

A study by Nagoya University under contract with
The Japan International Cooperation Agency (JICA)

Evaluation of JICA technical cooperation in agriculture, forestry and
fishery projects in the Kingdom of Nepal with a focus on poverty and gender issues
and
research concerning evaluation methods used to determine impacts of programs on beneficiaries in rural areas

(An English translation of the summary version)

March, 2000

The Graduate School of International Development,
The Graduate School of Bioagricultural Sciences,
The International Cooperation Center for Agricultural Education,
Nagoya University

Preface

Due to the recent difficult financial conditions of Japan, efficient implementation of ODA projects has been called for and the importance of evaluation of ODA business has been increasingly recognized.

We, the Japan International Cooperation Agency (JICA), have been asking outside people with experience or academic standing to carry out evaluations from a position of neutrality or from a wide range of perspectives. In order to improve the evaluation process, in 1999 we decided to implement "evaluation by outside organizations". We asked outside development research organizations with technical knowledge in the field of development and in important areas of development to make recommendations to us on how to evaluate. This evaluation survey was made on a contract basis with some of these organizations and the proposals made are acceptable to us.

The theme of analysis focused on "considerations of poverty and gender". JICA has been tackling this issue in recent times and regards it as one of the most important subjects. We chose agriculture, forestry and fisheries in the Kingdom of Nepal as the subject of evaluation. This is because Nepal is a typical example of one of the developing countries. Using the country as a case study was therefore considered worthwhile. For projects that are designed to focus on "poverty and gender", JICA carries out social and economic studies from the planning stage. However, it is not clear how to incorporate in each stage of program implementation the poverty and gender issues indicated as important by the studies. We are still at the rudimentary stage of trial and error at the project sites. Attempts to solve the poverty and gender problems at each stage of the projects remains guess work to say the least. Under these circumstances, the present study was conducted with the aim of clarifying how to consider poverty and gender in JICA projects in the future by analyzing, from the viewpoints of poverty and gender, the four projects in the agricultural sector, forestry and fisheries which had been completed and/or were ongoing in the Kingdom of Nepal. In this sense this evaluation is different from that of an ordinary individual project.

In carrying out the evaluation survey, we made a full contract with a university for the first time. Nagoya University with which we made the contract organized "The Nepal Technical Cooperation Evaluation Committee" consisting of the Graduate School of International Development as the chief, the Graduate School of Bioagricultural Sciences and the International Cooperation Center for Agricultural Education to conduct the survey. This report is jointly written by professors of different backgrounds, which makes it different from the existing evaluation surveys and gives it an academic touch.

We would like to apply the recommendations or suggestions proposed by this study concerning evaluation to the formation and implementation of cooperation projects calling for consideration of poverty and gender in the developing countries, including Nepal.

Finally we would like to express our sincere thanks to all those people in Nepal and Japan, including the local residents in Nepal, who cooperated with us in our survey.

March, 2000

A handwritten signature in black ink, appearing to read 'Y. Takashima', with a stylized flourish at the end.

Yushu Takashima,
Director,
Japan International Cooperation Agency

Foreword

This report is a summary of the research on the subject of "evaluation of JICA technical cooperation in agriculture, forestry and fisheries in the Kingdom of Nepal with a focus on poverty and gender issues and research concerning evaluation methods used to determine impacts of programs on beneficiaries in rural areas." The survey was jointly conducted by the Graduate School of International Development, the Graduate School of Bioagricultural Sciences and the International Cooperation Center for Agricultural Education, Nagoya University with which JICA made a contract as part of "evaluation by outside organizations."

JICA evaluation is based on the idea that "the beneficiary of all international cooperation should be the residents." From this viewpoint, we aim to make an "evaluation of how the cooperative activities in agriculture, forestry and fisheries , Nepal done with the technical cooperation of JICA had influences and effects on the subject of poverty and gender, and an evaluation on how the projects done so far are helpful for forming plans for assistance in future."

The study includes not only the reviews of the literature but also field surveys in different areas and administration of questionnaires. The study was conducted by a wide range of professionals including those in agriculture, forestry, stock raising, economics , education and law. These professional staff members also included professors whose primary interest borders on poverty and gender issues. We thank all of the people who contributed to this work and regret that some constraints caused inconveniences in its progress, such as the fact that it was conducted within the organizational framework of a university, and within a limited period of time. We would like to recognize and express our appreciation for the cooperation received from many people including government officials in Nepal, the project staff members, Japan Overseas Cooperation Volunteers, the JICA Nepal Office staff, and our university staff members and students through whose effort our mission was made less hectic and demanding.

We are not unaware of some shortcomings of this report; therefore, constructive comments and advice are welcomed. Finally, we would again like to express our gratitude to all of those people mentioned above for their cooperation in making our report.

March,2000



Yoshihiko Nishimura,

Committee Chair,

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SUMMARY

I. Overview of the study (Chapter I)

This investigation studies how the technical cooperation projects conducted by JICA in Nepal in agriculture , forestry and fisheries has had impacts on farmers and at the community level. In particular, we surveyed and did research on how the projects have had impacts on poverty and gender issues and on how they have changed the life of residents.

.Having reviewed the literature and reports, conducted field studies, and grasped the effects and problems in the background of JICA projects in Nepal, this report summarizes our thinking about how to implement evaluation with regard to poverty and gender issues.

1. Aims and content of the study

The present study has two purposes. The first purpose is to research new evaluation procedures from the viewpoint of poverty and gender. The second purpose is to apply the new methods produced as a result of such research to actual cooperation projects made by JICA in Nepal in the past. Because JICA considers the problems of "poverty and gender" as important, we provide recommendations and suggestions for measures for JICA to take so that such cooperation projects may have positive and equal impacts for all the intended beneficiaries in a project area.

2. Outline of the study

a) Participants

The survey work was conducted by the Graduate School of International Development, Nagoya University from September 10 , 1999 to March 31, 2000 under contract with the Japan International Cooperation Agency. In carrying out the survey, the Graduate School of International Development formed a joint study committee in cooperation with the Graduate School of Bioagricultural Sciences and the International Cooperation Center for Agricultural Education, Nagoya University. The field surveys consisted of eight teams. The teams included professionals of economics, agriculture, law, gender , poverty/education and coordination The committee members are as follows:

Survey Area	Committee members
Agriculture	Hiroyuki Takeya, Akira Yamauchi, Jiro Tatsumi, Morio Iijima, Chisato Takenaka, Shigeaki Hattori, Minoru Kondo, Katsuhiko Kitagawa, Mutsuyo Kadohira, Yoshihiro Nishimura(from coordination team)
Economics	Shigeru Otsubo , Hiroshi Osada (from coordination team)
Gender	Hisae Nakanishi, Atsuko Ohashi, Michiko Yoshioka
Poverty/education	Mitsuru Wakabayashi, Yutaka Ohtsuka, Aya Okada

Law Masanori Aikyo, Kenji Yotsumoto, Noriyuki Asano
Coordination Yoshihiko Nishimura , Naoki Nakajyo, Hiroshi Osada

b) Scope of study and projects for evaluation

We focused on past JICA technical cooperation projects with Nepal in agriculture, forestry and fisheries. In addition, we included some parts of related projects such as team dispatch of Japan Overseas Cooperation Volunteers (JOCV) and grants. The main projects are as follows:

- (1) Janakpur Zone Agriculture Development Project (1974-1984)
- (2) The Horticulture Development Project (I 1984-1990, II 1992-199 , F/U 1997- 1999)
- (3) The project for Natural Water Fisheries Development (1991-1996 F/U 1996-1998)
- (4) Community Development and Forest/Watershed Conservation Project Phase I (1994-1999)
Forestry Promotion Project (1991-1994)
Greenery Promotion Cooperation Project (team dispatch of Japan Overseas Cooperation Volunteers)
- (5) Kabhre Area Agriculture Development Program (1984-1986)

c) Methods

In carrying out the survey, the university formed a committee to plan the study and its implementation and to gather information on Nepal. For the field survey, we used local consultants and asked them to fill out our previously prepared questionnaires and to have interviews with local farmers and related people. The district for the study consists of two areas. One is the area where projects have been conducted. The other is an area where projects have not been conducted; this served as a control area. We chose farmers from the two areas at random and did our research. During the survey at the site, we got advice and cooperation from JICA technical experts and JOCV members.

After returning to Japan, we checked and analyzed data and made a report based on field surveys made in each area.

The work records of the field surveys are as follows:

- i) Preliminary survey (3 members) September 11,1999-September 19,1999

Yoshihiko Nishimura, Professor, Graduate School of International Development, Nagoya University

Mutsuyo Kadohira, Associate Professor, International Cooperation Center for Agricultural Education, Nagoya University

Michiko Yoshioka, Lecturer, Graduate School of International Development, Nagoya University

ii) Agriculture Team I (6 members) November 14 , 1999 - December 1 , 1999

Jiro Tatsumi , Professor, Graduate School of Bioagricultural Sciences, Nagoya University

Morio Iijima, Associate Professor, Graduate School of Bioagricultural Sciences, Nagoya University

Mutsuyo Kadohira, Associate Professor, International Cooperation Center for Agricultural Education, Nagoya University

Shigeaki Hattori , Professor, Graduate School of Bioagricultural Sciences , Nagoya University

Minoru Kondo, Research Associate, Graduate School of Bioagricultural Sciences , Nagoya University

Tsutomu Kanazashi , Graduate Student, Graduate School of Bioagricultural Sciences , Nagoya University

iii) Agriculture team II (4 members) December 11,1999 - December 26,1999

Jiro Tatsumi, Professor, the Graduate School of Bioagricultural Sciences , Nagoya University

Mutsuyo Kadohira , Associate Professor, International Cooperation Center for Agricultural Education, Nagoya University

Chisato Takenaka, Associate Professor, Graduate School of Bioagricultural Sciences , Nagoya University

Hidemi Kitano, Associate Professor, Graduate School of Bioagricultural Sciences, Nagoya University

iv) Law (2 members) December 27,1999 - January 5 , 2000

Kenji Yotsumoto , Associate Professor, Law Department, Nagoya Keizai University Noriyuki Asano , Lecturer, Seibo Jogakuin Junior College

v) Gender (3 members) January 8,2000 - January 19,2000

Hisae Nakanishi , Associate Professor, the Graduate School of International Development , Nagoya University

Kaori Tanaka , Graduate Student, Graduate School of International Development, Nagoya University

Kenji Kawada , Graduate Student, Graduate School of International Development, Nagoya University

vi) Poverty (2 members) January 13, 2000 - February 2,2000

Aya Okada, Associate Professor, Graduate School of International Development, Nagoya University

Kenji Kawada, Graduate Student, Graduate School of International Development, Nagoya University

vii) Economy (2 members) January 22,2000 - February 2,2000

Shigeru Otsubo, Associate Professor, Graduate School of International Development, Nagoya University

Hedving Rozsnoi, Graduate Student, Graduate School of International Development, Nagoya University

viii) Supplementary survey (fisheries) (2 members) March 9, 2000 - March 24, 2000

Yoshihiko Nishimura, Professor, Graduate School of International Development, Nagoya University

Akiya Seko, Graduate Student, Graduate School of International Development, Nagoya University

II. Evolution and Current State of Socioeconomic Development in Nepal (Chap. II)

First, we reviewed the evolution of the key development agenda in Nepal and analyzed the current state of her socioeconomic development, mobilizing available macro and sector data, paying particular attention to the role of agriculture, forestry and fisheries in the Nepali economy and to the state of poverty and gender-related problems. The first national development plan of Nepal started in 1956, just after the nationalization of the economy. The country is now under its ninth development plan. The current study presented a concise review of the plans, from the first to the ninth. The main theme of these plans has been an eradication of poverty. However, the record of economic development has been a disappointing one, particularly during the time of the monarchy up to 1990. This was mainly due to a low rate of growth in the productivity of agriculture, the nation's main industry. The "green revolution" benefited only parts of the Tarai plain, leaving most people in hills and mountain areas unaffected. The data shows that the disparity in development achievements between cities like Kathmandu and rural areas has widened. The process of democratization with multiple political parties, triggered by democracy movements in 1990, produced an upward trend in the share of national development budget allocated to social sector development. The country now tries to expand economic activities in the secondary and tertiary industries with various measures of economic liberalization. The progress of economic reform has been slow due to political instability, widespread corruption, a lack of responsibility in governing public institutions, and a recent rise in the communist insurgency in the mountain areas.

Having clarified the role of agriculture, forestry and fisheries in the Nepali economy using macro and sector data, and presenting an overall picture of poverty and gender-related issues, this chapter then analyzed the economic poverty utilizing four measurements of poverty (poverty indices). Past and current Gini coefficients were presented to show a changing pattern of regional disparity. Existing gaps in educational achievements and opportunities, labor participation rates, unemployment and underemployment rates were shown in order to portray some of the outstanding issues of gender disparity. A rise in rural poverty was related to an adverse trend in land distribution among

agricultural households. A dismal trend in land productivity was associated with adverse farming conditions such as poor irrigation and low land fertility. Poor agricultural households do not have any (or sufficient) access to agricultural inputs such as fertilizer and improved technology, or to agricultural financing. As a result, any systematic rise in agricultural labor productivity has not been observed, and this has been a major cause for the agriculture-dominant Nepali economy to stagnate and to remain poor to this date. Factors underling the differentiation of the poor into subgroups (poor, extreme poor, etc.) have been the gaps in access to and availability of agricultural inputs. Those inputs include irrigation, fertilizer, agricultural finance, agricultural extension and technologies, and infrastructure for market access, i.e. rural access roads and the means of logistics. These findings point to the needs of policies and cooperation geared to improve agricultural productivity and income of agricultural households. These initiatives should include supports for educational activities for a higher literacy rate and empowerment of women in the rural areas where the bulk of Nepali poor reside.

III. JICA experiences with Nepal in agriculture, forestry and fisheries (Chap. III)

We studied the impacts of JICA projects in agriculture, forestry and fisheries based on feedback from these projects. Section 1 reviews our study of the projects from an interdisciplinary perspective and compares the impacts of each project. Section 2 reviews the Natural Water Fisheries Development project and discusses the problems and impacts derived from the project as a case study.

1. JICA technical cooperation projects in agriculture, forestry and fisheries

We reviewed the technical cooperation projects in agriculture, forestry and fisheries and discussed where and how the projects had impacts. The related projects include (1) Janakpur Zone Agriculture Development Project, (2) the Horticulture Development Project, (3) the Project for Natural Water Fisheries Development, (4) Community Development Project, Forest/Watershed Conservation Project, and Greenery Promotion Cooperation Project. In addition they include, (5) the Agriculture Development Project in the form of team dispatch by JOCV. It has two programs: Kabhre Area Agriculture Development Program and Kaski Pocket Agriculture Development Program. We analyzed these two programs as a reference.

We developed a two-dimensional dispersion chart by considering the project activities from the viewpoint of "contribution to production" and "contribution to improvement of life." As a result, we found that each project has the following characteristics.

- (1) Janakpur Zone Agriculture Development Project: low direct relation to production and improvement of life
- (2) The Horticulture Development Project: focuses on production
- (3) The Project for Natural Water Fisheries Development: contributes a little to production but has no connection with improvement of life
- (4) Community Development and Forest/Watershed Conservation Project and Greenery Promotion Cooperation Project: contributes much to quality of life a lot but has a low production contribution

Also the recipients of technical transfer for each project are as follows:

- (1) Janakpur Zone Agriculture Development Project: extension workers
- (2) The Horticulture Development Project: technicians of the national horticultural experimental station and model farmers
- (3) The Project for Natural Water Fisheries Development: technicians of the national fisheries experimental station
- (4) Community Development and Forest/Watershed Development Project and Greenery Promotion Cooperation Project: residents

When some schemes are added to the project, the number of recipients increases. For example, the Janakpur Project had some relation with farmers by introducing pump irrigation free of charge. The Horticulture Project enabled middle-class technicians to have training because of a laboratory built with financing from a JICA aid grant. The Natural Water Fisheries Project started after the JOCV activities had been done for fishers. Also the Community Development and Forest/Watershed Development Project and the Greenery Promotion Cooperation Project could meet the various needs of farming villages, because it was, just like its name, a comprehensive project combining many schemes such as a development survey, JOCV, project technical cooperation and so forth. In order to measure the impacts on residents, we need to investigate the situation at the time a project begins in order to evaluate whether or not a project has realized its objectives. A combination of schemes brings about an increase of related people. As a result, the effects of the projects will reach the intended beneficiaries. We found that an agricultural project has a limited impact on the condition of people because such a project takes time and requires follow-up work.

2. Impacts of the Project for Natural Water Fisheries Development

Based on the results of this analysis, we took up the Project for Natural Water Fisheries Development and studied how the effects of this project reached fishers through related activities, including schemes in addition to the technical cooperation project.

The fish-raising industry has developed in the south since the 1960s. The production volume expanded tremendously through changing the irrigation ponds to fish-raising ponds. Then the production at the existing ponds hit a ceiling and ceased growing. Therefore, in order to increase production continuously, early in the 1990s, development plans were made for natural lakes and marshes or artificial lakes in the central hilly areas. Since the 1970s Japan has been conducting technical cooperation with regard to small-scale fish cultivation in net-enclosed areas through JOCV activities in Pokhara City and its neighboring areas. The said technology has been accepted by fishers because the areas are naturally rich in feed such as plankton and the cost of introducing net-enclosed fish raising was low. Since 1991, technical cooperation to expand this project has been given in the form of the project. The production of fish has increased remarkably as the supply system has become well established because of the introduction of appropriate technology for the production of seedlings (fry) in the hatchery center, which was one of the objectives. It was pointed out by the evaluation at the end of the study that although, production had had good results, the center had a problem regarding financial independence. We can say that the fish-

raising industry, which started in the south, has been introduced to the central hilly areas and has developed in a stable manner with some problems involved.

When we see how improvement of production had impacts on fish-raisers, we find the following differences between the southern areas and the central hilly areas from the viewpoint of reduction of poverty, although such improvement contributed to both areas economically.

The southern areas: The beneficiaries who got economic benefits were owners of irrigation ponds (land). It is considered that the economic disparity between owners and non-owners of ponds became bigger.

The central hilly areas: The beneficiaries in these areas were fishers who are lower in class than farmers according to the caste system. This helped to decrease the poverty gap between farmers and fishers (bottom-up).

What is noteworthy from the viewpoint of aid focusing on independent development is the "continuity" of reducing poverty in the central hilly areas. "Continuity" here means that each beneficiary is improving his economic and social position while paying back his debt by his income and that the population of such beneficiaries will increase.

Such continuity is considered to be caused by the improvement of the fisher's self-organization. Before the project, a fish-raising union existed but financing was given to fishers regardless of whether they were members or not. However, the repayment rate was so low that financing was later given through the union. This helped to improve the organization's membership rate, but this is not a factor which directly contributed to improved self-organization, because we can see many cases in the world where a person become a member to get financing but does not return the money. From this case we think that self-organization helps in the continuity of repayment by the beneficiaries, returning profits to their families and investing profits in new businesses. The expansion of the group by the beneficiaries is taken as improvement of self-organization. We analyzed the fish-raising industry, including the project, as a whole using the evaluation method on independent development adopted by DAC in order to analyze the said factors. As a result, we found a factor that we should not overlook. It is the cooperative shipping system of the catch established with the introduction of fish-raising. The system, which was established for convenience in distribution and accepted by the fishers, prompted fishers to change their lifestyle of movement to a fixed one in order to form a group. Fishers usually have characters of strong individualism and independence because they are eager to secure their own fishing area. The fish-raising industry changed their characters and the shipping place serves as a place of information exchange. They formed a group, which had never happened before. A network among fishers was established. It is a drastic change of lifestyle. This fact is considered to be the main factor of continuity.

IV. Poverty and gender issues in agriculture, forestry and fisheries projects (Chap. IV)

To grasp the problems of poverty and gender from the viewpoint of development in agriculture, forestry and fisheries, this chapter consists of two sections. Section 1 outlines agriculture, forestry

and fisheries in Nepal , the features and varieties of farming villages. We also show a flow chart of impacts which the projects in agriculture, forestry and fisheries had on farming villages. The second section surveys JICA projects carried out in the past in agriculture, forestry and fisheries from the viewpoint of impacts on production, economy and society , confirms the effects and analyzes the factors which have impacts.

1. Impacts in agriculture, forestry and fisheries

When we profile farming villages in Nepal, we find that they vary in geological conditions and racial composition. These varieties impact on the structure of the farming villages. In particular, traditional farming societies are based on the historical production system in agriculture , forestry and fisheries. Therefore, depending on areas and races, they have made their traditional society according to the production and life system suitable for the area. In carrying out a development project, these factors should be considered or impacts will not reach the beneficiaries of farming villages.

The previous development projects were focused or located at favorable places such as the Tarai plains and their neighboring areas, hilly and low mountainous areas. The mountainous areas were excluded. We understood that the caste system was important in a farming society, but the problems of the caste system , gender and poverty were not always discussed and were studied in isolation from the society where they existed. The earliest projects in agriculture , forestry and fisheries were planned to aim at production no matter what the circumstances. Past experience shows that such projects place emphasis on "production" first , then on "quality of life" , followed by "society." Depending on the focus of the individuals /farmers or group/community, the impacts are different. In the case when technical cooperation projects aim at poverty and gender, the goals can be met by approaching these themes directly. However, when aimed at production, it takes longer for the projects to have effects on poverty and gender. In addition, the impacts themselves disperse and gradually diminish in the long run. Another adverse effect of this production-oriented approach is that it creates a bigger gap between the rich and the poor. Furthermore, focusing on increased production only may then lead to unfair distribution of project impacts. From this, we concluded that impacts of the projects result in a change of the society, but this change might not necessarily have an impact on poverty or gender.

2. Problems of poverty and gender evaluated from the viewpoint of agricultural indexes

This section covers fieldwork including interview surveys. We chose indexes commonly used in the field of agriculture science such as an agricultural production index and wrote questions based on these indexes including socioeconomic ones. By means of the survey we analyzed the impact of four JICA agricultural, forestry and fisheries projects with regard to the alleviation of poverty and gender problems. The area covered by the survey for the Janakpur Agriculture Development Project includes Dhanusha District, and Rautahat District as a control district. The Horticulture Development Project has three related districts (Kathmandu, Kavre and Ramechhap), but the survey only covered several wards and Village Development Committees (VDC) within the above three districts. The Community Development and Forest/Watershed Conservation Project has two

districts (Kasik and Parbat), within which several VDCs were chosen for survey purposes. For the Project of Natural Water Fisheries Development, we chose fishers who made a living by fishing and/or raising fish in private ponds and/or at Lake Begnas and Lake Phewa in Kaski District.

The questionnaire consisted of questions on family members, agricultural activities, general life in farming villages, crop production, forest conservation and management, animal production, aquaculture, education, gender and the content of activities of the Community Development and Forest/Watershed Conservation Project in Pokhara. What we considered in choosing questions to ask about agricultural production is whether the questions would lead to an index which would enable us to grasp the present situation with regard to sustainable agriculture through the subsistence farming practices. This is because we consider that the establishment of a sustainable production system is a prerequisite condition for poverty reduction and life improvement. We employed local agriculture experts as assistants to carry out the questionnaire survey. The survey started on November 18, 1999 and ended on December 16, 1999. We gathered information from 382 households.

In order to evaluate the general life in farming villages, we used as indexes such items as school attendance rate, average working hours of each man and woman, agriculture extension, mutual assistance among villagers, access to markets, loans, types and numbers of household belongings, purchase of rice (self-sufficiency), employment, possession of savings accounts and livestock, sanitary management at home and women's health, and the planted acreage of rice. For the survey of crop production, we used as indexes such items as kinds of main crops planted, proportions of planted acreage, production volumes and growers of each main crop, production aids (ie. irrigation equipment, fertilizers, manure, insecticides etc.), self-sufficiency of food supply, number of various types of livestock, uses of straw, and care-givers of livestock (i.e. women, children etc.). As for the present situation with regard to the management and use of forests, we clarified regional characteristics of both forest resources available in a large area and the relations between local residents and their surrounding forests by quantitatively comparing ownership of forests, changing trends in forest acreage, uses of forests, undertaking of forest restoration and the like. We also analyzed the actual situation regarding management of jointly owned forests through the results of the fieldwork in Parbat District.

Following the analysis of the results of the questionnaire and interviews, the following four points were indicated as worthy of consideration from the perspective of poverty and gender when undertaking an agricultural, forestry or fisheries project.

- (1) At the preliminary survey/research stage, it is necessary to study the character of various types of trees that could be used as forage trees and to separately evaluate each scientific function such as production volume, animal nutrition, soil preservation, nitrogen enrichment, water reserve as well as to examine the best combination of the above mentioned functions at the field level.
- (2) In order to determine the most suitable type of agricultural development for the region, participatory development methods should be used to learn about the characteristics of local residents.

- (3) From the viewpoint of reducing the workload of women and preserving forest resources, it is necessary to put a strategic plan into effect such as a zoning plan which allows forests to be located near farmhouses for easy access to firewood, selecting trees which grow fast, managing density to maximize the growth and volume of trees and maintaining stable water supply near farmhouses.
- (4) It is important to undertake research that could help improve management of jointly-owned forests and to make an effort to record traditional forestry resource utilization methods in Nepal.

Based on the evaluation of the impact of agricultural, forestry and fisheries projects on poverty and gender, we would like to propose the following four subjects as future research topics from the point of view of agriculture.

- a) Alleviation of poverty by introducing new agricultural technology that should be spread through the layers of the social hierarchy;
- b) Capacity development in improving living conditions and creating employment opportunities in rural areas;
- c) Linkage development between individual farming and group/extension activities;
- d) Management of forest resources through collaborative activities among farmers.

V . Impact of JICA-supported Agricultural and Forestry Projects on Poverty Alleviation: Evidence from HMG/JICA Community Development & Forest/Watershed Conservation Project and HMG/JICA Greenery Promotion Cooperation Project (Chap. V)

Chapter 5 examines the impact of JICA-sponsored agricultural, fishery and forestry projects on poverty alleviation. The chapter is organized as follows. It first discusses some important changes in the concept of poverty in recent development literature; suggests a need to develop alternative ways to measure the impact of agricultural and rural projects on poverty alleviation; and proposes seven dimensions to be considered in evaluating the impact of projects on poverty alleviation. Using the framework based on these 7 dimensions, the chapter then analyzes the impact on the poor of JICA's Community Development & Forest/Watershed Conservation Project and Greenery Promotion Cooperation Project (CDF/WCP & GPCP), implemented in the districts of Kaski and Parbat, Nepal. Finally, it concludes with discussions on the findings and some policy recommendations.

Using a framework reflecting new concepts of poverty drawn from Amartya Sen's Capability Theory, this chapter attempts to evaluate the impact on poverty of the projects as a case study. As this study mainly focuses on JICA's agricultural and rural projects, our primary concern here is to assess changes in the lives of the rural poor brought about by the implementation of the projects. This study thus proposes to focus on the improvements in capabilities of the poor in the domains of both their production activities as well as their lives in terms of seven dimensions: 1) resources; 2) capital;

3) skills; 4) decision-making capability/ empowerment; 5) organizational capabilities; 6) infrastructure; 7) gender.

Based on data obtained through fieldwork conducted in Nepal, the chapter evaluates the impact on poverty alleviation of CDF/WCP & GPCP implemented by JICA in 10 sites (model villages) of two districts (Kaski and Parbat) for five years between 1994 and 1999. A study team consisting of a faculty member and a graduate student, both from GSID, along with a couple of local consultants, conducted the fieldwork in three project sites (Chapakot and Puranchaur villages in Kaski district, and Tribeni village in Parbat district) for three weeks in January and February 2000. The study employs a comprehensive and multi-faceted approach and mainly involves a micro-level qualitative analysis focusing on the seven dimensions above. However, as the issue of gender is specifically discussed in detail in Chapter 6, this chapter instead focuses on an added dimension of forest conservation, an important component of CDF/WCP & GPCP, because the projects were formulated under an implicit assumption that forest conservation will help alleviate poverty, as it will improve the livelihood of the poor who rely much on forest resources for their survival. The study team collected data through extensive interviews with participants in 16 user groups, members and leaders of the villages, local government officials, JICA personnel and project staff, JOCV members, officials from DFID, UNICEF, PDDP, South Asia Poverty Alleviation Programme, and representatives from two local NGOs. To supplement qualitative data obtained from these interviews, the team also administered a simple questionnaire survey to 60 households (30 as those participating in user groups formed through CDF/WCP & GPCP, and 30 as those not participating in user groups).

On the whole, the study found little significant impact of the projects on reducing poverty in economic terms, but did find some notable positive effects on the lives of the poor. Indeed, the project brought about positive effects on the poor in terms of improvement in their access to life skills, access to credit, decision-making capabilities, empowerment, and in economic and social infrastructure in their surrounding environment. For example, women who participated in literacy classes organized as part of the projects not only acquired the ability to write and read, but also gained new knowledge contained in the textbook that is of great use for rural women in improving their village lives. Also, as these literacy sub-projects specially stressed the participation of women, these sub-projects helped empower women participants by giving them an opportunity to organize themselves as a group, and maintain and manage their group's activities. As CDF/WCP & GPCP made special efforts to meet the needs of local communities in their planning stage, they helped the local communities voluntarily develop their organizational abilities through the formation and management of user groups. Sub-projects aimed at improved drinking water supply and improved access to sanitary facilities have had direct positive effects on the improvement of the lives of the poor, and also appear to have contributed to the improvement of their health and nutrition conditions. Indeed, many drinking water sub-projects as well as other income-generating activities (IGA) sub-projects have resulted in the voluntary formation of self-governing norms and rules regarding the use of water by user members, labor sharing for sub-project activities among user members, and the formation and management of group funds. Drinking water sub-projects also helped reduce time and workloads required for fetching water among women and children, who traditionally assumed the task of fetching water. The detailed analysis revealed, however, complex and different ways in which the projects have had any effects on different user groups and different

members of local communities, with respect to the seven dimensions mentioned above. This suggests the context-specific nature of effects of the project implementation and the importance of looking into the particular conditions under which sub-projects had positive effects on certain groups. Also, the study found some issues to which attention should be brought with respect to each of the seven dimensions.

Based on the findings, the final section of the chapter discusses some important issues to be considered for improving the effectiveness of JICA's agricultural and forestry projects in reducing poverty, and proposes five areas as policy recommendation. First, JICA projects need more precise "targeting" to make them exactly targeted at the poor. This is important to make projects more effective in reaching the poor. To this end, JICA needs to develop a system to streamline baseline surveys to be conducted at the project design stage and utilize the results of the baseline surveys more systematically in identifying the pockets of poverty in project sites. Also, efforts need to be made to increase a proportion of the poor participating in sub-projects. Second, the duration of project implementation should be extended. For instance, the study found that despite CDF/WCP & GPCP's emphasis on participatory approaches to development, which inevitably involve time-consuming and cumbersome processes, the projects were implemented within the timeframe of five years (and often in three years). Considering the importance of acquiring and developing organizational capabilities of the poor in organizing and managing activities by themselves, it is of utmost importance to ensure sufficient time to implement and follow up on project activities. Third, linkages of projects with existing local institutions need to be strengthened. In CDF/WCP & GPCP, due to a lack of linkages with line agencies, it was hard for user group members to seek technical assistance from local offices of the concerned line agencies. Therefore, a mechanism should be set up to facilitate liaisons and coordination among local offices of various line agencies and project staff at district and village levels. Fourth, projects should select income generating activities that truly benefit the poor. In CDF/WCP & GPCP, various types of income generating activities were carried out as sub-projects mainly by women who formed user groups, but many of such activities did not help increase the income of poor participants. Considering the fact that most poor agricultural households have to buy even their own food, it appears essential that any income generating activities carried out by women groups need to be closely linked with and integrated into mainstream agricultural activities carried out in villages. Moreover, considering that some income generating activities such as goat raising and potato production sub-projects had rather negative effects on environmental resources, it might be worth considering introducing non-agricultural activities for generating incomes of the poor and developing their vocational skills. Finally, the chapter discusses the question of how projects can reach the poorest. As the poorest are very busy in carrying out various activities for their own survival, it is often hard for them to devote their time and labor to project activities as well as even to participate in meetings organized for project participants. Therefore, it might be necessary to provide the poorest with incentives for participation different from those for other people to ensure that the poorest can truly participate in and benefit from projects.

VI. Evaluation from the viewpoint of gender (Chap. VI)

This chapter inspects and studies the impacts of the projects from the viewpoint of gender and consists of three sections. First, we studied the impacts of the projects in agriculture, forestry and fisheries from the viewpoint of gender and analyzed the present conditions of Nepal based on the fieldwork. Then we introduced projects related to gender that did not belong to JICA and compared the gender problems of those projects for clarification. Lastly, we discussed the impact based on the existing reports of "Community Development and Forest/Watershed Conservation Project in Nepal" and "Greenery Promotion Cooperation Project in Nepal."

1. Survey of impacts of projects in agriculture, forestry and fisheries from the viewpoint of gender

When we put the evaluation of gender-related views into the evaluation of a project, the following points are to be noted. Firstly, the social circumstances which the women of developing countries have are different in each case and we cannot generalize. Secondly, the analysis methods of gender which analyzers of developed countries adopt are a result of western ideas and are in most cases not suitable to the reality of developing countries. In this section, therefore, and with those problems in mind, we discussed how to include gender considerations in evaluation.

When JICA plans and manages a technical cooperation project, the conditions for gender-friendly considerations are that half of the user group members are women for a project targeting women, that WID experts are allocated and that experts and counterparts are encouraged to heighten the consciousness of gender through training and so forth.

The impacts on participants were evaluated in two ways. One was in numerical value and the other was not in numerical value. Impact in numerical value included, for example, improvement in income and shortening of time and the like. The impact in non-numerical value included improvement of "self-development capability," "group-development capability," and "social interaction opportunities" through the project and so on. Impact measured by non-numerical value is considered very important in the evaluation of gender perspectives. In addition, we could find negative impacts. For example, women's workload has become larger, the degree of women's access and control in the profit allocation and decision-making has become worse.

Based on the above evaluation results, we took up "Community Development and Forest/Watershed Conservation Project in Nepal" and "Greenery Promotion Cooperation Project in Nepal" as a case study and discussed "sustainable development" from a gender-oriented viewpoint. The merit of a project taking a participation-type approach is that residents can acquire management capability while they keep their independence. In the end this leads to the spirit of self-effort on the part of local residents. On the other hand, there are limits to the idea. These are the problems of maintenance and funding. The maintenance of drinking-water tanks and so on requires follow-up support from JICA, because it is difficult to get technology and materials locally. Funding was supplied to maintain each sub project but the low income of residents did not allow them to continue deposits to the fund for maintenance. We pointed out that management of this fund should be reviewed.

Also we stated that attention should be paid not only to the evaluation of whether the effects of the projects were "sustainable" but also the "connection" among the projects which may provide a

chance of creating another new project even if one project should fail. For example, the success of the keeping of bees by women lead to another trial of feeding goats. What we learned from the results of this survey is that if we want to manage and sustain a project, the use of existing cultural values and user groups leads to better results.

Finally we made some suggestions to JICA. One is that it is necessary to set the short-term objectives and the long-term objectives before a project so that participating residents may recognize the vision and significance of the project. Secondly, it is necessary to increase the number of experts on gender problems. Thirdly, we should consider changing the viewpoint of evaluation from "empowerment" to "entitlement" in order to seek a way of not presupposing a certain dynamic between donor and recipient. Fourthly, a sub-project should include a literacy class and a know-how class for improving income. Fifthly, it is necessary to make the time span longer so that better results can be seen from a project.

2. Efforts Directed towards Gender Issues in the National Development Plan of Nepal

This section introduces the efforts of Nepali governmental organizations directed towards gender issues by looking closely at PCRW (Production Credit for Rural Women) that has been running for almost 20 years.

The objective of PCRW is to enhance the social and economic status of Nepali women, which is also expected to lead to the improvement of the living standard of a whole community. Although PCRW has been run mainly by WDD (Women's Development Division, Ministry of Local Development), it depends heavily on donor organizations in terms of funds and resources. In consequence, there are a variety of projects under the name of PCRW reflecting different interests of these donor organizations.

The long-term objective in the field of WID that is stipulated in the National Development Plan is to create a society that is based on the mainstreaming of women's participation, empowerment of women, and gender equality. PCRW, as a matter of course, is aligned with the National Development Plan. The question, however, is whether or not the government as a whole has a strong will and is ready to put the plan into practice. Among the governmental organizations, MWSW (Ministry of Women and Social Welfare) is above all expected to play a central role in promoting gender equality. This newly established organization, however, has too little power and resources to lead other governmental organizations. We can also infer from its name that the issues of women are still considered to fall into the same category as social welfare due to the stereotyped gender roles. The so-called "Women's Offices", on the other hand, have been set up at only three ministries as of 1997: Ministry of Local Development, Ministry of Agriculture, and Ministry of Education. Although Ministries of Labor and Health are said to have a staff member in charge of WID, their activities are not well known. Thus, each governmental organization does not have a system to promote WID-related policies. Furthermore, there is a misunderstanding among these ministries that "gender-sensitive" means just targeting women. WDD, on the other hand, has been acknowledged as a leading organization that has put the WID-related policies into practice through PCRW. It has many staff members and a 20-year experience, achieving satisfactory results. However, there are the following problems in the implementation of PCRW:

The objectives of the micro-finance projects under PCRW may not be well understood by the participants.

The participating banks and NGOs are sometimes unwilling to provide financing and cooperation.

Regarding the community development activities under PCRW, the projects considered effective by donors tend to have been carried out in a top-down style.

As the population education projects are targeted only on women, men do not use contraceptives.

Most of the WDD staff work on a contract-basis. Even if they are employed full-time, there are few promotion prospects, which causes WDD to be unable to secure capable human resources. The resistance from male bureaucrats to gender issues, on the other hand, is still strong. WDD has met with resistance from various governmental officials, including the male staff of Ministry of Local Development, which is WDD's parent organization.

WDD is prone to be involved in the power struggle among the donor organizations.

Taking into consideration above-mentioned problems, we suggest that:

WDD should strengthen its role as a mediator as well as a facilitator in the communication among women, markets, and banks.

The target of PCRW should not be only women but a whole community to prevent the traditional gender roles from being strengthened.

At the same time, it is necessary to enlighten the male government officials and to solve the problem of a bureaucracy that is occupied by conservative high-caste men.

The donor organizations, on the other hand, should take seriously the fact that conflicting interests among donors can impede the progress of PCRW.

3. Review of Impact Evaluation Reports of the Sub Projects (1997 and 1998)

This section reviews two volumes of the "impact evaluation report on the sub projects of the HMG/JICA Community Development and Forest/Watershed Conservation Project and HMG/JOCV Greenery Promotion Cooperation Project", which were published in 1997 and 1998. It also presents suggestions concerning the operation and methods of analysis on social impacts for similar projects to be undertaken in the future.

First of all, the publication of the reports themselves demonstrates that some aspects of the sub projects were successful. That is, the projects created an environment that allowed even women in low castes to be able to express their opinions in public. The other advantages are as follows: 1) The reports adopt social impact evaluation and qualitative analysis, which have seldom been introduced to project evaluations in the past. 2) Considering limitations in time and human resources, the interviews were very effective and the conversations were recorded carefully and conscientiously, although, in some parts, the gender and caste of interviewees should have been specified. 3) It is progressive in that the reports suggest "the projects should take different gender considerations in the different areas".

As the reports adopt new approaches, there are some weak points in the analytical methods.

- 1) Indicator items and indicators: The process of selecting and refining indicators should be described in the reports. Improvements made in identifying indicators fed back from the interviews would be important information for future evaluation. On the other hand "five items of DAC evaluation" are rather project-oriented, and not so effective in evaluating the impacts on people and society. Society/people-centered indicator items should be developed.
- 2) Local context: The reports lack an examination of local environments of specific project sites. The unique context of each site should be considered carefully.
- 3) Data analysis: There is a pressing need to create methods that can analyze the records of the interviews qualitatively and subjectively. Moreover, the analytical tools for project impacts per village/sub project should be developed in a way that provides more concrete suggestions.

The per-sub project-analysis of the interview records is discussed in the latter half of this section. Two samples, interviews at a goat raising project and a kitchen range improvement project, are examined in relation to people's actual actions. It is clear that with this analysis it is possible to identify specific elements of success, those of failure, and combinations of both. There is a strong possibility that such indicators could be chosen or improved. The analysis also finds that the sub projects, which the users evaluated highly and wanted to continue, are difficult to connect with forest protection activities. Therefore a combination of sub projects should be developed. Future project, for example, could combine goat raising with the planting of fodder trees/grass. Lastly, the follow ups of the projects should be continued until traditional elements that are oppressive of women are alleviated, as there is some possibility that the presence of JICA might be an important factor in developing confidence and active attitudes on the part of the women.

VII. Legal systems with regard to problems of poverty and gender (Chap. VII)

This chapter covers how to put legal points of view into the projects to be conducted in future, based on the constitutional provisions on poverty and gender , the general view of the judicial system , the analysis of the "national law" and field surveys.

First the Constitution of the Kingdom of Nepal has the following articles that are related to this report. The "subject of rights and equality before law" bans the discrimination by the caste system in public facilities and stipulates the principle of the same labor and the same wages for men and women. The "economic freedom" article stipulates freedom of occupation. This is interpreted as a ban on engagement in a job against one's will and a ban on any hindrance of business continuation. The freedom of residence or movement allows people to be free from the land and to engage in jobs of industries other than agriculture. The promotion of "social rights" is the policy object of the nation. It includes, for example, improvement of education and health, expansion of job opportunities, and improvement of the national living standard through adjustment of regional disparity in wealth allocation.

Secondly the "national law "which handles the problems of poverty or gender includes the family law-related rules on marriage, inheritance, divorce and so forth. The provision on marriage says that a man may have a second wife as a special case, if the first wife is unhealthy or cannot bear

a baby. It shows that, as a rule, the health and childbirth of women are main concerns. The provision on divorce says that a wife's adultery is one of the reasons for divorce and that a husband can propose divorce even if such adultery is not committed. In the provision on "distribution and inheritance of property" there is a punishment clause directed towards women alone, property rights have limitations for widows or divorced women, and daughters have fewer rights than sons. In this way women have fewer rights than men. The JICA projects studied here did not necessarily touch directly on such provisions that are disadvantageous to women because lawsuits are considered unlikely over property distribution or inheritance under such projects as an income generation project or joint-ownership forestry project.

Next comes the land law. We can see that this law is intended for land reforms. What is noteworthy is the abolition of the Zamindari system, a rule on limitation of land- holding and leased land. The law on land has much to do with a project when a dispute about land arises in carrying out the project. We point out that it is necessary to discuss the law on land widely not only from the viewpoint of the text of the law but also to consider actual situations where the law is applied and law-related organizations. We must widen our focus and investigate these matters.

The aims of the fieldwork were to gather legal materials related to the projects and to hear about legal disputes at the time of conducting the projects.

In carrying out a project, we can point out such legal problems as rights of property, infringement on rights of water and so forth, means and procedures in settling these disputes, organization of unions, but the projects this time did not conflict with any of those problems.

The evaluation of the development project in farming villages from the viewpoint of the legal side cannot be discussed and analyzed fully due to the fact that information on legal matters is difficult to get and information regarding previous judgements is available only in Nepalese. We sensed that the Nepalese people had very limited access to legal materials as there was little information available in bookstores.

We can propose the following points as problems to be addressed. Local government has more relationship with implementation of projects than the constitution has or civil laws, so it is necessary to analyze the legal aspects of decentralization. In discussing a development project from the viewpoint of a legal perspective, it is necessary to obtain and study data on changes of customs, disputes, if any, and means of settlement , process, the functions of the government organizations and local government and their actual roles and the like.

VIII. Relations between education and poverty/gender in Nepal (Chap. VIII)

This chapter discusses the relations between education and poverty/gender. First the actual situation of education in Nepal is analyzed and briefly described. In addition, some proposals are made concerning the influences which the projects have had on education by analyzing and studying the concrete survey data from fieldwork for Nepal (Janakpur)Agriculture Development Plan Project, Community Development and Forest/Watershed Conservation Project in Nepal and the Horticulture Development Project.

Nepal continued a course of stable educational development through the 1990s at the request of

"Education for ALL (EFA). The 8th Development Plan (1992-1997) aimed at remarkable improvement of literacy rate in concert with EFA. During 1992 to 1997 the literacy rate of the nation above the age of 15 rose by about 10%, from 33.0% to 44.8% , but the figure also discloses the actual situation of Nepal: more than half of the adults

are illiterate. What is noteworthy is the disparity of the literacy rate between men and women. The literacy rate of men in 1997 was 62% but that of women was 27%. The disparity of the literacy rate between men and women in rural agricultural areas is considered to be much larger than this and therefore improving the literacy rate of women in farming villages is a big problem to be solved. The disparity of the literacy rate obviously varies by region. The literacy rate of people above the age of 15 in the central west and the far west in 1997 was 26.8% and 35.1% respectively. The figures are very low. On the other hand, areas with comparatively high literacy rate are the west (55.7%) and the east (44.6%). This shows that the city areas or areas near the capital are high in literacy rate but that hilly areas or Tarai areas are low in literacy rate. Tarai areas are plains, but the sudden inflow of population from farming villages ends up decreasing the literacy rate.

Then we studied how the three agriculture and forestry projects conducted in Nepal had influences on the education of the farmers' families (farming couples and their children) by comparing the areas which had no such projects. Janakpur Agriculture Development Project started in 1975 and continued for 10 years in all. This project had an indirect influence on education. Such indirect influences in the process of the projects include the chances of farmers' studying and acquiring knowledge (chance effects) and improvement of living standard and higher interest in education on the side of farmers (economic effects).

The Community Development and Forest/Watershed Conservation Project also had indirect influences on education. This project tried various plans calling for women's active participation but improvement of women's position in education could not be seen. The Horticulture Development Project proved to have had consistent influences on education. The greatest reason for such success is that fruit-growing technology was transferred to individual farmers at the grass-roots level and as a result, farmers could access such technology directly. Fruit-growing was an activity in which women could take part directly. It brought about educational effects on women. All the projects had indirect effects on improvement of children's educational environments. The area of the project in particular showed the lightening of the workload of children. The analysis also indicates that almost all women except in some area of the projects are illiterate. It seems that any project has difficulty in forming a sustainable and strong development base in a farming village under these circumstances.

Finally we proposed some suggestions concerning the conditions for agriculture development projects contributing to education and the improvement of women's position. One of them is that the agriculture projects should have as many components as possible in them where technology transferred to farmers directly can be used at the family level. This is because the development of sub-projects that have effects at the grass-roots level seems to have effects on the poor class. Secondly, agriculture projects should aim at not only individual agriculture production and infrastructure but also innovation of the whole community in the project area. This is because agriculture projects serve as a driving force of such innovation. Thirdly, agriculture projects are expected to have ripple effects and serve as a base in the cyclical process of development. So they should play positive roles in producing such good cycle process. Fourthly, the education given to

farmers should include not only literacy but also simple biology , science and mathematics concerning agriculture. This is because, according to the report of the Ministry of Education in Nepal, children's level of mathematics and science is low in Nepal and the agricultural productivity of literate farmers is thought to be much higher than that of illiterate farmers. Finally, the agriculture projects should give higher priority to the eradication of poverty and improvement of the living standard , but at the same time we should not forget the importance of education projects. Agriculture projects in Nepal put more emphasis on the process of "technology transfer ‡ income increase ‡ living improvement" than was expected. Education is essential to the promotion of this process. The agriculture projects therefore must be followed by strong sub-projects in which technology transfer can be used to improve the living standard of farmers. It is expected that the projects will also help to change the perceptions of farmers with regard to the quality of life in all aspects.

IX. Conclusions and recommendations (Chap. IX)

This chapter collects the results of surveys made so far, summarizes JICA technical cooperation projects in agriculture, forestry and fisheries in Nepal and presents conclusions and recommendations for dealing with and evaluating the projects with regard to poverty and gender. These are as follows:

1) Increase in agricultural productivity and importance of economic development in farming villages

We could confirm that the agriculture development technical cooperation projects in Nepal, where agriculture is the basic industry, played important roles in improving the living standard of farmers and developing farming villages by improving agricultural productivity and increasing income of farmers, which are the main aims of the projects. The survey this time proved that the projects had great impacts on the productivity of farmers when the projects targeted them directly (including fishers). The impacts helped farmers to increase their income and the poor group of the lower caste to improve their social positions. The impacts on production have influences on social aspects in the long run. Thus, it is necessary to set the time when evaluation occurs in accordance with the purposes of the evaluation. In addition, when the projects do not target the poor group, it is feared that the projects may lead to a widening gap between the rich and the poor in the area.

2) Land problems and the necessity of more input into agriculture

A close observation of poverty in Nepal from the viewpoint of macroeconomics revealed that the poor farmers are short of funds to buy input materials for production and they also lack good access to production processes. Land-owning in particular has much to do with the disparity of farmers in wealth and farmers who have small acreage of land are poor and have not enough inputs. This leads us to believe that the low labor productivity in agriculture leads to the poverty of Nepal. It is therefore necessary to expand land-owning acreage with a view to increasing inputs. A

review of the land system is required. However, the fact is that the traditional land-owning system still remains and it is difficult to change the system suddenly even if democratization and economic liberalization are carried out. Citizens rarely ask for arbitration of legal aspects and it will take some time for them to seek legal intervention in this regard.

3) Measures for gender from the viewpoint of education and law

The survey shows that it is necessary to provide education for transfer of technology and knowledge in carrying out projects. When, in particular, projects are followed by the sub-project of a literacy class, it is a good means for encouraging women's activities. That is why projects which handle WID and gender problems require input of education. Also in addition to the literacy class, education in mathematics and science, for example, is considered necessary.

Education plays an important role in the process of technology transfer, improvement of income and improvement of living standard. As for gender, according to the constitution of the Kingdom of Nepal, based on "rights and equality before the law", the caste system is banned and there should be equal wages between men and women. In spite of this, in the articles related to family law of the "National Law" women have more limitations than men. Despite the unfair articles, there arise few legal disputes. This shows that traditional social customs still remain and such customs will be changed in the process of the development to come. In order to deal with such kinds of social problems, it is necessary first to have people who can read and modify law.

4) Importance of targeting

The technical cooperation projects do not always choose farmers who are suitable for the aims of the projects. Sometimes they do not choose suitable residents although the projects are supposed to be connected with poverty and gender problems. An appropriate approach for selection of participants is required. It is necessary to improve precision in targeting by conducting a more careful baseline survey using social analysis methods in the preliminary survey. It is also necessary to clarify the relationship between the people/ group targeted by the project and the final beneficiaries/ farmers (impoverished farmers). Grass-root level development in diversified societies, in particular, needs more prudence in surveying. For example, few projects that handle poverty and gender problems target farmers without land and poor farmers directly. Many of the projects target the upper class to get the ripple effect (what is called a model business) or expect trickle-down effects. This is because the projects aim at early good results within the term of the project. However, we should understand that to effect changes in social structure related to poverty and gender requires time.

5) Flow of impacts from projects

We should confirm where, when and how the projects had impact on people's resources and inputs. This will set a standard for evaluation. It is necessary to grasp the flow of effects produced by the project until they reach the final beneficiary. It is therefore necessary to distinguish a short-term project from a long-term project in terms of effects before carrying out a project. When evaluating, it is important to consider how to reflect the time gap in effects.

6) Indexing of impacts and evaluation in relation to poverty and gender

The problem of evaluation is discussed in detail in the Gender and Poverty sections. We mainly discuss here indexes of impacts and evaluation in relation to poverty and gender.

For poverty, we propose that we should consider two items "capability improvement in productivity" and "capability improvement in various aspects of life" from seven aspects as the items to measure impacts on poverty in farming villages (from the viewpoint of capability improvement of the poor group). The seven aspects include resources, capital, technology, capability of decision-making, organization, infrastructure and gender.

As for the analysis of impact on gender, we take the content of the project activities as sub-projects and classify them into the three categories of income improvement type, infrastructure type and women-beneficiary type. These types were categorized again in terms of the inputs (software and hardware) and outputs (direct effects and indirect effects). Impacts were classified into two types: numerical values and non-numerical values. In our opinion, in many cases impacts of numerical value are considered important from the viewpoint of economy and impacts of non-numerical value are considered important from the viewpoint of gender. The impacts of non-numerical value include self-development capability and group development capability, and the combination of both creates sociality, sociability and cooperation.

Based on the above, it is important in working out an indicator with regard to evaluation to be able to grasp the impacts but it is impossible to measure a value without a scale to measure it. When there is no numerical scale, it is necessary to conduct a preliminary survey for comparison. In particular, a detailed baseline survey focusing on social analysis is required.

7) The problems until the effects of income improvement reach the beneficiary

A technical cooperation project in agriculture, forestry and fisheries mainly aims at increase of production. It takes time for the input of the project to produce the desired benefits for the farmers. For example, it takes time for the spread of agriculture to have impact on farming households because such impacts reach farmers through various people and processes. We need to recognize the importance of a mediator and to try to improve the quality of the mediator. In order for agriculture to spread or technology to be transferred, the role of a mediator is necessary. Also for community development, a mediator plays an important role. Thus, the quality of the mediator needs to be improved. As mentioned above, education and training, which form the basis of communication, are vital in a program of technology transfer. Furthermore, the education of the beneficiary is also important in the light of the effectiveness and effects of transfer of technology and knowledge. In this sense, literacy education should be given top priority. Judging from the above, it is important to evaluate the process of mediation.

8) The necessity of a long-term project for the weak group in a farming village

When a project targets a weak group such as the poor, and women and children in farming villages, the impact which can be expected is to improve conditions so that they can live by their own efforts, in other words, expanded entitlement. However, it is vital for the planner or manager of the project to recognize fully the importance of expanding entitlement to the weak group. It

takes time for input to reach the weak group and it takes more time for the input to have impacts on them. The project requires long-term cooperation and follow-up work needs to be added. In the light of entitlement, input is necessary at an early stage of the project but it should be minimal.

9) Establishment of an approach combining various approaches and steps

When we think about "how the impacts of cooperation in agriculture, forestry and fisheries reach farmers," we should first understand farming villages, then keep in mind that "place of production" and "place of life" are in the same place. This means that the approach of cooperation activities includes the two aspects of production and life. If the project is conducted in a way in which its inputs directly affect both these aspects, the impacts will appear earlier. If the inputs are indirect or lateral, it will take more time for the impacts to appear and the type of impact will be different. Therefore, it is more effective to carry out a project targeting both aspects at the same time. This is called "comprehensive development." In addition, sub-projects are always required. If many sub-projects are conducted, however, at random and without any coordination, the viability of the project will be destroyed.

For example, "Community Development and Forest/Watershed Conservation Project in Nepal" had good effects regarding empowerment of women but sub-projects for making a living did not have enough effects. The participation of experts or government organization staff members in this field is required in projects for making a living. The Horticulture Development Project in Nepal and Community Development Project (JOCV) went the other way and the project contributed to impacts on production technology and improvement of income but had not enough effects on gender empowerment.

Judging from the above we believe that it is necessary to target correctly and adopt a functional approach in carrying out a project and that it is also necessary to adopt a systematic approach to the combining of JICA scheme components (project-type technical cooperation, surveys for development, grant aid cooperation, JOCV and so forth).

10) Evaluation based on the project experiences

What we have realized through this survey is that a new project does not make the most of the experiences of former projects. We have more than 35 years of experience in technical cooperation with Nepal. Compared with the situation of Nepal 35 years ago, the society and economy of Nepal have changed completely. However, the problems that the projects face remain basically the same. When we visited past project sites, we found that some projects still have effects, some have few effects while some projects have changed in various ways. Based on this experience we recommend that project impact be evaluated on a long-term basis, not just in Nepal but elsewhere. Furthermore, we would like to suggest that projects should be evaluated comprehensively from a more general viewpoint of the cooperation as a whole and not from the narrow perspective of each individual project.