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# Technical Cooperation Toward Upgrading Technical Levels of Rural Women in Developing Countries

MARCH, 1994



JAPAN INTERNATIONAL COOPERATION AGENCY

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#### Preface

In recent years, the importance of the participation and role of Women in Development (WID) has been increasingly recognized, and the promotion of WID projects in the field of international cooperation has become a priority theme. Under such circumstances, the implementation of technical cooperation needs to involve women in place for shouldering the development of agriculture, forestry and fisheries as well. Particularly, women play a vital role both in agricultural production and in rural life in developing countries. It is expected that the upgrading of women's technical levels in various aspects could be of much help to increased agricultural production and better rural life.

Against this background, in compliance with the proposal made in the report of the workshop for sector-wise assistance (WID) in 1990, our Agency initiated in 1991 a three-year study program on the upgrading of women's technical levels for improving the quality of rural life with a view to contributing to the implementation of agricultural cooperation projects targeting on women. This program consists of an overseas fact-finding survey and a study in Japan. The former mainly aims at analyzing the current situation of women's participation in agricultural activities and rural life as well as cases of cooperation by international organizations and other donor countries. The latter analyzes various aspects relating to possible technical cooperation from Japan in this sector and guidelines of such cooperation, based on the results of the above fact-finding survey and the experience in agricultural extension programs and schemes for the improvement of the quality of rural life in Japan.

This report was compiled as a summary of the program for the third year, including the results of deliberations on possible technical cooperation toward upgrading technical levels of rural women in developing countries. We sincerely hope that this report will be widely used as a reference by all those who are concerned with this problem.

Last but not least, we would like to gratefully acknowledge the assistance extended by the Association for International Cooperation of Agriculture and Forestry, the members of the study committee, and overall support extended by the distinguished officials in the Ministry of Agriculture, Forestry and Fisheries of the Government of Japan.

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# TECHNICAL COOPERATION TOWARD UPGRADING TECHNICAL LEVELS OF RURAL WOMEN IN DEVELOPING COUNTRIES

#### INTRODUCTION

Recently, the concept that it is important and indispensable for effective development to give due consideration to the roles of men and women in development, to take care lest women are either disadvantageously affected or neglected by development, to improve the position of women in general in developing countries, and to encourage the participation of local inhabitants, both men and women, in development not only as beneficiaries but as active actors in the process of development, has come to be internationally acknowledged and emphasized.

Such is called the concept of WID (Women in Development), and the way to thinking according to this concept is expressed as thinking in terms of WID.

This report is intended to provide what is supposed to be helpful to the policy makers in developing countries in taking up as a theme, and in planning and implementing technical cooperation for the improvement of rural life focusing on upgrading techniques of living as well as agriculture on the part of rural women in conformity with the concept of WID.

The report is comprised of four chapters. In Chapter I, themes of technical cooperation varying with local conditions are discussed from the point of view that to grasp actual field conditions is crucial for implementing the technical cooperation. Chapter II describes what is to be considered in making adaptive measures for a chosen theme. In its latter part, matters to be noted in implementing the measures are pointed out. Then, in Chapter III, a draft process of what technical cooperation is to be employed for the rural women is shown as a reference in planning and formulating technical cooperation. In Chapter IV, priorities in promoting the technical cooperation toward rural life improvement are listed.

#### I. WHEREABOUTS OF PROBLEMS AND TYPICAL THEMES

In promoting the improvement of rural life in a developing country, what is required first is to know what kinds of problem are existent in relation to the improvement of rural life. Here, the problems are derived from analysis of the living of male and female inhabitants in the project area of rural life improvement.

Then, what is sought after analyzing what problems exist is to choose what themes from among these problems as those to be handled in the technical cooperation.

Thus, this Chapter comprises, first, "1. Whereabouts of Problems" which handles what problems are generally often witnessed in improving the rural life in developing countries, followed by "2. Typical Themes" which discusses that the same problem areas may lead to varying themes depending on local conditions. As factors representing differential conditions, the economic strength, the socio-cultural environment, and the natural environment are particularly cited. Then, "3. Choice Themes" indicates the matters to be noted in selecting themes to be handled in technical cooperation from among those conforming to the condition of a particular area.

#### 1. Whereabouts of Problems

Similarly to all sorts of international cooperation, the technical cooperation intended for rural women in developing countries is required, first of all, to meet the needs of the inhabitants living in a particular area.

In planning the technical cooperation for improving rural life, therefore, it is important to grasp the actual condition and think and talk with the local inhabitants, both men and women, over what really matters to them, and dig up problems jointly.

Here, instead of problems related to specific cases, there are cited those general problems of rural areas in developing countries which have often been pointed out by international development organizations and aid agencies of developed countries.

In the following, the problems are arranged according to their contents and are classified broadly into those at the farm level and at the government level. Further, the former problems are divided into those relating to the living aspect and the production aspect of farm households.

#### 1) Farm-Level Problems: Living Aspect

#### a. Problems concerned with potable water

Responsible for securing potable water are usually women in many rural areas of developing countries. Where there is no source of potable water in or near a farm yard, the housewife has to walk a long distance to draw water. There may be pleasure of chatting with the neighbors at the common source of water, but water drawing is a hard work consuming time and labor to carry back a heavy vessel containing water.

Furthermore, the water carried back with much labor often has a defect in quality to the extent that it is not suitable for drinking unless it is once boiled. In order to drink boiled water, however, one needs to always keep fuel for boiling water and a container with a cover for storing boiled water and maintain it clean.

#### b. Shortcomings in housing equipment

Rural people in developing countries are living in houses built of readily available materials on the spot and based on their living wisdom and practices. Model houses may be built according to the concept of the advanced countries, but they are usually unpopular and not accepted in that they often fail to take the availability of materials and the local custom of living duly into consideration. But this by no means signifies that the improvement in housing is unnecessary.

Not a few houses are lacking in basic equipment such as a water tank, a stationary oven, a toilet, and a drain. From the standpoint of tending toward easy-to-live housing, it will be necessary to consider if there is any point of improvement for the existing living facilities. For example, a kitchen is not suitably laid out for use; a food storage, if any, is susceptible to damage by rats; a non-flush toilet is located close to a well; or a livestock pen and a living place are so closely located that sanitary consideration is required. In this way, various problems may surface depending on local conditions.

#### c. Difficulty of obtaining fuel

In the rural areas of developing countries, securing the firewood used for cooking, etc. is a responsibility of women. On account of deforestation in recent years, the women have to walk even farther and over a wider range to collect firewood. Collecting firewood is thus time-consuming, hard work to carry back a heavy load of firewood.

Where there is no energy source for burning except the natural wood, acquisition of firewood and charcoal is an important task, and it is hardly attained without conservation of forests. Each farm household will be able to secure fuel to some extent by planting trees by itself for firewood and charcoal use. To secure the fuel stably over a long period of time, however, it is essential for one to protect and rear forests which will promise stable supply.

In places in India and Pakistan, cow dung is dried and used for burning. Where there is not adequate source of energy, this is a method coming out of living wisdom. If cow dung was not used as a source of energy, however, it could have been used as manure for cultivating crops.

#### d. Necessity of improving food habits

Food habits forming the daily supply of nutrients reflect the eating culture rooted in the local living and are scarcely subject to change. Then, their improvement needs to be carried out taking the tastes of the local people and locally available products into consideration.

In some cases, people are unable to get sufficient calories stably, while in others, foods taken in are poor and short of protein and vitamins, or meals hardly vary in content from day to day.

In some other cases, instead of the content of the meal, the long time required for preparation for cooking presents a problem. For example, when a farm wife works manually for polishing rice or milling corn, her work is monotonous yet troublesome requiring much power and time.

In the meal custom, men have often a priority. In general, whenever foods are short, women often reduce their own portions of meals to enable children to eat.

#### e. Shortcomings in the rural medical service

Rural development should preferably be combined with better rural medical service. It is because, compared with the urban area, the rural area generally lags behind in medical service, and because it is necessary to consider effects on the health problem of the changing farm work and the changing natural environment of the rural area resulting from rural development.

In many areas, it has become a serious question how to protect the health of the pregnant women and whether the childbirth could be timed in accordance with the design of family life. There are a large number of villages which have no medical facilities in the vicinity and where villagers are unable to receive medical care unless going to a faraway town.

To cope with the shortage of medical services, provision of medicines may be considered. But the medicines have usable time limits, and it is difficult for individuals usually short of fund to have them on hand constantly by renewing old medicines with new ones.

Also, the traditional private medical care is often neither regarded duly nor tied with the modern medical services. To compensate for delay in development and extension of a modern medical system, it will be necessary to classify and utilize those low cost traditional medical treatments which are deemed usable.

#### f. Hygienic problems

In some rural areas of developing countries, the living facilities are still unsanitary, or the hygienic sense is insufficient. With respect to the facilities, in many villages there is a need to keep clean around the well, to prevent the sewage from directly flowing into rivers, or to keep the toilet clean. In terms of the hygienic sense, there are places where people are required to refrain from drinking unboiled water or to wash hands before each meal.

The extermination of harmful insects carrying germs or sucking human blood is connected with sanitation of dwellings and rural medical services and offers a problem in many developing countries.

The extermination of unsanitary cockroaches, flies, mosquitos, ticks and lice is necessary for good health as well as comfortable living. Also, to prevent infectious diseases and parasites, it is sought to enhance the hygienic sense of the inhabitants.

#### g. Educational problems

In the rural areas of developing countries, the percentage of school enrollment is frequently low, and the rate of illiteracy is high. This is because the children are counted as part of the labor force in many poor farm households and have to help both farm and household work. In such case, girls are often less accessible to the opportunity of education than boys, so that their rate of illiteracy is higher than that of boys.

In some countries, moreover, there is a shortage in the number of schools as well as teachers because of insufficient budgetary appropriation. Also, there are places where no school is located in the vicinity so that it is difficult for the children to attend the school, precluding their receiving education.

#### h. Shortage of living-related common facilities

In the rural areas of developing countries, there are many places where, even though common cultural facilities such as a religious establishment and a school are existent, there exist no facilities usable for assembly or other activities of inhabitants. Some religions prohibit using their holy facilities for any purpose other than the religious one. Also, in some instances the government agency concerned is reluctant to let educational facilities like a primary school be used for any purpose other than for educating children. In such places, lack of facilities usable for assembly of farmers gives rise to a problem. When necessary, they gather at the house of a local boss, and so they tend to feel uneasy.

In order to improve rural life with the participation of inhabitants, there is a need for facilities where they can gather at ease. In the absence of such facilities, it is important to construct an assembly or public hall which will be operated and managed democratically by male and female inhabitants.

Also, when women are going to participate in some training or busy in the farm-

ing season, they very often have no place where to entrust the care of their babies. As the participation of women in economic or social activities proceeds and its importance increases, the communal day nursery facilities will augment in importance.

#### i. Paucity of income-generating opportunities

In many developing countries, when women have an opportunity to obtain an income and can use it at their discretion, they are more likely to spend it for family living purposes than men, and as their income increases, the family living is improved. However, women of poor farm households are busy in working whole day and are living a life of little spare time for doing some other thing for getting additional income. Even if there is spare time, employment opportunities are scarce in rural areas.

Another important question is whether or not the products of homework or rural crafts can be sold. As income-generating projects for women, handicraft and embroidery are often taken up. In case the products are not closely related to the local living but intended primarily for foreigners, however, they may not be salable at the local market, and when foreigners giving technical guidance leave, the outlet may soon disappear, resulting in a pile of unsold stocks.

#### i. Difficulty of getting loans

In the rural areas of developing countries, opportunities for women to get loans are limited. This is because land and other real properties are usually owned by men, and women possess nothing that could be mortgaged. Without getting loans, it is impossible for them to make investments for improving their living.

Even where both financial capacity and administrative readiness on the part of financial institutions permit granting group loans without collateral whose repayment could be reasonably expected by making it joint responsibility of the respective groups, poor rural women having no personal experience of borrowing from financial institutions are often not familiar with the method of borrowing money or the way of managing fund.

# 2) Farm-Level Problems: Agricultural Production Aspect

#### a. Shortage of water for crop cultivation

Although the crop cultivation is affected by temperature, sunlight, soil, etc., water is a particularly important factor. And irrigation is a method of artificially controlling water.

Where water is extremely short, even a method of carrying water in pails and watering each hill of a crop one by one is applied. It requires much trouble and heavy labor.

Where a medium- or large-scale irrigation work is carried out in order to solve the shortage of water for crop cultivation, not only needs one to be cautious about any adverse effects of its construction on the inhabitants and the environment, but also to construct a farm road along the main canal and, in case the canal is lined with concrete, to provide places to get down to the canal for drawing water or washing. Also, the extension service for farming techniques on irrigated land needs to cover both male and female farmers.

#### b. Shortage of agriculture-related joint facilities

In the rural areas of developing countries, not only joint facilities directly related to agricultural production such as irrigation systems but also those related to processing and distribution after harvesting crops are generally in shortage.

The processing facilities enhance the value added obtainable from agricultural products, and the distribution facilities facilitate shipments to the market. It is important to see that both male and female farmers can participate in management and operation of such facilities.

Presumably the main processing facilities include rice mills, flour mills, dairy plants, and food processing plants, and the main distribution facilities consist of warehouses, collecting/shipment yards, and transport facilities.

Also, the installation of agriculture-related joint facilities leads to rearing the local industries which might serve as a key to regional development. With some local

industries being present, farm households' opportunity for cash earnings is likely enlarged. Thus, it is desired to foster the local industries with due regard for benefiting both male and female farm population, but to create such local industries requires improved rural infrastructures including joint facilities.

#### c. Environmental destruction

As a problem of global scale, the environment has come to attract the worldwide attention recently. And the role of the rural women in helping conserve the environment in developing countries is arresting attention. Because women responsible for daily water drawing and firewood collection are usually more sensitive to the influence of the changing environment on their daily life and are more liable to take interest in the environmental conservation.

In terms of the individual field level, aggravating soil erosion and desertification of the fields pose serious problems. In particular, there are many places where the development and implementation of a locally suitable method of agro-forestry is called for which organically combines tree planting and crop cultivation and is thus considered to be effective for farm-level soil conservation and environmental conservation.

In terms of community level, the forest protection is particularly a problem. In many areas it is called for to promote the afforestation by means of not the conventional forestry primarily for making profit but the social forestry involving male and female inhabitants in the vicinity in management and operation of forests, taking a broad view of not only the benefits provided by forest including timber as well as other products such as fuelwood, herbs, nuts mushrooms, edible trees and plants, feed trees and plants but also the environmental effects including flood control, soil conservation and air purification.

#### d. Problems related to crop cultivation

As far as crops are concerned, it is generally understood that in Asia, men and women jointly engage in cultivation, while in Africa, men cultivate cash crops and

women subsistence crops. In Latin America, the two types are mixed.

Where the cultivation of the same crops takes place by division of labor between men and women as in Asia, the agricultural technique has to be extended to either men or women according to the type of work, but it is often extended to men alone as heads of farm households. Where the new knowledge and technique are habitually conveyed from the heads to the other family members, such method of extension involves little problem, but where such habit is absent, the said method of extension may yield little or no effect. Then it is necessary to choose men or women actually in charge of particular farm work as clientele of the extension service.

#### e. Problems related to planting trees

In developing countries, women are responsible for the work around the house, and the care of the trees in the compound of respective homes is the work of women, although that of the trees in the field and other places outside the home varies by locality. To spread the tree planting, therefore, women need to be chosen as the clientele of the extension service, but in many cases, the extension is in fact carried out by calling male householders. Men may bring back saplings, but they do not positively plant and rear them in the yard, so that the saplings may wither and be used as firewood.

Tree planting is designed to acquire energy material, livestock feed and fruits, and the trees once grown up, bring benefits to women. Therefore, if women are chosen as clients of the extension and understand the likely benefits, their positive participation would be expected. The borne fruits will help supply nutrients for the families, and if it is possible to sell them by the road side or in the market, they will provide pocket money for women.

#### f. Problems related to livestock farming

In the farm households of developing countries, reportedly men are responsible for large domestic animals such as cattle and horses, while women for small domestic animals such as goats and sheep. Even in the case of large animals, however, the work of feeding, water supply and cleaning of barn are often assigned to women. In the case of live stock farming, the extension service considering the gender according to the assigned work is seldom provided.

Where the variation of dry and wet seasons is remarkable, it has become a serious problem to acquire the feed for domestic animals, hence the need to develop and extend the cultivation of feed crops suitable for respective areas arises.

# g. Problems related to poultry farming and fish farming

Work carried out around the house is apt to be regarded as an extension to the household work, and so in many developing countries poultry farming is thought to be a job of women. Besides chicken, the keeping of other fouls including ducks and small animals like rabbits, and the raising of shrimps also belong to this category.

However, as it was difficult for women to meet expenses for purchasing chicks or fries, for constructing a poultry house or a fish pond, and for buying feeds, or because the technical guidance of poultry or fish farming was not meant for women, their willingness to tackle the poultry or fish farming would often be discouraged.

#### 3) Problems at the Government Level

## a. Shortcoming in the extension system

In some countries, the government personnel have little understanding of the necessity of extension projects duly reflecting the roles of men and women; and in other, the necessity is basically recognized, but the extension personnel have not been satisfactorily trained accordingly.

One should enhance the cognizance among the persons concerned of the necessity, and establish a system for extension activities closely combining the two aspects, i.e., the extension for agricultural improvement meant for both male and female farmers and the extension for better farmlife, and train extension workers accordingly.

As for the extension system, the extension organization is rarely established fully down to the local level, and their shortcomings raise a problem. Therefore, improve-

ment of the extension organization is an immediate task. For instance, the creation of a national network of extension system and the provision of tools, equipment, and facilities for extension activities as well as bicycles, cars and other traffic means are called for.

The development of techniques to be extended and the coordination of extension and research are of course necessary, but in many instances, the very importance of the type of studies concerning both agricultural improvement and life improvement required for improvement of the rural life is not adequately understood. To promote the extension concerned with the rural life improvement, one should look into not only the extension system but also research institutions and secure the tie-up between extension and research. Deeper understanding of the support to research on the part of the administration, improvement of the research system and training of researchers will also be required.

#### b. Shortage of rural life improvement organizations

Organizations whereby rural women can express their own opinions equally to men or those whereby rural women promote the rural life improvement by themselves are generally non-existent. In most places, whether the necessity of forming such an organization can be understood by inhabitants, both men and women, is a question.

In some cases, the need for some form of organization for life improvement activities among inhabitants is understood to a certain extent, but any adequate organization of inhabitants is either locally absent, or if any, it is not functioning well.

Many countries have a national machinery established through the UN Decade for Women toward improvement of the status of women. If such a machinery is actively functioning in the rural area, it is important to coordinate and cooperate with such existing organization.

#### c. Shortcomings in the information network

In the rural areas of developing countries, people are highly interested in radio and television, but actual acquisition of information is normally by word of mouth. Tech-

nical information may be given to the heads of farm families, but it is seldom conveyed to the other family members, and where gender-oriented division of farm labor is existing for the same crop, it is necessary to transmit the technical information to the persons in charge of individual work in respective households.

In many instances, meagerness of the information pertaining to rural life improvement is a problem. It is, therefore, important to use whatever means of information transmission is available.

In some cases, the rate of illiteracy is so high that the literal information is hardly usable in the extension. In others, less experience of contact with outsiders makes people strongly cautious about them.

#### d. Lack of farmer education

To provide necessary technical information for improving the rural life, whichever condition has to be satisfied either that the local farmers speak the language (official language) of the information supply side or that the extension agent can speak the local language of recipients. Also, to offer the literal information presupposes that its recipients are literate.

Where illiteracy prevails awaiting solution, it will be necessary to implement antiilliteracy education. In an area in which a minority race is living, teaching of the official language for adults will be necessary at the request of inhabitants, and if the minority people think much of their language, it will be necessary to increase the extension agents or officials who are capable of speaking that local language.

Also, if there are many dropouts from the elementary school, who want to receive the fundamental education, adult education will have to be introduced.

Further, it is likewise important to provide opportunities for the rural inhabitants to receive education by specific groups or comprising particular contents if they so desire.

#### e. Shortage of the training meant for women

In the developing countries, rural women generally have no spare time to partici-

pate in training or have difficulty in participating with their daily work neglected unless some direct merits are expected. If they have infants, they find it more difficult to participate in training unless they are allowed to participate together with their children or can leave their children with somebody during the training.

For the women who are unable to go a long distance away from home, it is a question whether or not they can receive training at the community level.

Where women have some spare time to participate in a training only for a short period, one could, say, hold the training in a local city and have the women in the neighboring villages gather there or organize a study visit to a model case of rural life improvement if any.

#### 2. Typical Themes

After clarifying what kinds of problem are locally present, the next step is to determine themes to be handled in technical cooperation.

In this stage one must consider the fact that, although similar problems may be present, they may lead to varying themes to be taken up depending on local conditions.

As indexes showing such differential conditions, a number of factors are conceivable, including religion, culture, social customs, economic grown trends, development of infrastructure, foreign debt, and climatic and geographical conditions. But the economic strength, the social and cultural environment, and the natural environment will be chosen as three major indexes and be discussed hereunder.

#### 1) Varying themes according to the economic strength

It is a well-known fact that, though the developing countries are referred to as such in a lump, their economic strength varies from country to country. In general, the economic strength of a country is expressed in terms of GNP per capita. Differences in such economic strength indicate relative difference resources in national power of respective countries or, more specifically, how much resources can be devoted to their economic and social development.

Generally speaking, it appears that in countries with less economic strength levels of socioeconomic development of women's position are also low, while in countries with somewhat greater economic strength they are improving to some extent.

Assuming that a country has received expensive facilities, machines and materials as part of the technical cooperation from an advanced country or an international organization, the country with very little economic strength will find it difficult to operate and maintain them by itself whether the cost is borne by the government or collected from the inhabitants. And it will also have trouble in financing the repair of those machines in case they are out of order, or the replacement once their life is over.

If the country's limited economic power results in little prospect for raising the necessary fund for operation, maintenance, and management, therefore the commensurate low-cost rural improvement needs to be set as a theme.

For example, in the Rukwa region in Tanzania in the 1970s, the Regional Department of Water Affairs constructed wells equipped with diesel pumps to reduce the burden of drawing water on women. On account of shortage of spare parts as well as the operation and maintenance budget, however, more than half of them came to dysfunction. Then, under the rural water supply and sanitation program sponsored by Norway in the 1980s, the broken pumps were replaced by manual pumps, and new wells using manual pumps were constructed. It was through that under the condition of being unable to bear the cost of energy or expense of repair, wells equipped with power pumps would properly work only immediately after their construction but likely have difficulties sooner or later. Thus, the wells using manual pumps was promoted.

This case shows that a project not matching the local economic strength has no economic base for its operation and maintenance and will soon have its sustainability lost, eventually leading to failure.

# 2) Varying themes according to the social and cultural environment

In view of the fact that the same problem may lead to different manifestations of the task depending on local conditions, what is to be considered next to the differential economic strength is the difference in the social and cultural environment. Against the different religious background in particular, the different method of approach to local inhabitants will have to be adopted. It is generally believed that in overwhelmingly Islamic districts in the Middle East, women are religiously prohibited from seeing men outside their own families. It means that the male extension agent is unable to meet female members of farm household. In districts under the influence of Christianity, the church has encouraged the inhabitants to spontaneously tackle the life improvement movement in many places, and reportedly people have often participated positively in life improvement activities advocated by the extension service.

For example, in a U.K. project for developing the central highland of Yemen Arab Republic, along with the extension of modern farming methods (predominantly for males), rural women are also being taught about better nutrition, improved diet such as vegetable dishes, and cooking methods. In a central agricultural cooperative project in Egypt, household management education for rural women is being provided through women's clubs along simultaneously with guidance to male members as to agricultural cooperative activities.

If these projects were devised in disregard of the religious background of Islam, they would not only have been unable to obtain the inhabitants' participation but conversely have provoked their adverse sentiment. Thus, the U.K. activities intended for women in Yemen Arab Republic or Egypt remained within the range of the housework or household management traditionally assigned to women, and this is because the scope of themes was chosen by the religious background.

Also, as a social background, whether or not actively operating women's organizations are locally present will be an important factor relative to planning of a project in this content. For the presence of such organizations means that the substratum for rural life improvement in line with WID has already been provided.

For example, in an afforestation project started in India in the mid-1980s, Canada appealed to local NGOs and women's organizations for cooperation and thus activated the participation of inhabitants in the project area.

If a people's organization in which local women are spontaneously participating are already existent, then by asking such organization to collaborate in the technical cooperation, participation of women will be readily obtained, and the sustainability of the project after completion of the technical cooperation will reasonably be expected.

In the absence of such organization, however, the technical cooperation must be started with the creation of a spontaneous organization of inhabitants and continue to take some steps so that the organization's activities could smoothly function not only during implementation but also after completion of the technical cooperation.

Moreover, it is also important to fully consider the effects, whether positive or negative, of various local customs, joint events, joint work and other practices on technical cooperation work designed to raise rural living standards.

Finally, referring to the range of problems stated above it seems that the improvement of food habits or dwelling is most strongly subject to the influence of the social and cultural environment.

The food habits reflect the eating culture, and the tastes of inhabitants are not readily changeable. There are, of course, foods which are not eaten because of religious taboos. But even regardless of religious taboos, it is very difficult to eat the foods that have not been customarily taken into the eating habits.

In short, the food habits are greatly influenced by the people's tastes, and if the latter are ignored, little progress will be made in improving the eating habits.

Now let us refer to the improvement of housing. Houses also reflect the living culture of local people, and the outsiders could not strongly impose their concept.

For example, the people of the advanced countries living in the Temperate Zone prefer houses admitting plenty of sunshine. But in, say, Indonesia in the tropics, people prefer houses without sunshine coming into the rooms partly because of avoiding the heat.

In some rural area of sub-Saharan Africa, a hut has one room only, and a few huts form a home, with each hut having a particular use. Houses having some rooms in a building exist in the urban area but are not preferred in the rural area.

Like the food habits, houses reflect the tastes of local people, and their improvement could hardly become a theme for improvement unless it is in line with the inclination of the people.

#### 3) Varying themes according to the natural environment

With respect to the difference in local conditions, another index of great importance is the difference in the natural environment. A similar problem may exist, but there may be cases where the same theme can not be set if the natural environment is different.

For example, well sinking is often proposed as a means of securing potable water. But where topographically floods occur periodically even though the source of water is normally far away, the sunk well may become unusable because of being buried in earth and sand after flooding.

In such places it is necessary to extend technical cooperation for inculcating the inhabitants with a technique which enable them to sink a well easily by themselves. Then, even when the existing well may be buried, they can sink the well again or sink a new well elsewhere.

As an example of varying themes according to the natural environment, a rainwater storage tank is conceivable.

In Thailand and elsewhere in Southeast Asia, rainwater falling on the roof is collected through gutters into a storage tank for drinking. However, such is a method effective only at places having much rainfall with a relatively little amount of impurities contained in the rainwater. For sub-Saharan Africa where the rainfall is scanty with germs tending to generate in standing water, this is not a suitable method.

Thus it should be borne in mind that, even if a theme may present a good case of rural life improvement in a certain area, it can not be properly introduced where the natural environment differs. Besides the topography and rainfall stated above as factors of the natural environment, various other factors such as temperature, moisture, natural disasters, etc. are conceivable.

#### 3. Choice of Themes

When themes suitable for the situation are found, the next step is to consider which theme should be finally chosen from among them as that to be handled in technical cooperation.

For choice of themes, the following two may be relevant. One is that what the local inhabitants, both men and women, seek first should be taken up as a priority theme, and the other is that the related themes should not be carried out separately but preferably in combination if they would be considered to yield better effects when implemented in combination.

#### 1) Reflection of inhabitants' desire

In planning and formulating technical cooperation directed toward the rural life improvement in line with the viewpoint of WID, the policy makers should not force themes on the inhabitants but take an attitude to cooperating in the self-development of the rural women in a developing country or their self-help efforts for rural life improvement.

In short, it is important to choose themes with due regard for the existing wisdom and needs for living of the male and female inhabitants in the project area of technical cooperation. It is not wise to easily imitate a successful case in any other developing country or the experience of the rural life improvement in the advanced country providing the technical cooperation, or to force the improvement on the inhabitants. It is necessary to promote the cooperation for what, the rural women on the spot think, needs to be improved.

There are cases in which notwithstanding a survey team from an advanced country or even policy makers from the government of a developing country opine that improvements are required somewhere, the residents themselves view their present living conditions as quite satisfactory which suit their convenience and represent the wisdom for life rooted in their traditional culture. In such cases, measures forced upon the people without an adequate understanding of local customs will never be accepted but even lead to distrust.

For instance, as an example of rural life improvement project of a certain advanced country, there is often cited a case of having devised an unglazed oven with better heat efficiency to improve or rather substitute for the conventional oven used for cooking in some rural area of sub-Saharan Africa which is made of stones put together and exposed to wind and in which the fire burns like an open air fire. But that is apparently not so much spread. Because as a wisdom of living, the cooking oven has been used in the state of an open air fire in that it provides a light for fireside circle and heating at night, while the smoke produced on account of low heat efficiency has a meaning of expelling insects. The improved oven which, even if it betters heat efficiency for cooking, does not leak light or heat and produces less smoke, tends to be disliked by the local people.

If one is well aware of the importance of the role of women in development and desires the voluntary participation of women in the development process, one should recognize that the leading part in improving rural life ought to be played by rural women. In this context, one needs to make it the basics of technical cooperation to cooperate in their self-development and self-help efforts, and to choose those themes preferentially which reflect wishes of the local people.

The choice of themes according to the concept on the part of an advanced country or in a way of forcing the conception of policy makers of the government of a developing country will never produce a satisfactory result. It is important to take an attitude of choosing themes with respect for the opinion of inhabitants, both men and women, in the project area of technical cooperation.

#### 2) Combination of themes

When preferential themes are chosen along the lines of the desires of inhabitants, they should be preferably combined with relevant complementary themes so that the overall effect of the technical cooperation could be expanded.

The relevance of themes consists of time relevance and spatial relevance.

The theme having time relevance refers to a theme which has to be completed before a certain theme is executed.

For example, for the rural women who cannot afford tackling the rural life im-

provement because of the lack of spare time and money, it may be possible to create time to spare by reducing their labor consuming long working hours such as firewood gathering and water drawing, and then to ask them to participate in income-generating activities.

Also, where there is no inhabitants' organization of women's group which serves as a core for promoting the rural life improvement, it will be required to build such organization first and then engage in the rural life improvement.

At the government level, the stepwise approach of first making research and development of the contents of extension concerning the rural life improvement and then disseminating its results may also be included in the cases of time relevance.

Hopefully, one should keep in mind at the time of setting themes that when themes are set stepwise and executed successively as stated above, they may poduce greater effects.

Now, themes having spatial relevance represent interrelated themes which will have greater effects if they are carried out simultaneously.

Various themes are relevant to the improvement of rural life, and represent individual elements constituting the rural life. They can be classified as those at the administration level or at the farmers' level, or those of farm life aspect or of agricultural production aspect, but in the last analysis all concern the improvement of rural life. Each of the individual elements constituting the rural life improvement as a whole has some interrelationship with the other elements.

In the technical cooperation, these various themes have an order of priority which is determined according to the local needs revealed through the preliminary survey of the project area of cooperation, and the priority themes are chosen as the themes of technical cooperation. These priority themes are chosen from all aspects of the rural life, and so they should include themes whose effects will be increased when executed simultaneously.

For example, the improvement of eating habits is closely relevant to the processing and preservation of foodstuff, and in respect of providing raw materials for meals, it relates to crop cultivation, poultry keeping and fish farming. Reduction of the labor of water drawing relates to the improvement of houses with respect to storage of water, and when the drawn water is used not only for drinking but also for watering

crops, it relates to irrigation. Securing energy has something to do with tree planting, which leads to environmental conservation. Since some of those cases are shown in the chart on the problems and strategies in Chapter III of the Report for last year, they will not be reiterated here, but it will be apparent that individual themes have diverse relevance to one another.

Accordingly, it is necessary for the planner of technical cooperation intended for improvement of rural life to carefully consider, in determining themes in light of inhabitants' desires, if there are any complementary themes having time or spatial relevance in addition to the priority themes. Then, hopefully one should have in view the whole of the interrelated themes and choose a proper combination of themes so that their overall effects may be enhanced.

#### II CHOICE OF MEASURES

In planning and formulating technical cooperation measures from the viewpoint of WID, what attitude should be taken and what measures be chosen actually? As discussed in the choice of themes, it is basically important to take an attitude of cooperating in the self-development of rural women in developing countries and their self-help efforts aimed at the rural life improvement.

However, what is to be done in concrete terms for cooperation in the self-development and self-help efforts of rural women?

In reply, it is desirable to choose measures producing the following effects: first, to reduce the burden of women's labor; second, to extend cooperation in generation of income for women; third, to enable women to receive returns from their labor taking into consideration the way of income distribution and decision making in the farm households in the case of income-generating projects; and, lastly, to cooperate in the participation of women in the society.

#### 1. Reduction of the Workload on Women

Rural women in developing countries are engaged in both farm work and domestic labor and play an important role in both farming and home life. In almost all countries, the total working hours of women for farm work and domestic labor are longer than those of men engaged in the farm work only.

Working all day from early in the morning to late in the night, rural women have actually no time to spare for tackling the improvement of rural life. Under such conditions the rural life improvement, even though recommended through the international cooperation, could be tackled only at the sacrifice of some other work unless it produces some spare time in the conventional daily life.

For example, if the domestic labor consuming long hours such as firewood gathering and water drawing for which women are mainly responsible is lessened, there will be some spare time in their daily life, part of which could be directed to productive activities or life improvement.

In order to have rural women voluntarily participate in development, therefore, it

is necessary to investigate the living hours of women on the spot and study if there are any cooperating activities which will have the effects of enhancing their living levels and, at the same time, reducing the workload on women. If this produces spare time which enables the women to tackle improving their rural life, the cooperation activities will be promoted without threatening the necessary living hours.

#### 2. Generation of Women's Income

To promote the rural life improvement, it is necessary for the farm household to have some money, together with time, to spare. According to a survey of the rural area in India, no matter how willing they are to improve their life, the poorer farm households barely eke out a meager living and are unable to do anything for rural life improvement. To carry out the rural life improvement requires some expense, and unless such expense is raised, they are unable to tackle the rural life improvement.

To make the farmers change their conventional labor pattern and engage in something new, it will be necessary to convince them that it will benefit them economically. As is generally the case with adoption of an innovation, it is usually difficult to take up something new in place of old technology unless high and stable the profit ability from the innovation is assured. Rural life improvement is to be carried out not for fun utilizing spare time but at the risk of daily life. Without sure returns, it is difficult to change the conventional living pattern and take up something new.

Even where there is a bias against the activities focusing on women or the social participation of women is customarily suppressed, if the activity of rural women leads to improved farm household income, it produces an effect of somewhat correcting the bias or leading to an appreciation by men.

The measure leading to income generation has an effect of encouraging voluntary participation of women, and the resulting acquisition of income on the part of women leads to improved status of women in the farm households or communities.

In the majority of cases the responsibility for feeding the family and raising the children is borne by the mother. If she has any spare money she is likely to spend it for her family. Thus women's obtainment of their own income would have a good

effect on the health of their families. Such income could also be spent to improve their living standards. Income generation for rural women will be an important key to changing the rural life.

# 3. Consideration for Income Distribution

Along with income generation for women, another question is how income is distributed within the farm household. Income generation will surely give women a means to carry out the rural life improvement. Even though an income-generating project is initiated, however, such is not the case if the women do not benefit from the income thus generated.

If returns accruing from women's work under the income-generating project go to men instead of themselves, the women will get nothing but more workload.

Whether or not women can get returns for their labor is, in fact, dependent on the customary ways of income distribution and decision making within local farm households.

In East Asia, men and women are generally working together for farming, and the income from farm work is regarded as property of the whole family. Also, in the farm households in Central Thailand where usually the youngest daughter takes a husband and takes care of her parents, the opinions of women wishing the welfare of the whole family are strongly reflected in the opinions of men who are normally the heads of households. Under such situation, women will also be able to benefit from the incomegenerating project for farm households.

By contrast, in sub-Saharan Africa and part of Latin America, men and women have separate purses, respectively, each person having discretion of his or her income; and even if men get increased income, in most cases no share will be given to their spouses.

For Latin America, the case of the USA's cooperation in operating a vegetable cannery in Guatemala will be helpful in this context. In the village in which the cannery was constructed, employment of women as plant workers increased, serving to improve their income. As a result, the project had a good reputation. But in the surrounding villages, on the other hand, on farms where men owning the fields

contracted with the cannery for growing vegetables, women had also to engage in growing vegetables together with the men in addition to the work they had previously assumed, whereas the turnover of vegetables produced went exclusively to the men or the owners of the fields, resulting in nothing but increased workload for the women. Thus, in the villages in this area, the project was unpopular among the women, who became passive in cooperation.

Such result is attributable to the fact that the project was carried out in anticipating that, without investigating on the spot the realities of income distribution in farm households, if income increased, the benefit would be distributed over all members of the household as is the case in advanced countries. If those persons who actually did the farm work had been remunerated, the result would have been different.

In the income-generating project, therefore, it is necessary to enable women to get returns from their labor, taking fully account of ways of income distribution and decison-making in farm households.

# 4. Social Participation of Women

In general, rural women in developing countries have little experience of social participation and are not accustomed to going out and expressing their own opinions or developing the activities intended for their own benefits. Also, even when their opinions are different from those of influential persons in the village like wealthy farmers and rural bosses or the local officials, rural women, and for that matter men alike, seldom raise an objection squarely in the presence of those people. Even when the inhabitants are called together in order to ask for their opinions, they rarely disclose their real intentions unless the questioner is their acquaintance. When exclusively women are called together, usually women from influential families alone speak.

Technical cooperation activities need to enable people to express their opinions gradually through small group activities or to provide them with opportunities to speak in public through various forms of assembly attended by men and women, say, for reporting on the results of activities or training. The meeting for reporting on the results of activities will serve as an opportunity to let the male inhabitants know the

significance of the female activities and understand the activities.

When the activities of rural life improvement undertaken through the technical cooperation achieve good results with the role of women therein coming to be valued high within the households or in the village, the opinions of the women about the rural life improvement will subsequently be regarded as highly as those of the men.

If only the foreign experts and government officials concerned in a developing country act and speak for women without encouraging the social participation of women during the period of technical cooperation, the opinions of rural women will no longer be reflected soon after the international cooperation is over. Where the voluntary participation of women is generated, the activities will likely be continued in one way or another according to their opinions even after completion of the international cooperation. Otherwise, the opinions of women will possibly be ignored and the activities may lose sustainability or degenerate after completion of the international cooperation.

Thus, to substantiate the social participation of women is needed for the purpose not only of assuring women's opinions being reflected and producing continuity of the activities shouldered by the women but also of ensuring the consistency of technical cooperation for rural life improvement in line with WID.

#### III. PROCESS OF RURAL LIFE IMPROVEMENT PROJECT

In order to explain in the easier terms the procedure of planning and implementing the technical cooperation for rural life improvement as described above, a hypothetical model showing such procedure is indicated below. It shows an illustrative process which seems preferable for the technical cooperation aimed at rural life improvement from the standpoint of WID, but not a concrete example of cooperation carried out in the past.

Although it is based on certain facts, it is presented as a hypothetical material for discussion of our concept. For individual specific cases of technical cooperation, it is desired that, in light of the process shown here but with originality and ingenuity, the most effective and efficient process conforming to the respective conditions will be devised.

Then, what is the process of the rural life improvement in our mind? We think that the rural life improvement is not achieved by some particular projects but proceeds step by step while trying in one way or another toward realizing better rural life.

Accordingly, there will be need for a stepwise approach of taking one step forward, confirming the result, and then taking another step. The activities of rural life improvement of a developing country, therefore, should be grasped as a process and are by no means resolved by some single project.

The typical process in our mind for the rural life improvement project is schematically shown in Fig. 1.

First, in STEP 1, a fact-finding survey of the concerned area is made. In STEP 2 finding contact points with the local inhabitants, the inhabitants are mobilized to grasp their needs, while themes are chosen according to their desires. In STEP 3, targets are set together with the inhabitants, and long- and short-term programs of action are made to implement various measures. In STEP 4, the action programs made in STEP 3 are carried out while rearing and assisting objective-oriented functional groups. As STEP 5, evaluation of the activities is made in accordance with the progress of the activities. And, based on the results of evaluation of the activities, as STEP 6, the action program is corrected, and the activities are reimplemented according to the modified program.

STEP 5 and STEP 6 are cyclically repeated, and based upon the periodic evaluation, the action program has its course regeneratively modified with the result of advancing and deepening the rural life improvement step by step.

To facilitate understanding of such process, some hypothetical cases of rural life improvement project will be shown below.

Cases 1 and 2 were conceived on the basis of the field survey in the "Basic Survey for Upgrading Women's Technical Levels for the Improvement of Rural Life" conducted by JICA, and they represent the cases of the typical process in our mind.

As a matter of course, all rural life improvement projects will not always follow the typical process described above. As cases not following the typical process, there will be various other patterns. But here, Case 3 alone is illustrated as an example showing that the actual processes vary widely.

## Fig. 1 Process of Rural Life Improvement Project

#### STEP 1: Fact finding of project area

## Village (community)

Natural environment, population movement, history, culture, industries, religion, facilities, education, etc.

#### Living of inhabitants

Living conditions (food, clothing, housing, etc.), living related facilities, joint work, living environment, medical care, hygiene, traditional living arts, living resources, roles of men and women, life improvement experience, etc.

#### Human relations

Organization and groups in community, person-to-person connections, social strata, leaders, etc.

#### Related organs

Organs presently related to project area and their activities, organs which can be or need to be linked in future.

# STEP 2: Creating points of contact with inhabitants, and enlightening their consciousness

Mobilizing inhabitants through the leaders of existing organizations as windows and grasping, their needs. Leading the inhabitants to find and recognize problems in their living by themselves, then promoting enlightenment of their consciousness for solving the problems, and choosing themes according to their needs.

### STEP 3: Formulating programs

Setting targets together with the inhabitants, then determining the long- and short-term programs of action for the contemplated measures.

Setting the order of priority as to implementation of the measures, and specifying the period and fund program for implementation.

STEP 4: Implementing the programs, and rearing and assisting objectiveoriented functional groups

Along the implementing the programs, rearing and assisting functional groups, and concurrently fostering leaders.

### STEP 5: Evaluation

Evaluating activities periodically; objective evaluation by the outsiders is required in addition to the evaluation by the parties involved.

STEP 6: Correcting the course and re-implementing

Correcting the course of the action program depending on the result of its evaluation, and re-implementing the program. Leaders make efforts to create a system whereby to solve problems by the self-help efforts of inhabitants.

# 1. CASE 1: "Project for Dietary Improvement and Increased Self-Sufficiency" in the Volta Region, Southeast Ghana

### 1) Background to the Project

### a. STEP 1: Assessing the situation in the area

In order to set up the project, we will assess the situation in the area. We will establish in advance the area (villages) which should be given priority, and will undertake broad-ranging studies including the living environment in the rural area as a whole, human relations, and experience in improving livelihoods, with an emphasis on women's livelihoods.

### i. Outline of the area (villages to be given priority)

The Volta region in Southeast Ghana has a tropical savannah climate, with rainy and dry seasons. These are divided into a long rainy season from March to July, a short dry season in August, a short rainy season from September to November, and a long dry season from December to February. In the long dry season the effects of hot air masses (harmattan) carrying dry dust from the Sahara desert are felt. There are problems of water shortages in the dry seasons.

Although in cultural and linguistic terms a variety of ethnic groups live in Ghana, the main group in this area is the Ewe people. While all tribal divisions have their own respective cultural customs, all of them have a "tribal chief system". Even today, this system still has an important role to play in administration and decision-making at the regional level, in a form of coexistence with the government of Ghana.

The village which will comprise the priority target has a population of about 3,500. The village is divided into five sub districts, with five chiefs and one paramount chief. In addition, among the women there is one called the "queen mother".

The village's agricultural produce includes corn, cassava, yams, plantains, tomatos, pepper, onions, and eggplant, though most of these are for self-consumption.

The village has facilities such as a health clinic, a church, a school, and a communal well. The religion is Christianity.

### ii. The circumstances of rural women

About eighty percent of families in Ghana are said to be polygamistic, and in this village, too, there are many cases of polygamy. In cases of monogamy as well as polygamy, males are often absent on account of working away from home, etc. Women are given the responsibility for allocated farm work and the role customarily divided by set peculiar to their ethnic group, on top of general housework such as cooking, washing, cleaning, drawing water, collecting firewood, raising children, and looking after the sick and elderly. Thus women have an important role to play in all activities which maintain the livelihood of their families. Although they fulfill these important roles, however, most decision-making roles are filled by men.

The Ghanaian Women's Movement was formed on December 31st, 1982 (the day on which President Rawlings came to office) by the President's wife, Nana Konadu Rawlings. Known as the December 31st Movement, its activities include campaign for enlightenment and income generation for women in all parts of Ghana.

There are several women who self homemade produce in small shops in the village or in the market that is held once every four days in the neighboring town. Some of these women sell eggs, smoked fish, and other produce that they have purchased in the town.

### b. STEP 2: Identifying problems

We will start to create points of contact with the inhabitants. We will mobilize women to form a council centering around the "queen mother". The project leaders will assess the conditions in the area in advance and will identify problems. In this council, the women will review their own livelihoods through a free exchange of views, with the objective of letting them discover problems and checking the awareness of the project leaders. Although at first many women may be reluctant to speak up, through repeated sessions they will gradually be made more aware and their readiness to express themselves will increase. Through this council the project leaders will know which women have leadership qualities, as well as other matters such as human relations. It will also help facilitate a mutual understanding of wishers.

Meanwhile, if possible at this stage we will create a council for people centering around the chief for discussing the problems in the area. As well as being able to assess differences in awareness between men and women, it is also vital that we create awareness and points of contact among the people.

If possible, we should try to create chances for influential male and female villagers such as the chiefs and the "queen mother" to meet and talk together.

Problems that have been identified are summarized in the "Present situation and problems" column on the left of the theme identification chart (see Fig. 2).

### c. STEP 3: Establishing themes and drawing up plans

Themes will be established in response to the problems that are identified. In considering the conditions under which women can live vivacious lives, a major precondition will be that the inhabitants of the area as a whole should be healthy and energetic, and that their economy should also be developing. Since the rural life comprises various different elements twined with each other, more than one theme may be linked together for solving problems (see the center of Fig. 2).

On the basis of the theme identification chart, concrete details of promotional measures will be proposed (see the right of Fig. 2). In this case it is essential that we proceed within a framework of cooperation with the project leaders from the partner country's government. The most important thing is to respond to the needs of the inhabitants, and this must take a form that can be sustained through the self-help efforts of the inhabitants. Although the project for solving problems can be considered from various angles over the short or long term, here we have tried to postulate a "Project for Dietary Improvement and Increased Self-sufficiency" for which the needs of the inhabitants are great and which is regarded as achievable in a comparatively short period.

### 2) Development of the project

a. STEP 4: Educational support for objective-oriented functional groups

Priority target group: Village A Women's Group (a voluntary organization recruited from the village as a whole; the leader should ideally be a woman who has hitherto been involved in cultivating and selling vegetables).

### Details of activities

i. Set up a pilot farm, conduct test cultivation of various crops, select and spread cultivation of crops which suit the area

The pilot farm will be set up in a location which the participating women will not feel inconvenient (near where they live, proximity to water sources, etc.), and steps will be taken such as erecting a fence so that wild animals or livestock cannot encroach upon the farmland. In addition, the project leaders will select varieties in consideration of the local characteristics of the area, the needs of the inhabitants, marketing, and other factors. The activities shall be directed so as to proceed autonomously under the leadership of a woman who is well versed in vegetable cultivation.

ii. Study and practice methods of cooking, processing, and storing the harvested crops

Together with guidance on cultivation, study shall be promoted and practice made in methods of cooking, processing, and storing the harvested crops in collaboration with the group members. While the desire for cultivation will increase as use is expanded, it will also bring added value and will lead to the development of salable commodities.

### iii. Raise knowledge on dietary improvement

In order to promote dietary improvements, seminars on nutrition and health will be necessary. As a result, the will for improvement will be increased while the desire for cultivation will also be raised.

iv. Raise incomes through selling activities in markets in the area and in neighboring areas

In order to sustain and further develop this as a group activity, the members will need to produce their own operation funds. Moreover, they will be able to grasp marketing by carrying out direct sales by themselves.

v. Provide for promoting the project smoothly (establishing a system of mutual support such as joint cooking and day-nursing; developing joint facilities; securing operation funds)

To create activity time, time devoted to housework etc. will have to be reduced. In particular, a great deal of time and work is spent on cooking and child-care. It will be necessary to develop joint facilities (common kitchen, processing plant day-nursery, etc.) and to establish a system of mutual support. In addition, although it is important for the members to create their own operation funds, at the start of the activities there will be a need for capital aid and support through loans, etc.

vi. Establish the group's autonomous management methods

In order to encourage self-help efforts by the group, the roles of the project leaders and activity targets will be set, and an efficient method of management will be communicated.

- b. STEP 5: Evaluating the project
- i. Hold project evaluation meetings with the joint participation of group members, area residents' representatives, and employees of related organizations

To ensure that the group activities should not finish in self-complacency but should develop throughout the area, it will be important to hold project evaluation meetings involving not only the group members but also representatives of residents of the area and employees of related organizations. Having obtained a comprehensive evaluation, renewed deliberation should be made on activities for the future.

### ii. Study advanced cases from other areas

A valid means of giving the activities positive meaning will be to study advanced cases from other areas. Making comparative studies with cases from other areas will make objective evaluation possible.

### c. STEP 6: Correcting the planned course and re-implementing the revised plan

After evaluating the project, the course of the established plan will be corrected and the revised plan re-implemented. This should be carried out regularly. In addition, the project leaders should make efforts to create a system which the inhabitants can enforce autonomously.

# Fig. 2 Actual Living Conditions in Village A in Ghana and Identified Themes (Theme Identification Chart)

Target: Vitalizing the village and enhancing the living environment

Concrete details of promotional measures

# Current situation and problems

•																•				
O Greater knowledge of nutrition and health management (cooking lessons, health care guidance)     Securing nutritional elements that are lacking (improved solf-unfficiency measures for securing onality materials)	sources, improved technology for storing and processing farm produce)				① Creating comfortable and hygienic housing (layout of	(\$\phi\$) Enhancing water supply facilities (communal wells, piped water, rainwater tanks, solar energy water teles, etc.)	(2) Environmental hygiene measures (post extermination, soil purification, proper disposal of refuse)		© Re-assessing housework and promoting shared roles	& Establishing inclious for smoother family management		© Raising incomes by producing, processing, and selling commercial crops (selecting crops suited to the area,	diffusing cultivation, producing greater added value, and developing outlets)	Discovering unused resources in the area and expanding	uren use © Fostering an organization for practical application		① Creating opportunities for discussions among the inhab-		<ul> <li>W rorming an organization functional groups</li> <li>Developing joint facilities and establishing a system of</li> </ul>	mutual assistance (joint day-nursing, etc.)
Thomes	1. Dictary improvement and promoting health					2. Improving the dwelling environ-			3. More appropriate household management and correcting fixed	role notion			4. Promoting local industries						5. Fromoting the local community	
• There is no balanced diet. Available foods are few and meals follow the same pattern (a combination of $fufu$ , the staple for all meals, and light soup).	<ul> <li>Frequent damage by wild animals and livestock; vegetables hardly cultivated (very few grow vegetables).</li> </ul>	<ul> <li>There is hardly any production of commercial crops. There are no local industries, and no vitality in the village as a whole.</li> </ul>	<ul> <li>Although fabric dying activities by women are undertaken within the framework of the "December 31st Movement", this merely</li> </ul>	entails hobby-type activities by a very small number of women and does not lead to improved incomes (reasons for this include		<ul> <li>Home management in general is the domain of women. Household chores such as cooking, drawing water, and collecting</li> </ul>	firewood take a lot of time, the work efficiency being low. There are many children and the burden of child care is heavy. Moreover,	there is a fixed idea that all "carrying" work, such as drawing	water and carrying house-building materials, should be done by women. There is a fear that even during pregnancy protection of the mother's health is not taken into account.	· Underdeveloped housing. There is no notion of living in houses,	and cooking, eating, and sleeping are often done outside. Toilets,	sewerage, and reluse disposal facilities are also underdevelopee, and problems can be seen in aspects of health management and	Underdeveloped social infrastructure. In particular, the underde-	velopment of educational and health/hygiene facilities contributes	<ul> <li>to the spread of illiteracy and deterioration in women's nearth.</li> <li>Although the traditional system of chiefs and the "direct mother"</li> </ul>	exists, there are no active function groups. There are no discus-	sions or activities that encompass the whole area (involving men	and women jointly). Decision-making is usually the domain of	10417	

# 2. CASE 2: "Rural Lifestyle Study and Action Project" in the Bolivian Highland Region

### 1) Background to the project

### a. Location of the target area in Bolivia

Bolivia can be broadly divided into highlands (*Altiplano*), plains which stretch to the Amazon river, and valley areas located in between. Of these, the Altiplano has been inhabited by Andes Indians since ancient times, and the capital La Paz is also situated here. Indians account for 55% of the total population.

### b. Gathering data on the target area and target inhabitants

We visited relevant organizations (government bodies, aid organizations, universities, NGO's, etc.) and conducted a simple field survey to collect data and discuss views on the situation in rural areas on the altiplano as well as the systems of support for them. These yielded the following data.

### i. Natural environment

The area is subject to rigorous environmental conditions of cold and high altitude. Changes in the climate also have a great effect on farm crop yields, and threaten livelihoods. Also, there are great human-made problems such as soil erosion caused by excessive pasturing and diminishing forests.

### ii. Social environment

Social organization: The people have unique traditional communities headed by leaders known as hirakata. Although one sees mutual support among close relatives, such connections are becoming weaker owing to changes in the social structure brought about by the infiltration of monetary economy. The community leaders are men, but the basis of the lifestyle lies in collaboration between husband and wife, and the social distinction between men and women is smaller than in the case of other ethnic groups.

People are also characterized by pronounced wariness of outsiders and enduring perseverance brought about by long periods of subjugation by other ethnic groups.

Education: The people are obliged to learn both the official lingua franca (Spanish) and their own mother tongue. There is so little in the way of media in the local language that there is no adequate relay of information. Girls have fewer educational opportunities than boys.

Lifestyle: Houses are constructed of sun-baked bricks, earth, and grass, and have basically no toilets, thus causing some problems with cold-insulation and hygiene. There is little male-female distinction in the allotment of household chores (although cooking is done by the women). Since villages take the pattern of dispersed settlement and since the means of transport are inadequate, journeys over long distances have to be undertaken on foot.

Water & hygiene: Rainwater has to be used in areas where there are no facilities like wells. Surface running water is often polluted by excrement, and as a result infectious diseases remain deeply rooted.

Health care: As nutrition is inadequate and the sanitary environment is not favorable, contagious diseases are common. There is a high mortality rate among expectant and nursing mothers and infants. Modern facilities are scarcely used owing to lack of facilities and the high cost involved, and most medical treatment takes traditional forms such as herbal medicines and charms.

Employment opportunities: Due to insufficient income from farming, there has been a marked trend for males to work away from home in recent years (in La Paz and for coca cultivation in the valleys). Therefore, the workload on the women left behind is increasing.

Farming and pasturing: The fallow farming system of growing potatoes, quinua, and other crops that can withstand the cold conditions, and the pasturing of sheep, alpacas, and other animals are predominant. Little use is made of farm machinery or pesticides. A shortage of irrigation water and salinization of soil are causing problems. The basic unit of farming operation is the husband-and-wife team, supplemented with mutual

support from close relatives. Following an increasing number of men working away from home in recent years, however, women are also faced with a growing workload in farming, and it is becoming difficult for them to pay elaborate attention to keeping a close harmony with the natural environment.

Housekeeping: While sales of farm produce are mainly the domain of women, sales of non-daily necessities and high-priced goods are undertaken by men. The expenditure of income earned by women would appear to be left to their own discretion.

Extension system: Although systems exist in the Ministry of Farming and Rural Population and the Development Corporation, they are short of manpower. Thus the institutions that undertake such activities as rural area development (universities, aid organizations, etc.) all employ their own agents. The relevant institutions, with the advice of the World Bank and the FAO, have set up a State Research and Extension Council through which they are now studying the research and extension for the future.

### c. Deciding the basic principles of the project

Given the above data, and after discussions with the relevant institutions, the following proposal has been set forth.

- To create a body that will give advice on livelihood technology, with the additional objective of maintaining links with the Ministry of Farming and Rural Population, the State Research and Extension Council, the Rural Women in Development Committee, the Development Corporation, and NGO's.
- To grasp the current state and requirements of the area with the participation of the inhabitants, and to carry out specific activities, linking the inhabitants of the area to various other organizations as a sort of model with a view to offering a proposal for future extension methods.

There are provisional plans for a project to construct and manage a "Highland Rural Life Study Network Center" for the former of these, and for a "Survey and Action Program in Model District" for the latter.

### 2) Development of the project

### a. The Highland Rural Life Study Network Center

In view of the poor state of communication between the relevant ministries and agencies, and the lack of a venue where relevant active organizations can gather and exchange information, there has been a much-expressed need for a center which will have the function of linking these various organizations together. The Center is planned to be affiliated to the Ministry of Farming and Rural Population particularly since in recent years the "Rural Women in Development Committee" has been held mainly by the same Ministry.

### i. Functions of the Center

- Playing the role of a central forum for networks of the various organizations;
- Accumulating the experience and knowhow of the various organizations;
- Developing extension technology and preparing educational materials; and
- Holding joint seminars and training courses together with government bodies, NGO's, etc.

### ii. Facilities

- A survey and information department that will compile information from the various organizations and carry out its own surveys as well;
- An information center (library) for shared information;
- A seminar room for conducting seminars and training courses; and
- Simple accommodation facilities (lodgeable at cost) for visitors from distant places.

### iii. Staff

Mainly staffed by the Ministry of Farming and Rural Population, with experts from overseas organizations in the capacity of advisers. Participation of volunteers from NGO's.

### b. Survey and Action Program in Model District

A single area will be selected and surveys implemented, with a concurrent action program on a trial basis. In this way, information and knowhow on surveys on highland rural areas as well as methods for development of rural areas will be accumulated. Then, in the real action program, better forms of activity will be sought by having the knowhow shared with support from other institutions.

### i. Appointing actives

Two villages will be selected as target from an area which has not experienced activities by aid organizations before, but which shows a strong interest in such activities. One male and one female active will be appointed for village. The reason for selecting two villages is a judgement each that a better methodology of activities may be arrived at by actives' discussing their respective experiences. The actives should ideally be people of local origin who have completed secondary education and who understand Spanish. For the women in particular, it is considered necessary to appoint those who live within commuting distance. The reason for choosing both men and women is that while women tend not to speak out in the presence of men, if women only were chosen as the subjects for activities this could create a male-female distinction in the lifestyle of the Aymara people, where the division of work between men and women is comparatively unpronounced.

To recruit actives, posters and explanations of the activities will be put up and other publicity carried out in nearby community halls, meeting places schools, shops, and so on. Then an activity workshop will be held for the people who respond to this recruitment, and finally actives will be selected after seeking their understanding of the basic principles of the activities as devised jointly with the local inhabitants. At the Center, these four actives will be trained in the detailed content of the project. The role of the actives is to stimulate activities by the inhabitants, to give advice aimed at a well-balanced program, and to give technical support.

### ii. Forming communication with local residents

First of all the actives will go around their villages for some time and will rein-

force familiarity, say, by talking with the villagers. They will explain the intentions of the project in detail to the *hirakata* (community leaders), and will seek their understanding and cooperation. Among the women, though on a more informal level, there are those who are ready to take care of the other women, and the actives will consult, and exchange opinions, with them. In this way, after becoming acquainted to a degree with the local people, they will hold meetings with the *hirakata* and other villagers at the end of the day's work on the farm. In these meetings, the agreement and acceptance of the whole village toward the intentions of the activities is sought.

### iii. Bases for actives and means of transportation

With the agreement of the school, a building will be constructed of local materials inside the grounds of the school attended by the children in the area, and this then will become the venue for meetings and training as well as a base for activities. The reason for making this into the base is that public facilities such as schools are thought to be suitable as venues in which local residents can gather at ease. Regarding remote areas which are not easily accessible to the school, however, attempts will be made to encourage the participation of as many people as possible by holding separate meetings. Again, when it is considered advisable to hold separate meetings for women, this will be done with the consent of the *hirakata*. The actives will be lent bicycles. At the request of the *hirakata*, these bicycles will be made available for use by the villagers in cases of illness and other emergencies.

The actives will gather periodically with the experts in the Center and the extension agents of the relevant ministries to discuss the present state of activities and immediate problems being faced. As far as possible the *hirakata* and women's leaders will be encouraged to take part in these meetings.

### iv. Designing activity plans

The actives will visit the *hirakata* and local men and women, and will inquire how they live and what sorts of problem they feel. At the same time they will conduct a detailed lifestyle study by observing forms of participation, surveying daily life hours, etc. They will draw up resource maps of the villages in cooperation with the residents. As a result of this study it is expected that the residents' interest will be stimulated

and that motivated groups will emerge in the villages.

On the basis of these data, the local problems will be identified through joint participation of the *hirakata*, actives, experts, and local residents. Here, it is assumed that water shortages are seen as the most pressing problem for the villagers. This is regarded as a problem by both local men and women for agricultural production as well as for daily life. Moreover, water shortages, reduced soil productivity, soil erosion, excessive pasturing, tree shortages, etc. are all problems that are interconnected with each other.

### v. Specific activities

As the local menfolk spend between six and nine months working away from home, in actual fact it is the women who will bear the responsibility for most activities. The activities will be given the status of joint ventures with the Development Corporation, which has experience in installing small-scale water supply facilities, and will be carried out together with the agents of the Corporation stationed in the nearest area.

First, with particular reference to water, a survey will be made of what sort of water supply facilities have been installed in the village, by whom and in what way they are used; on the basis of this, a village resource map will be drawn up. All the residents, centering around the actives and the agent of the Development Corporation, will take part in this survey, which will be conducted openly and in the form of a joint collaboration so as to allow the free expression of opinions. As a result, it will become clear which areas face particular difficulties as regards the use of water. In addition, surveys on the hygienic environment of areas involving water will be conducted.

Next, discussions will be held on what type of water supply facilities should be set up. Catalogs of domestically procurable water supply facilities will be collected, and will be studied from the point of view of their ease of use and their cost. This study will mainly be carried out by the *hirakata* and particularly interested groups of men and women. Since the women tend not to express their opinions in front of the men, efforts will be made to elucidate the women's opinions, say, through individual hearings. To ensure that the facilities do not merely become a gift from an outside source, a certain part of the facilities cost will be at the expense of the residents

themselves, taking account of their income levels. In the meetings it will also be decided that they will cooperate in the construction work, and that maintenance will be at their own expense.

On the basis of this map, final decision will be made as to where, to what degree, and what type of facilities are to be installed. Since this decision may involve conflicting interests, it will be made with the men present. Although disagreements will occur over installation sites, the actives will aim for a consensus of opinion centering around the *hirakata*, on the basis of traditional organizations of blood-relationship ties.

The facilities to be installed will be for joint use by about ten households and comprise locally procurable parts. This is because the inhabitants and the actives have judged that, rather than individual ownership, the facilities can be maintained equally well even if jointly owned, since links between neighboring households have been adequately maintained in these villages, for example through mutual support. Moreover, the facilities should have a capacity for securing enough water to irrigate the surrounding fields on a small scale as well as ensuring drinking water. At the present time the users of various facilities are identified, and male and female managers of respective facilities are appointed.

Since maintenance thereafter is basically the villagers' own responsibility, the managers will be given necessary training in the structure of the facilities and how to repair them, while training will also be given to the local residents in how to use the facilities, including aspects of health and hygiene. In addition, irrigation methods which lessen water requirement and involve little risk of salinization, and afforestation activities as well with the cooperation of NGO's developing the technology, will be introduced on a trial basis into interested farms.

Occasional events such as opening ceremonies for water supply facilities will be planned together with the leading women in the village in a form which will incorporate an element of festival-time fun. This will also have the objective of enlivening the atmosphere in villages which tend to lose their vitality as soon as the men are away. Furthermore, business seminar-type events will be held so that even while the men are away, the women can draw up their own activity plans by themselves.

### vi. Activities of the actives and feedback from the Center

The actives will be able to obtain guidance and knowhow from experts and from other institutions accumulated in the Center on survey methods, how to set principles for activities, choosing technology, etc. Moreover, using this technology as a base material, procedures will be adapted to better suit the area, and the outcome will then be stored at the Center.

Meanwhile, seminars, workshops, and others will be held at the Center on important issues raised by the actives, and in-depth understanding will be sought.

# 3. CASE 3: "Model for an Integrated Agricultural Development Plan" Aimed at the Upper Reaches of the River Mekong, Laos

### 1) Background to the project

### a. Current situation

The target area is a basin in the north of Laos, consisting of paddy fields and slash-and-burn arable land along a tributary of the River Mekong, with a total surface area of about 558,000 ha.

Tropical savannah climate: Annual rainfall averages 1,220 mm, with distinct rainy and dry seasons. The average annual temperature is 23.4°C. The maximum temperature reaches 36-38°C in April to May, and although the minimum temperature sometimes falls to 4-6°C in the December to February season, there are no records of frost.

Soil: In terms of topography, the area is divided into alluvial land, terraced land, and steeply sloping mountain land. The majority of the alluvial land is used for paddy fields, with middling to low fertility. The lower part of terraced land features gentle slopes, and most of it is used for slash-and-burn agriculture, with a system of one year of cultivation followed by a three-year fallow. The mountain land slopes steeply, and although (as with the terraced land) it is also used for slash-and-burn farming, soil

erosion is rampant and productivity is falling.

State of land use: An estimated 4% of the total surface area is used for farming, about 25% is fallow land in slash-and-burn agriculture, and the remaining 71% or so consists of forests and other land (e.g., villages, rivers, and roads). Almost all of the forests are in fact secondary forests regenerated following slash-and-burn farming, thus no income can be expected from forestry. There are about 400 ha of irrigable land in the target area, while the surface area of gently sloping land with an inclination of less than 12% that is available for development is estimated at 3,500 ha, offering great potential for development.

The average area of land owned per household is about 1 ha, and while about half of this consists of paddy fields in the lowlands, the ratio of dry fields increases as one proceeds toward the highlands.

Main farm crops: Paddy rice, cultivated in low flatland paddy fields with average yield of unhulled rice 2.8 t/ha), and upland rice from slash-and-burn fields in the mountain area (1.4 t/ha). The area is somewhat short of self-sufficiency in rice.

Apart from this, corn, sweet potatoes, taro, and others are cultivated as mixed crops together with upland rice in the dry fields, while there is also increasing cultivation of cash crops such as sesame, beans, tobacco, garlic, and coffee.

Livestock: On a regional average one water buffalo or cow is kept for every three farm households, and those animals play an important role in farm work (water buffaloes only) as well as for food or export.

Population composition: The population is made up of 30% Lao Loum (lowland people), 58% Lao Theung (middle altitude people), and 12% Lao Sung (highland people). Thus the so-called mountain people (middle to high altitudes) account for a high proportion of the whole, these various ethnic groups forming their won distinct villages. The annual rate of population growth in Laos as a whole is 2.8%, which is a little higher than in the ASEAN countries (about 2%).

Social conditions: Administratively the country is divided into provinces (Khoueng), countries (Moung), districts (Tasseng), and villages (Ban). The heads of provinces and

counties are appointed by the central government, while those of districts and villages are elected. With the exception of Buddhist monks, there is no social discrimination or difference in status between men and women.

Here is a matrilineal society in which the family headship is passed down to the daughters. Marriages take the form of matriarchal relocation whereby the men go to live in their wives' houses. For inheritance it is customary for men and women to be treated more or less equally. There is a tendency to place more importance on seniority than on sexual distinction, and authority is held by those in the prime of life. Elderly people with natural virtues are respected.

### b. Immediate problems

### i. Underdevelopment of the agricultural support system

Although Laos won independence in 1954, soon thereafter it became embroiled in a civil war caused by a confrontation between right and left wing factions. This led to the creation in 1975 of the Democratic People's Republic of Laos, which made progress toward national reconstruction through a planned economy, thanks to aid from the Soviet Union and East European countries. Since 1986 it has shifted to a market economy and is making efforts toward nation-building with the benefit of aid from international organizations and Western countries. Nevertheless, the hole left by the civil war and the years of planned economy is large. Although a agriculture is a key industry, it was not until 1990 that the agricultural extension system for supporting farm production was initiated. An Agricultural Extension Bureau was established in the Ministry of Agriculture and Forestry, while a crop production extension division (comprising a director, a senior extension official and four extension agents) was to be set up in each province and one extension agent was to be filled in each county. Some time will be needed until even this extremely modest system can be implemented completely.

There are six experiment stations for rice, field crops, crop protection, sericulture, etc. in the vicinity of Vientiane, but no technology which can be confidently diffused among farmers has been developed yet.

### ii. Lack of farmers' own eagerness for improvement

The topography of Laos features numerous mountains, making transport inconvenient, and since about half of the farming population live either on highlands or in mountain areas, there are also inconveniences in relaying information. Moreover, the majority of the farmers are poorly educated, and are apathetic toward the introduction of new technology. Most of them are also in transition from subsistence economy to monetary economy and are not willing to introduce technology which would require cash expenditure. Differences between ethnic groups may likewise make it difficult for farmers to understand each other.

### iii. Underdevelopment of the agricultural production base

Existing paddy fields and irrigated by means of hand-made water channels and simple dams which have been built by farmers' groups using wood, bamboo, and earth, but these are often washed away in torrential rains. Moreover, because hardly any steps are taken to prevent soil erosion in sloped fields, their productivity is diminishing. There is also a high mortality rate among domestic animals due to disease.

### iv. Low standard of living

Farmers continue to live in farming and mountain villages which are inconvenient and where the sanitary conditions are also underdeveloped; thus from the time they were born they have been accustomed to living in poverty, and many of them appear to be resigned to their lot. Water from rivers, reservoirs, and wells is used for everyday domestic purposes in the lowlands, but in hill and highland areas water is often scooped out of valley rivers using bamboo pipes. Since roofs of farmhouses are made of split bamboo or thatched with reed or grass, it is difficult to store rainwater. Cooking is done at indoor sunken hearths, and the diet is simple and poor. Sewerage is via permeation underground, and there are no toilets. Livestock are kept and pastured outside, and wherever they go they leave their dung, which cannot be gathered for use in fields as manure.

### V. Women as farm workers

Whatever their ethnic group, women are important farm workers. The Lao Loum people are more flexible than the other groups, in that there are no clearly discernible role divisions even in farm work. Sometimes the women are engaged even in heavy work such as reclaiming land, but they usually share seed sowing, seedling planting, weeding, harvesting, and threshing work with the men.

The Loa Theung people have rather clearer sexual distinction in role allocation, for while the men undertake hunting, tree-felling and fire-lighting for slash-and-burn farming, and protective fence-making, the women are in charge of seed sowing, weeding, and harvesting. On the other hand, collecting wild produce such as bamboo shoots, mushrooms, and bracken is the role of women. In general, the Lao Theung women could be said to be more engaged in heavy work than their Lao Loum counterparts.

Even though men and women enjoy equality in social terms, women have domestic work such as looking after children, cooking, drawing water, cleaning, and washing in addition to their farm work, and the workload on women is harder than that on men. In Lao Loum society it is normally the woman who controls the money and has the say over what it is used for, while the Lao Theung and Lao Sung women are in a weaker position in this respect.

### 2) Development of the project

Given conditions as outlined above, the government of Laos is now considering an integrated agricultural development program, as outlined below.

- a. Outline planned project
- i. Raising and stabilizing agricultural productivity
- Strengthening the agricultural support system in terms of agricultural extension,
   prevention of livestock epidemics, and market distribution
- Setting up an integrated agricultural center to train the necessary engineers, to

design the project in detail and to strengthen the system whereby it is implemented.

- ii. Developing and enhancing infrastructure for agricultural production
- Repairing existing irrigation facilities
- Establishing and strengthening irrigation associations
- Strengthening meteorological and hydrological monitoring networks
- Constructing new irrigation facilities
- iii. Developing and enhancing social infrastructure
- Developing and enhancing road networks
- Water supply for rural areas
- Renovating and constructing primary schools
- iv. Countermeasures against environmental problems
- Formulating agricultural development plans that take environmental problems into account
- Plans for controlling slash-and-burn farming (protection and planned use of forests)
- v. Support for women's groups
- Education and training of life improvement extension agents
- Education in health and hygiene for rural women and support for extension activities in this context
- Adult education for rural women and support for extension activities in this context
- Encouraging and supporting participation in "rice banks"
- Demonstrations and diffusion of sericultural technology
- b. Implementing the project

For implementation purposes, the project will be divided into short, medium, and

long terms in five-year segments. In the first five-year period one model district (ca. 300 ha) will be set up and operated for every three counties. The optimum technology in the area will be developed and demonstrated while the details of a medium/long-term comprehensive development plan are being formulated and the technicians needed for this are being trained. Furthermore, in implementing the comprehensive development plan, relevant farmers including women will be encouraged to participate in the plan from the stage of its formulation, in an attempt to bring out the latent abilities of the farming population of Laos (particularly women).

To this end, the farmers will need to be organized, or efforts made toward this, while the "rice banks", which function as joint bodies for economic activities by farmers in each Ban (village), are likely to be central to this. These rice banks ought to be supported and developed in relation to their activities, and in future should aim for farmers associations encompassing wide areas.

Meanwhile, as rural women's organizations, there are women's unions (or women's councils) which are supported by the government, and even at the village level there are union (or council) members who also manage rice banks. Women's meetings are said to be better attended if under the auspices of these women's unions, but in any case since the organization of farmers is a matter of the utmost importance, the situation must be surveyed and studied very carefully.

### c. Effects of the project

By the time the long-term goals have been reached (15 years after the start of the project), the following effects could be expected.

### i. Increased production of rice and other farm produce

Although Laos imported an annual average of 40,000 tons of rice (worth some US\$9 million in foreign currency) during the period from 1987 to 1991, the increase in rice production according to this plan is estimated at 19,210 tons per year, which if converted would be equivalent to US\$4.6 million. Moreover, improvements in production technology offer expectations that production will increase for both field crops and livestock as well.

### ii. Social and economic effects

Increases in agricultural production, coupled with the development of the road network, will stimulate economic activities in the area and boost rural women's wishes to improve their life. Furthermore, the construction works connected with this project could be expected to lead to increased employment opportunities.

### iii. Environment

Dependence on slash-and-burn farming will be reduced thanks to the increased production of paddy rice, while forests are expected to recover by diverting swiddens to ordinary fields, while farm labor for both men and women will be reduced. Moreover, major improvements will be seen in health and hygienic conditions, thanks to life improvements and the development of social infrastructure.

### IV. PRIORITIES IN PROMOTING THE PROJECT

Finally, we shall now list the matters which should be given priority attention in promoting technical cooperation aimed at improving rural life from the WID point of view.

### 1. Information Aspect

### 1) Gleaning information on the local situation

Efforts should be made at all times to glean information on the local situation. When technical cooperation starts, there is a strong probability that it will have a number of effects on the rural society and will lead to changes in its circumstances. The cooperation activities will then have to be adjusted in response to such changes in the circumstances. Information is to be gathered on changes before and after the start of cooperation activities and during the implementation of the activities, as well as changes in the situation just before completion, while comparing the target area for technical cooperation with non-target areas. In this way the effects of the technical cooperation on the local society can be evaluated. Depending on the results of this, steps such as correcting the project during implementation or devising additional measures will be taken whenever necessary. In addition, these results will be filed as valuable case studies, so that they can be used as reference for other similar projects.

### 2) General communication of information to the local inhabitants

To promote improvements in rural life, the social outlook of local men and women will also have to be widened. Rather than just acquiring information on the local area, it is also important fo the local inhabitants to understand the situation of their own villages and the state of progress of technical cooperation activities in comparison with other areas and countries. As a result, the people will understand the significance of improving rural life and will gain an understanding of the promotion of technical cooperation activities.

### 3) Means of providing information on new technology

Various means should be used to supply information on new technology relating to improvements in farm livelihoods and farm work. The methods used to provide information depend on differences in the level of development. Methods of supplying information need to be devised accordingly. Thus as well as working out new methods, we should survey the existing methods through which the male and female inhabitants in rural areas acquire information, while existing information networks should also be used if they are effective in communicating information on new technology.

### 2. Human Aspect

### 1) A participatory approach

Technical cooperation projects aimed at improving rural life should take an approach which involves the participation of the local inhabitants. The question of what kinds of problem should be taken up in technical cooperation should be decided in accordance with the wishes and needs of the local people. If women are to be encouraged to seek self-development they should also participate in the cooperation activity, and should join forces to think over and solve the problems. Indeed, even when evaluating the effects of the cooperation project, emphasis must be placed on how the inhabitants themselves evaluate it. The leading role in rural life improvement should be played by the inhabitants themselves, while international cooperation puts experts and local government staff in the position of supporting the self-help efforts of the inhabitants.

### 2) Forming voluntary groups

Rural life improvement will bring changes to local communities and farms. It is difficult for individual rural inhabitants to carry out such measure. Therefore, there is a need for group activities. Moreover, carrying out the same work in groups also has

the advantage that, as well as engendering a spirit of camaraderie, mutual consultations can be held on how to implement the measure and that information and ideas can be exchanged.

In that it involves a process whereby lifestyles gradually change for the good, rural life improvement ought to be promoted as an ongoing activity by a group rather than being a one-shot activity by individuals. Organizations and groups for rural life improvement are regarded as necessary not only in offering ready solutions to individual problems but also in supporting day-to-day efforts toward rural life improvement. If such an organization already exists locally in the village, it should take part in the technical cooperation, or, if not, it will be necessary to form one and cooperate in running it as well.

We need to consider whether an organization of this sort should be a women's group consisting of women only, or a farmers' group with both men and women as its members, or whether groups of both kinds should be formed, in accordance with the circumstances of the target village, the content of the main activities, and so on.

### 3) Making farmers the recipients of technical guidance

The main method that has been used in international cooperation in the past is that foreign experts find counterparts from among the government personnel and give them technical guidance. However, those government personnel, having acquired the technology from the experts, often move away from the site of cooperation activities once the cooperation period is complete, owing to reassignments and the like. Considering that the village will be the site of activities and that the technology is to be established there, it will sometimes appear to be more effective to make the farmers who live there the recipients of the technical guidance. In particular, when facilities and equipment have been provided to rural areas for everyday use by the farmers, it would seem more apt for the farmers to acquire techniques for their use, maintenance, repairs, and so on.

### 4) Training of farmers

By increasing opportunities for voluntary learning, self-development is also promoted. Therefore, training whereby the inhabitants of a rural area will acquire various information and learn technology should ideally be carried out in conjunction with various problem-solving measures. Various forms of training, such as during the off-season or by touring rural areas, should be devised so that women who have farm work and household chores, or have children to look after, and thus who cannot leave the house for long nor go far away, can have just as many opportunities to take part in training.

### 5) Cultivating leaders

Something that could be said for any form of organization is that the key to its survival and growth greatly depends on whether it has outstanding leaders. It is important that the leaders in an organization aimed at rural life improvement are not merely representatives, but are people who have enough knowledge and skills to take the initiative in implementing rural life improvements. Persons who have the ability to give technical guidance to their colleagues naturally gain their trust and respect by doing so. Therefore, to cultivate leaders who will be the key to residents' groups should desirably place emphasis on their assimilating skills to improve rural life, accompanied by their being educated in methods of managing an organization.

### 3. Administrative Aspect

### 1) Different approaches to administrative and farm population levels

Even while aiming to improve rural life, it goes without saying that there are different problems at the administrative and farm population levels, respectively. Both the measure and the content of activities will differ greatly depending on whether they involve technical cooperation at the administrative level or at the farm population level. In accordance with the local situation, it must be ascertained whether either the administrative or the farm population level alone is to be considered, whether both are to be carried out simultaneously in parallel, or whether activities are to be implemented as a partial combination of the two.

### 2) Emphasis on local authorities

To promote the improvement of rural life, we need to enlist the cooperation of local authorities which have a strong interest in the livelihoods of rural inhabitants. Depending on the structure of the public administration system in the partner country, various differences will emerge in the jurisdiction of services. However, in cases where local governments have a say in matters such as rural medical care, education, agricultural policies, agricultural extension as well as public works for developing the infrastructure in rural areas, rural life improvement needs to be promoted keeping a close liaison with the local administration. Depending on the situation, it could sometimes have a greater effect on rural life improvement if the emphasis was on local governments rather than on the central government.

### 3) Residing at the post of duty

In technical cooperation for rural life improvement, the experts sent from advanced countries and authorized officials of developing countries should ideally reside in the vicinity of the target area and should undertake their cooperation activities while immersing themselves in the lives of the rural inhabitants. By doing so, the local people's trust in them will increase, and they will find it easier to understand local feelings and needs.

### 4) Enlightening and training relevant officials

In promoting rural life improvement from the standpoint of the WID, we also need to intensify the understanding of the officials from the relevant ministries and agencies, and to enlighten them so that they can positively grapple with improving rural life. To this end, such officials should be given repeated training, with as many relevant officials as possible at various levels in various ministries and agencies taking part, thus reaching a consensus on the administrative side. By achieving this consensus, the differences between different ministerial policies on rural areas will be lessened, resulting in a system of cooperation for rural life improvement.

### 5) Research institution for rural life improvement

In order to carry out extension activities for rural life improvement, a research institution will be needed to create the technology for rural life improvement, representing the technical content to be diffused. In creating such technology, it is desired to consider a number of conditions, e.g., i) positive effects attainable without greatly altering the existing conditions, ii) low costs, iii) simple methods, iv) immediate effects to be expected, v) the technology conforming to the levels of knowledge and skills of male and female inhabitants, vi) testability in advance, and vii) materials and equipment readily available, among others.

### 4. Activity Aspect

## 1) The relationship between problem-solving measures and self-development of women

Improvement measures for solving individual problems which are carried out in technical cooperation not only have the objective of implementing these solutions *per se*, but should also aim to contribute to the self-development of rural women through the implementation by united action with the inhabitants. Individual problem-solving measures will be implemented in the hope that they will serve as a catalyst to encourage the self-development of rural women. We would like the implementers to bear this in mind while proceeding with such problem-solving measures.

### 2) Continuous area-based concentrated guidance

Rural life improvement is a continuous process of achieving targets. It cannot make progress easily if only isolated problem-solving measures are adopted. Thus, continuous concentrated guidance should be given in a specified rural area until its inhabitants are able to undertake rural life improvement by themselves. If activities are undertaken in this way, of course the scale of cooperation activities will remain small. Basically, it would be more effective to carry out activities by first achieving

a given result through concentrated priority guidance in a small-scale district, and then expanding these results onto a medium to large-scale level, rather than starting off on a large scale straight away. Although the stage of concentrated priority guidance is closely related to the stage in which the results on a medium scale are propagated into the surrounding area, they should be considered separately in initial planning and designs, and activities should be considered separately in initial planning and designs, and activities should first set out from small-scale priority concentrated guidance.

### 3) Propagation and inducement to the surrounding areas

Giving continuous concentrated guidance will turn a specified rural area into the advanced area, which should then be taken as focal point from which successful cases should be propagated into the surrounding rural areas, encouraging the latter to learn from successful cases in the advanced area. Once such area has been created, this will facilitate study visits from and exchanges of views with the surrounding areas, while accounts of experiences can be coordinated and presented in visual and documented forms to the surrounding areas.

### 4) Ultimate objective

The ultimate objective of technical cooperation aimed at rural life improvement is not to completely achieve solving individual problems or improving rural life, but, on the level of the farm population, to make possible a well-working system of self-help efforts whereby rural women identify and try to solve problems by themselves, while on the administrative level it is to create a system whereby the governments of developing countries can independently support the self-help efforts of rural women. The ultimate objective, then, is to enable the women to solve their own problems through their own efforts, and technical cooperation from advanced countries and international organizations can be regarded as one means of approaching to materializing it.

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