the project is assessed only in this ex-post evaluation, it is recommended that all projects be subjected to this form of evaluation. Therefore, the analysis should be done with caution. Cost benefit analysis can be conducted, where necessary. Evaluation results, lessons learnt and recommendations made by the evaluators must be incorporated into new relevant projects and government development strategies. Thus the utilization of evaluation results should be discussed before the evaluation work starts. Otherwise, the evaluation becomes a mere academic exercise and a waste of resources. This completes one cycle of the micro-project.

CHAPTER 13
SUSTAINABLE AGRICULTURE

13.1 Sustainable Agriculture

Although agriculture in modern farms has changed dramatically in the last several decades, agriculture in traditional and small-scale farms in Sub-Saharan Africa has remained the same. New seeds with new technology have not reached smallholder farmers especially those in remote areas. Consequently, rural areas of SSA have remained under-developed for centuries.

Agriculture and rural development have a multitude of problems and constraints. As clarified in Chapter 2, the salient problems are widening duality between large-scale mechanized farmers enjoying many advantages and small-scale subsistence farmers in remote and isolated areas, deterioration of soil fertility, erratic and unreliable rainfall, under-developed infrastructures, etc. The conspicuous constraints for agriculture and rural development include absence of the public spirit and increase of dependency among others. These problems cause low productivity and isolation from market-oriented economy confines small-scale subsistence farmers to endless suffering from low standards of living. They are vulnerable to the vagaries of the weather and climate change, especially of droughts and floods which often result in drastic decrease of their harvests, a factor that triggers famine. Even during a normal year, these farmers are inferior in various capabilities and are deprived of entitlement. Hunger in such areas has become an endemic disaster.

The depletion of carbon brings irreversible changes and is a phenomenon found in many parts of sub-Saharan Africa. An absolute decrease in carbon causes an equivalent decrease in the carrying capacity of the environment. Depletion of organic matter, a product of atmospheric carbon assimilation, means decrease and disappearance of vegetation such as forests above the surface, and loss of humus under soil surface. These events may subsequently result in acceleration of soil erosion and deterioration of land productivity. Carbon sequestration[29] i.e. the preservation of the environment in a watershed by returning organic matter to farm-land and forests is a key consideration for future SSA agricultural and rural development.

The most effective and reliable approach for the development of both agriculture and rural areas must be promotion of sustainable agriculture. Sustainable agriculture integrates four main goals - maintenance and increase of soil productivity, economic profitability, compatibility with community and environmental as well as human health (Figure 13.1.1). These goals assure prosperity of the earth, farmers, villages and cities. More directly, promotion of sustainable agriculture is one of the essential factors of sustainable village development with economic profitability taking top priority.

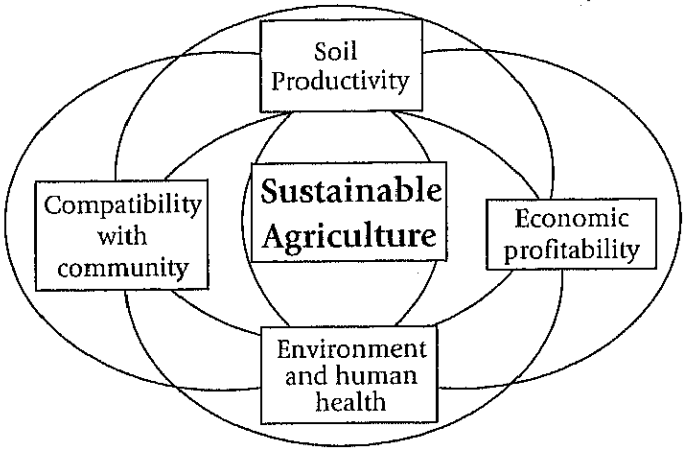
These are the recommended sub-areas that embody sustainable agriculture:

- Upgrading soil fertility through use of compost or manure
- Rationalization of cropping system (by incorporating leguminous crops)
- Acceleration of integrated agriculture
- Protection from soil erosion
- Introduction of appropriate irrigation means

[29] The facilitated redistribution of carbon from the air to soils, terrestrial biomass, geologic formations, and the oceans.

- Promotion of proper Agro-forestry
- Dissemination of rice cultivation (irrigated, rain-fed and upland)
- Extension of post-harvest technology
- Development of appropriate machinery
- Sensitization for integrated watershed management
- Improvement of market system and infrastructure

Figure 13.1: Four main goals of Sustainable Agriculture



Source: Author

Any single sub-area mentioned above is a wide area of expertise which is outside the scope of this book. The reader is advised to consult other sources. A few of the concepts related to sustainable agriculture are discussed in this Chapter.

13.2 Circumstances and Definition

The phrase "sustainable agriculture" has not had one agreed common definition so far, though the concept is widely spread over the world. After the agricultural expansion of the 1940's through to the 1960's, structural constraints started to emerge at farm sites. These include (1) lowering of farm productivity, (2) increased dependency on industrial products such as chemicals leading to increased instability of farm profitability, and (3) appearance of various forms of environmental problems. Several alternatives to cope with these constraints have been tried since the 1970's with little effect. Sustainable agriculture was one of these alternatives together with organic farming, alternative agriculture, natural farming, conservation farming, and others. Among these practices, organic farming has gained greater popularity since the origin and purity of food has become an important consumer issue. However, these pro-consumer countermeasures rarely benefit the small producers who cannot meet the desired production standards and are therefore vulnerable when exposed to the market-oriented economy.

Under such circumstances and for the purposes of this document, sustainable agriculture could be defined as "an optimum farming system comprising plants and/or animals, which aims at (1) increasing productivity under a controlled ecosystem, (2) a sustainable and stable farming economy with lowering production costs, (3) compatibility with traditional community, and (4) conservation of the environment and food security (see Figure 13.1).

It is said that the continuous application of chemical fertilizers in order to raise short-term benefits by improving crop yields leads to deterioration of the production environment. In this way, the natural re-cycling ring is disengaged. Although sustainable agriculture aims mainly at reviving the natural re-cycling system, it is absolutely different from regression to primitive farming systems because it aims at rationalizing the control of the agro-ecosystem and creating a stable farming economy. Therefore, it must be clearly distinguished from the organic farming system which never uses commercial fertilizers, pesticides and other industrial chemicals. Laborious efforts and low profitability are usually not supportive of the philosophy of sustainable agriculture.

Another interesting view regarding sustainable agriculture is contained in Gordon R. Conway's report entitled "Sustainability in Agricultural Development: Trade-Offs between Productivity, Stability, and Equitability" (*Journal of Farming Systems Research and Extension*, Vol.4, Number 2, 1994). He states that the phrase:

> *'"sustainable agriculture" has acquired diverse meanings. To the agriculturist it means maintaining the momentum of the Green Revolution. To the ecologist it is a way of providing sufficient food without degrading natural resources. To the economist it represents an efficient long term use of resources, and to the sociologist and anthropologist it embodies an agriculture that preserves traditional values. Almost anything that is perceived as "good" from the writer's perspective can fall under the umbrella of sustainable agriculture--organic farming, the small family farm, indigenous technical knowledge, biodiversity, integrated pest management, self-sufficiency, recycling, and so on.'*

This diversity of interpretation of sustainable agriculture is to be welcomed as part of a process of gaining consensus for an idea that is likely to bring about radical change. The difficulty is that it results in concepts and definitions of little practical value. The often-quoted definition of sustainable development proposed by the World Commission on Environment and Development - "development that meets the needs of the present without compromising the ability of future generations to meet their own needs" (Brundtland Report, 1987) - is valuable as a policy statement but is too abstract for farmers, research scientists or extension workers trying to design new agricultural systems and develop new agricultural practices. Instead they would need a definition that is scientific, open to hypothesis testing and experimentation, and practicable.

Gordon R. Conway suggests that the primary goal of an agro-ecosystem is increased "social value". This social value is broadly composed of the quantities of goods and services produced by an agro-ecosystem, the degree to which they satisfy human needs, and their allocation among the human population. Thus social value has several measurable components: the present production of the agro-ecosystem, its likely level in the future, and its distribution among the human population. These are expressed in four agro-ecosystem properties: (1) productivity - the output of valued product per unit of resource input; (2) stability - the constancy of productivity in the face of small disturbing forces arising from the normal fluctuations and cycles in the surrounding environment; (3) sustainability - the ability of the agro-ecosystem to maintain productivity when subject to a major disturbing force; and (4) equitability - the evenness of distribution of the productivity of the agro-ecosystem among the human beneficiaries (Conway and Barbier, 1990).

13.3 Farm Size

PASViD emphasizes the development of an intensive farming system by small- and medium-scale farmers. There are four main reasons for this recommendation:

i) Small and medium scale farmers are generally poor, while large scale farmers are generally rich.

ii) This farming system can create much more job opportunities and feed larger populations in the village as opposed to the extensive farming system. Considering that the populations of the countries of the SSA are still growing rapidly, and particularly so in the rural areas, and that a sizeable proportion of their youth are migrating to the urban areas, which takes away much-needed labour and congests the urban areas, the intensive farming system seems to be one of the major countermeasures to cope with this problem.

iii) Intensive farming system can produce more food per unit of land. Labour productivity per person in extensive farming is obviously higher than in intensive farming, but the question is not scarcity of people but scarcity of fertile land in most of the Region where droughts and eroded soils are a common phenomenon. Therefore, increase of land productivity per unit area is as crucial as labour productivity per person.

iv) Intensive small scale farming conserves and ameliorates the environment. The extensive farming system tends to become destructive to the environment due to the following reasons:

a) Extensive farming uses excessive chemical fertilizer

Residual nitrogen and phosphorous fertilizers which leach out of farms are hazardous to the environment. Nitrogen may be oxidized after application and the nitrous oxide gas produced in the process becomes one of the causes of the global greenhouse effect. Leached nitrates, on the other hand, pollute ground water. Residual phosphorous is known to cause the eutrophication of lakes and sea water.

b) Extensive farming depends on chemicals to control pests, diseases and weeds

Pests and weeds can be controlled using an integrated cultivation system including minimum use of chemicals. Weeding can particularly be managed by use of appropriate irrigation methods, mechanical means, and by hand removal. Residual pesticides have an adverse effect on the eco-systems of nearby rivers and the environment. Meanwhile, Integrated Pest Management (IPM) suits intensive small scale farming.

c) Extensive farming targets short-term profits

Soil fertility of a farm is an asset which, once lost, cannot be restored easily. It takes a long time to improve and careful management to maintain the fertility of the soil. However, commercial farming cannot allow the often time-consuming soil amelioration measures to be implemented since its aim is to maximise profits in the shortest possible time. Monoculture and consecutive cropping without fallow intervals are the formal practices in extensive farming systems. With the persistent depletion of soil fertility and repeated working, both the chemical and physical characteristics of the soil deteriorate year after year.

d) Extensive farming causes soil compaction

When heavy machines work the land, they compact the soil by their sheer weight. This may cause stagnation of water on the surface or run-off because of inefficient water percolation. The consequence of soil compaction is soil erosion and poor productivity.

e) Extensive farming consumes resources heavily and creates pollution

Since it depends on modern and heavy machines, a lot of precious energy is consumed in this type of farming. In addition, tremendous air pollution is created in the operation.

f) Production losses are increased

Extensive agricultural production employing machinery usually increases production costs as compared to the intensive way of farming. Energy efficiency in an extensive farming system has been found to be lower. It is therefore a less efficient production system than the intensive farming system.

g) Extensive farming may lead to collapse of community solidarity

Capitalist principles cannot sustain a village society in general. Commercialized farming and entrepreneur farming do not depend on mutual cooperation and community based activities. Once these are adopted widely, they change the village to merely productive space and not both living and productive space. This trend may not prosper the community but instead it prospers individuals. As often happens in urban areas, the 'right consciousness' may override the 'duty consciousness' in the villages where an extensive way of farming dominates.

13.4 Appropriate Technology

All the local technology, indigenous wisdom, human resources and available materials in the nearby area should be mobilized in order to reduce project financial demands. In future development plans, however, modern and sophisticated technology may be appropriate depending on the situation and needs. In any case, due consideration should be given to the operation and maintenance of the facility by the villagers. Appropriate technology may change depending on the village location, human factor and time. The general concept of appropriate technology is as follows:

i) Originally indigenous and not modern technology (this concept is close to that of intermediate technology);
ii) Can be manufactured or maintained locally (or domestically);
iii) Easy, not sophisticated;
iv) Low price, low cost; and
v) Small.

The ILO has also defined appropriate technology in the following way:

i) Labour intensive (enlarges possibility of employment);
ii) Satisfy the needs of enterprises and market, with close linkage of local industries and low investment;
iii) Mobilization of domestic resources (solar energy, wind, bio-gas);
iv) Higher productivity than conventional technologies;

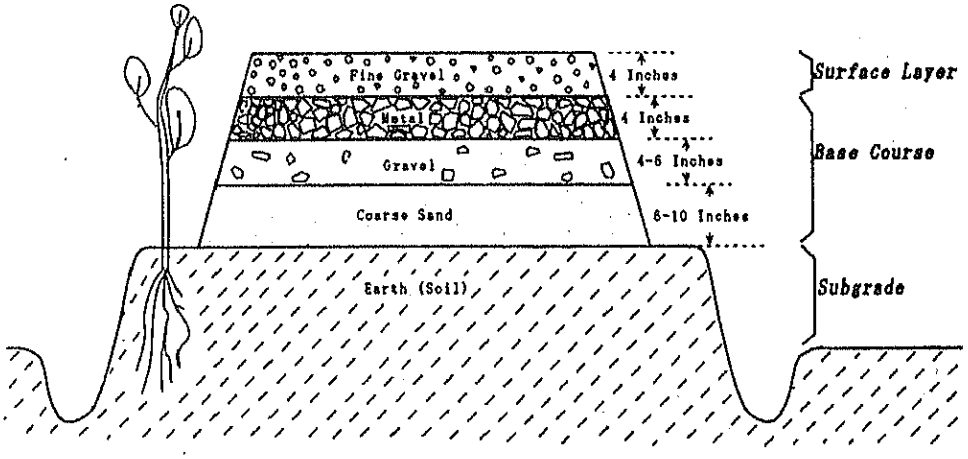
v) Easy for maintenance; and
vi) Fit for social conditions.

An example of appropriate technology in road construction design is given in Figure 13.4.1, which was an actual design in a CIRDAP pilot project in India. The materials for road construction were brought from a nearby area. The materials used and the process which was followed are presented in Table 13.4.1.

When the sub-grade is strong enough to bear the load, it can be used as a road surface. If the sub-grade cannot bear the load, metal should be used in the base course to disperse the load so as to minimize the stress to the sub-grade. Since the stress dissipates as it goes to the lower layers, the cheaper materials, which are relatively small in load bearing, should be used in these lower layers.

Besides the materials used, the villagers' technology for road construction was applied. Also the construction was totally managed by the village committee and all the labour for the purpose was mobilized only from the villagers' resources. All these experiences show that the villagers' potentialities are tremendous if they are stimulated and motivated with minimum support from an outsider like an external organization.

Figure 13.4: Section Design of Village Access Road by Appropriate Technology



Source: Author

Table 13.4: Process and materials used for road construction in Rhukumpally Village, India

No.	Operational items and materials
1	● Earth filling ... From the side of the road
2	● Coarse sand layer ... From nearby river-bed
3	● Gravel layer ... Soil with sand and gravel which were taken from under-ground below 6 feet or hill-rock
4	● Give interval of 6 months for the settlement of all the layers
5	● Gravel (sand and gravel) fill up pits and levelling by roller (1st)
6	● Metal (granite stone pieces) layer which were obtained from nearby hill-rock
7	● Pour water on the surface of the road and rolling next day
8	● Fine gravel without stone for road surface ... collected from nearby river-bed
9	● Final rolling with spraying of water
10	● Planting trees on both sides of the road

Source: Author

13.5 Techno-stairs

(1) Outline

There are many approaches that try to introduce a single solution or technology to resolve an issue. Irrespective of the sector or field these technologies tend to be universally accepted once they show some promise. Some important issues that have seen single solution innovations are poverty alleviation, appropriate technology, market oriented economy, changing the mentality of the villagers to modern thought, etc. Some success stories are reported in single solution approaches such as the introduction of Macadamia nuts in Kenya.

PASViD encourages a multiple steps approach. For example, in the case of agricultural technology, it recommends introducing new technologies for some farmers and some areas as opposed to introducing it to everyone at the same time. This may be called a techno-stairs approach. Techno-stairs sequestrates strengths of indigenous techniques, using appropriate mechanization and gaining economic stability step-by-step, with the eventual goal of achieving ideal farming compatible with the environment.

Techno-stairs could therefore be defined as:

> *"A set of farming technologies and system which targets individual small and medium scale farmers, aims to upgrade their technology, hence their income with realistic steps and consequently achieves a healthy rural environment. The stairs of technology are rationally constructed and consist of intermediate technologies often borrowed from other countries where they have proved their worth, new technologies, and new appropriate technologies invented through research."*

Rather than being a mimic of the historical process of development as observed from the developed countries, techno-stairs is a reconstructed and restructured approach which introduces multiple technologies so that farmers may apply them and upgrade their farming methods to modern ones as soon as possible. It is not possible to achieve this with through application of a single technology. This inter-disciplinary approach is an integration of all new information obtained through studies and research in breeding, agronomy, pathology, economy, etc. And one of its main features is that it aims to realize not only sound economy at the individual farmer level but also social and environmental health.

Other characteristics of the techno-stairs approach are that it shows practical steps according to financial ability, technical capability, preferences, family composition, etc. of the target farmer as well as dynamic market movement and other social aspects. Therefore, the approach is suitable for subsistence farmers.

(2) Process to produce Techno-stairs

Taking rice cultivation as an example, the process of creating a techno-stairs model is as follows:

i) Compilation of existing rice technologies and production system as well as market information in the region. All technologies and production system including traditional ones in the region should be studied *a priori*. Market information of products, inputs and machinery are also carefully obtained from a nearby market.

ii) Applying the most modern or research proven production system.

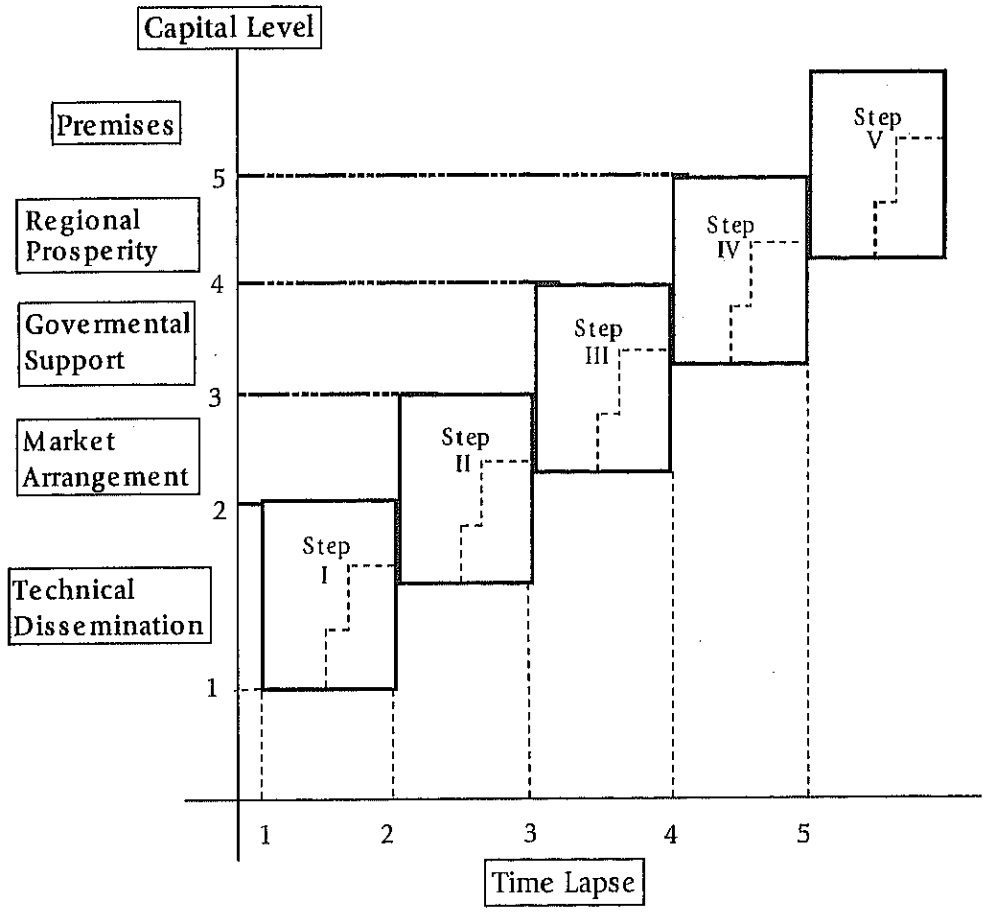
iii) Ensure the adoption of the methods by innovative farmers so that conservative ones and laggards can see it working and feel bold enough to copy the new system/ technology.

iv) Several steps which are feasible economically and technically and which can be applied within a few years should be sought and illustrated as the correct prescription for every farmer in the area. Smaller steps could be prepared to fill in each large step. An annual budget and plan to purchase materials and machinery would need to be prepared to support the approach.

v) Extension agents are trained on the appropriate and intermediate technologies as necessary and they in turn should train the farmers. As research and invention of new prototype machines may take considerable time and budget, existing technologies and machinery are faster and more viable to introduce in a techno-stairs approach.

vi) Set an environmentally sound farming system as the ultimate goal. Financially and technically able farmers should adopt environmentally sound farming systems as soon as possible. Poor subsistence farmers should put priority on improvement of their incomes until they are fully integrated into the market economy; then they can adopt environmental protection considerations.

Figure 13.5: A Techno-stairs Model



Step Details

Steps	Level of technology
I	Traditional and subsistence
II~III	Transitional stairs which includes appropriate technologies, etc.
IV	Mechanization and modernization
V	Environmentally sound farming system

Source: Author

(3) Model Techno-stairs

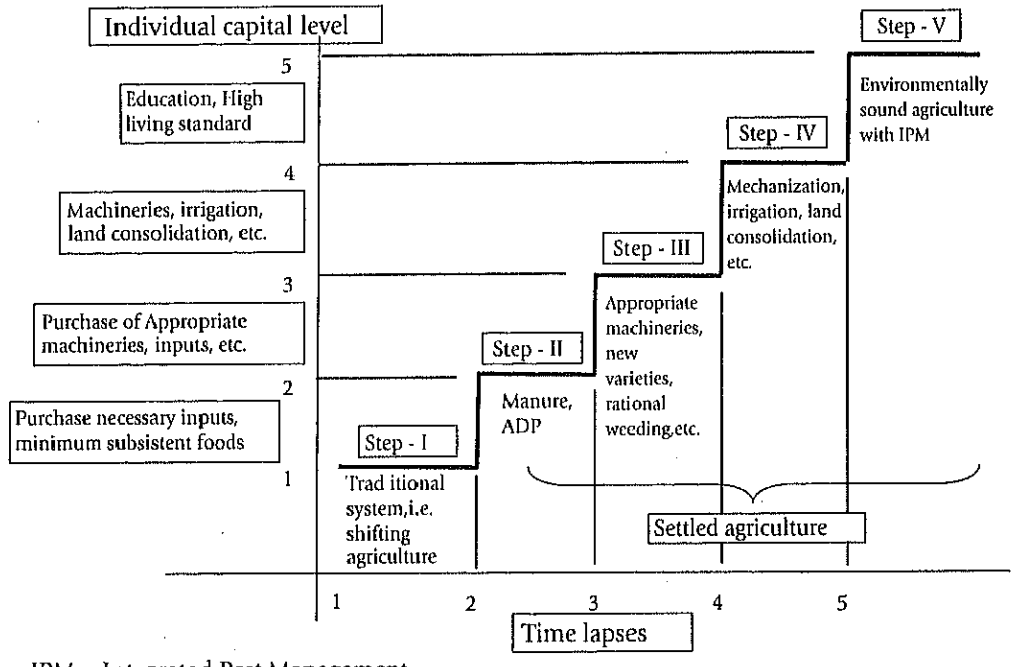
The concept of techno-stairs is illustrated in Figure 13.5.1. About five steps seem to be more convenient in order to set capital target in each step. For example, necessary capital level to step up from Step-I to Step-II is described as '2', and necessary time to accrue capital level 2 is from '1' to '2' on the Time Axis.

Some capable small-scale farmers are already in Steps II or III; even then, some education is essential in order to go up to Step IV and above. A society must mature in its entirety to attain Step 5 which would assure environmentally sound agricultural practices.

(4) An Example of Techno-stairs: Rice Farmers in Bolivia

Techno-stairs for rice farmers in Bolivia are illustrated in Figure 13.5. In Step-I, farmers practiced shifting agriculture with slush and burn which is common in the Eastern plains of Santa Cruz in Bolivia. Step II indicates settled agriculture near villages or towns. Each step introduces new appropriate technologies until Step-IV when farmers are advised to be mechanized and fully modernized. The final step is environmentally sound agriculture with adoption of Integrated Pest Management principles and other advance features. Extension officers in the region may prepare prescriptions for each farmer and any problematic issues are referred to experiment stations for design of countermeasures. Every farmer is required to have some capital in order to step up from one stair to the next. For example, tools to prepare manure and equipment for animal draught power must be purchased to go up from Step-I to Step-II. Availability of capital therefore determines how fast a farmer can go up the stairs.

Figure 13.5: An Example of Techno-stairs



IPM = Integrated Pest Management
ADP = Animal Draught power

Source: Author

13.6 Market-stairs

(1) Market Development Principles

The principle of Local Production Local Consumption has been spreading globally. It supports the view that agricultural produce harvested in an area should be consumed by those living in that area. This principle has turned into a movement which is now very active in rural areas in Japan where it is strongly supported from the viewpoint of ensuring food safety, food education, protection of the environment from mass and long transportation, rural re-vitalization and agriculture re-vitalization[30].

This book proposes the market-stairs concept ***'from thatched marketplace to supermarket'*** as stairs for small-scale farmers in Sub-Saharan Africa so that through village development, they can economically stand on their own and improve food security in their areas. This concept is based on the principle of Local Production Local Marketing; farmers themselves should create small marketplaces in villages where they can dispose of their surplus production.

As already mentioned earlier, small producers have weak bargaining power when it comes to selling their produce or buying agro-inputs because they normally live in isolated and geographically unfavorable areas. To them therefore, a combination of food self-sufficiency and market economy conditions should be pursued in response to development dynamics (Niki 2005).

Direct participation of small-scale farmers in large-scale markets is not realistic and risks are high. They should therefore start with their villages so that villager demand can first be awakened, then this effective demand will be awakened in the surrounding areas which widen gradually from villages to district (regional) level and from regional to national level like stairs. In this way the small producer economy is improved with minimal risk. Figure 13.6 illustrates the concept of ***'from thatched marketplace to supermarket'***. The ultimate goal should be to link the thatched marketplace to the domestic and overseas markets.

(2) Market Structures

Small-scale producer markets are often thatched huts where they can display their produce under shade - vegetables, fruits, cereals and livestock, often on designated market days so that both villagers and buyers from other villages can come to buy. More often than not, the sellers are also buyers as they buy what they cannot produce. Business can be expanded and handling volume increased by introducing cash crops, handicrafts, furniture and so on.

[30] Concept of Local Production Local Consumption is practiced in the following countries where it is known by the local name:

a) "Shindo Fuji" is Korean philosophy on foods. "Shin" means human body and "do" means land and environment. The idea is that foods should be eaten where they are produced, leading to a healthy life.
b) "Slow foods" is an Italian thought against "Fast Foods". People enjoy traditional recipes using local food materials and share their time with friends. It also tries to protect local producers and convey the food culture to the young and future generations.
c) "Food miles" is an opinion that wastes from imported foods should be returned to the original production area; otherwise, our environment and agriculture cannot be sustained.
d) "CSA (Community Supported Agriculture)" is agriculture supported by local people. Its model is similar to the Japanese "Local Production Local Marketing". The aim is to promote local agriculture through linking-up between producers and consumers, targeting agro-produce and processed foods.