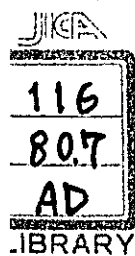


**SUMMARY REPORT OF TECHNICAL GUIDANCE
FOR
AGRICULTURAL DEVELOPMENT
IN JANAKPUR PROJECT**

APRIL 1975

JAPAN INTERNATIONAL COOPERATION AGENCY



国際協力事業団	
受入 月日	'84. 3. 23
	116
	80.7
登録No.	01848
	AD

INTRODUCTION

Three years and four months have already passed since the Agricultural Cooperation Project was started in Janakapur Zone, Nepal. The three year period was initially agreed upon and stipulated in the Record of Discussion, and the four month cooperation period was added under the current agreement between H.M.G. of Nepal and the Government of Japan.

The present survey was conducted primarily to provide technical guidance and to cast light upon problems entailed in the services offered by Napalese and Japanese experts as well as by the members of JOCV, with the view to charting a course of more fruitful future cooperation.

For this purpose, the survey covered the areas and farms where such services are offered, i.e., Rapti Model Farm in Narayani Zone and Hardinath Pilot Farm, Extension Activities Area (420 ha) and Project Centre which are all located in Tarai plain of Janakapur Zone, and special attention was given to the Hilly Area where cooperation activities are expected to be initiated in nearly.

The three week survey period was spent for the inspection and reconnaissance survey of the project area, for study of other areas and projects to collect comparative data, and for detailed and constructive discussions with the central and local authorities concerned.

Views were exchanged and opinions reconciled through a series of intra-mission discussions and talks with Japanese and Napalese experts, which produced quite fruitful results. The final discussion held with the participation of the officials concerned of the central government led to an agreement which was tentatively conclusive. The contents of this agreement, which covered a diversity of fields and proposals, should be put to the careful deliberation by Janakapur Agricultural Development Board for determination of their feasibility, necessity

JICA LIBRARY



1060424[7]

and priority with due account taken of the current system of economic and technical cooperation.

The mission was deeply impressed by the enormous enthusiasm evinced by the Nepalese government for the development of mountainous districts. As one of the many Japanese experts who have participated in the project since its initiation, I sincerely hope that the development of mountainous districts will pursue a smooth course of progress.

On behalf of all mission members, I wish to express my deep gratitude to the officials concerned of the Nepalese government for the valuable assistance offered throughout the survey period.

April 1975

Hitoshi Fukuda
Leader
Japanese Mission for Technical
Guidance in Agricultural
Development in Nepal

FORMATION AND ININERARY OF SURVEY MISSION

1. Formation of Survey Mission

Name	Assignment	Affiliation
Hitoshi FUKUDA	Leader, Irrigation	Professor Emeritus, Tokyo University
Masami HIMEDA	Agronomy	Central Agricultural Experiment Station, Ministry of Agriculture and Forestry
Takeo GOTO	Planning	Planning Section, Minister's Secretariat, Ministry of Agriculture and Forestry
Yoshio YABE	Agricultural Machinery and Materials	Finance and Account Department, Japan International Cooperation Agency
Kinjiro WADA	Coordination and Liaison	Agricultural Development Cooperation Department, Japan International Cooperation Agency

2. Survey Period

March 5 to 25, 1975 (March 5 to 19 for YABE).

3. Itinerary

Date and Day	Description
March 5 (Wed.)	Arrival at Bangkok at 14:55 hrs. by JL-761
6 (Thurs.)	Departure from Bangkok by RA-402 and arrival at Kathmandu at 14:40 hrs; Courtesy call on Japanese Embassy.

Date and Day	Description
March 7 (Fri.)	Courtesy call on the Ministry of Food, Agriculture and Irrigation H.M.G.; Joint discussion meeting.
8 (Sat.)	Holiday. Visit to Mr. Yamazaki, Advisor from FAO.
9 (Sun.)	Inspection of Kakani Agricultural Experiment Station and Kmultar Agricultural Experiment Station; Dinner banquetted by Amsassador Kobayashi.
10 (Mon.)	Departure from Kathmandu and arrival at Janakpur at 12:45 hrs; Courtesy call on the Governor of Janakpur zone, visit to Project Centre, and reception banquetted by JADP.
11 (Tues.)	Inspection of Hardinath Pilot Farm and Project Centre Farm, and joint discussion meeting.
12 (Wed.)	Inspection of deep-well irrigation plots, and inspection of facilities and equipment at Project Centre.
13 (Thurs.)	Departure from Janakpur and arrival at Sinduli Mari at 12:00 hrs; Inspection of model farm, and joint discussion meeting with the Country Chief, Chairman of Panchayat and others.
14 (Fri.)	Inspection of Sinduli district (Yabe left for Janakpur).

Date and Day	Description
March 15 (Sat.)	Sinduli Mari - Janakpur. Joint meeting with JADP; meeting with Japanese experts including individual discussions.
16 (Sun.)	Departure from Janakpur and arrival at Rapti Model Farm at 17:30 hrs; Reception banquetted by Rapti Model Farm. (Yabe left Kathmandu for Japan)
17 (Mon.)	Departure from Rapti and arrival at Bairawa at 17:30 hrs.
18 (Tues.)	Departure from Bairawa and arrival at Pokala at 17:30 hrs.
19 (Wed.)	Departure from Bairawa and arrival at Kathmandu at 17:00 hrs; Inspection of Gandaki Project implemented with West German cooperation.
20 (Thurs.)	Consolidation of survey results; Cocktail party banquetted by the Ministry of Food and Agriculture and Irrigation, H.M.G.
21 (Fri.)	Inspection of the smaller enterprises industrial estate, silk mill and paper mill; Greeting offered to Ambassador Kobayashi with a report on the survey results.
22 (Sat.)	Intra-mission arrangement for preparation of the survey report.

Date and Day	Description
March 23 (Sun.)	Joint meeting at the Ministry of Food, Agriculture and Irrigation, H.M.G.; Dinner banquetted by the mission leader.
24 (Mon.)	Departure from Kathmandu by TG-312 and arrival at Bangkok at 17:10 hrs.
25 (Tues.)	Departure from Bangkok by JL-762 and arrival at Tokyo at 19:40 hrs.

CHAPTER I. GENERAL

This chapter covers the project as a whole and deals with the problems faced in respective areas and proposals for their solution as well as with the future course of activities in the Hilly Area where the development cooperation is expected to be offered in the near future. As regards irrigation, drainage, cultivation, development planning and transportation of equipment and materials which are all detailed in Chapter II, description in this chapter is limited to their brief delineation.

1. Tarai Plain in Janakpur Zone and Rapti Model Farm

In Tarai plain extending in Janakpur zone, the intensive irrigation area (420 ha) is operated as the base of extension activities conducted with Hardinath Pilot Farm playing the central role, and the Project Centre is also established.

At Hardinath Farm, activities centering on the improvement of farming practices have been conducted smoothly as scheduled, with the improvement of a lowlying damp area of approximately 9 ha already completed. With the establishment of a system in which extension plots are organically integrated with the extension farm at Hardinath, the extension activities are about to enter the stage of full-scale operation. There has already been selected a wheat extension and demonstration plot of 0.1 ha. Details of extension services will be reported by the Extension Survey Mission.

Construction of red brick buildings is under way at the former air strip in Hardinath Farm to accommodate 26 labourers and their families and 60 trainees. At the Project Centre, a two-storied office building with a meeting room and a demonstration hall, a guest house, a repair shop, and dormitories for labourers and

their families and 60 trainees are under construction. In addition, construction of offices of Agricultural Development Bank, Agricultural Inputs Corporation, storehouse, clinic and cooperative is also planned. The dormitory of the lower-class personnel and the garage are already completed.

All the above buildings are expected to be completed within the coming nine months, i.e., by the end of December 1975. It is believed that Japanese experts will be able to move to new apartments within the coming four months. About 60% of the construction plan has so far been completed since it was put in execution two years ago. The mission was informed that the plan was about six months behind the schedule at present.

As for the electric power supply, it is planned that a 40 kW diesel generator will be operated pending the completion of a transmission line from Janakpur city and appurtenant facilities.

Construction of buildings has been energetically pushed forward solely through the endeavours of the Nepalese government. Considering the time generally required in Nepal for constructing similar buildings, it is believed that the six months' delay suggests that the plan has rather been in very smooth progress. Accordingly, Japanese experts are not required to participate in the plan.

At Rapti Model Farm, two buildings, a dormitory and a dining hall, are under construction and both are expected to be completed in April.

By the completion of many buildings including the ones under construction, Rapti Farm now presents a new appearance completely different from what it was about three years ago. Its compound having been expended into the adjoining Horticultural Experiment Station, the farm has become a well equipped and consolidated centre of agricultural development.

Rapti Farm is operated along the lines of two major policies described below.

- a) Breeding of improved varieties of vegetables and other crops for the development of the Hilly Area in Janakpur zone.

Improved varieties of tomato, water melon and musk melon bred at the farm are already cultivated on a trial basis in the Hilly Area. Elevation at Rapti is about 110 m and that of Sinduli county which is in the Hilly Area and close to Tarai Plain ranges from about 200 m to 1,300 m. Thus, the elevation is not sufficient but Rapti Farm may well be considered a suitable site of breeding because it has many years of experience in breeding work, temperature at Rapti is generally lower than in Tarai plain, and same kinds of crops are grown in the two areas.

- b) Cooperation with the adjoining Horticultural Experiment Station

Cooperation between Rapti Farm and Horticultural Experiment Station covers the exchange of seeds and seedlings, discussion and exchange of data about cultivation techniques, supply of irrigation water, lease of machinery and equipment and assistance in their repair. The mission was informed that all works pertaining to fruit trees are already undertaken by Horticultural Experiment Station and vegetables are covered by Rapti Farm.

These two policies deserve to be evaluated as being quite rational.

It was understood that Rapti Farm was engaged in the extension activities in a rather passive manner with the required services offered only at the request from farmers. The mission felt that

if the extension services are favourably accepted by the farmers, it would be advisable for the Farm to use its surplus power for further promotion of its extension activities. In this case, a greater spill out effect will be gained if extension efforts are directed towards north rather than to Tarai plain in the south because most of the farmers are settlers from mountainous districts.

2. Development of Hilly Area

If one asks for agricultural development projects which have been brought to a success or implemented smoothly in hilly areas of Nepal, examples cited would include fruit tree growing at Kakani Farm for production of apples and other fruits (nine years), dairy farming in Giri, and agricultural development in Gandaki (six years).

Success in Gandaki is confirmed through three visits made in the past. In this district, the prime development objective is the overall increase in agricultural production, and well planned and balanced development has been pushed forward to attain this objective in a wide range of activities covering cultivation, fertilization, plant protection, hand tools improvement as well as better storage, cash crops, fruit trees and livestock. The mission was informed that the development in Giri district is ultimately aimed at promotion of extension service, agricultural credit service and agricultural marketing service on the farmers' level in perfect harmony with each other.

The Hilly Area development in Janakpur zone is expected to be started with the development in Sinduli county which is closest to Tarai plain. Sinduli Mari where the County Office is found is located along the bank of the Goang river and ranges in altitude from about 400 to 450 m. It took four and a half hours for the mission to cover by jeep the 70 km distance from the bank of the Rato river to Sinduli Mari, and many river beds had to be crossed in between the two rivers.

The mission learned of the difficulties faced with by local farmers through interviews and obtained relevant data at other discussion meetings. The future course of development in the Hilly Area as derived from these interviews and meetings is discussed below in two categories for better understanding.

1) Improvement of Minor Infrastructure

Minor infrastructures to be improved for augmented production in the Hilly Area are the small scale use of water, traffic and transportation system, and minor storehouses.

a) Small scaled use of water

For improvement of small scaled use of water, expanded use of surface water and underground flow, operation of small pumps, small-scaled hydropower generation facilities, and wind mills are promising and these will meet the needs of farmers as well. Detailed account on this subject is given in Section 1 (Irrigation and Drainage) of Chapter II.

b) Improvement of transportation

Construction or improvement of ropeways, roads and bridges is the conceivable means. While Sinduli Mari is the centre of Sinduli county, it is known that the greater part of commodities flow to and from Janakpur city in the south, so that the improvement of transportation should be effected with priority given to the route between the county and Janakpur city.

Ropeways will be needed exclusively for transportation of commodities and roads will have to be wide enough to allow the passage of jeeps and trucks. Needless to say, these facilities should also be provided to link important

production centres in the area. As for bridges, construction should be started with those of simple design such as suspension bridge. Sinduli Agricultural Farm is on the opposite bank of the Goang river which is not spanned with a bridge. For communication in the wet season, therefore, the Farm personnel are required to call in a loud voice to the people on the other bank of the river.

c) Minor storehouse

Improvement of minor storehouse of paddy, wheat, and maize and other grain foods, seeds, fertilizers and chemicals is necessary not only because the transportation of these products becomes impossible in the wet season but also to cope with the fluctuation of market value and changes in market condition.

2) Promising Farming

In parallel with the above-mentioned infrastructural improvement, promising farming should be promoted in the following priority order.

Improvement in the self-sufficiency in the staple foods

Production increase of cash crops

Production increase of fruits

Production increase of livestock

Improvement of sericulture

All these are closely interrelated and should be so planned that an adequate balance with each other will be maintained. Careful consideration should be given to the relationship of production with elevation and gradient, and account must be taken of the fact that it is impossible to pick up any one of these plans and try to push it forward ahead of others.

To cite an example, soil improvement which is the prerequisite to the augmented production of staple foods such as rice, wheat and maize calls for the availability of manure which in turn demands drylot feeding and supply of feed stuff. In addition, cash crops are quite diversified and include mushroom Shiitake fungus, high quality green tea, insect flower, herbs, and seeds of improved varieties of vegetables. Fruit trees are also diversified and include apples and citrus.

When it comes to dairy farming, buffalo, cattle and poultry are to be considered. Development of sericulture, which is understood to be midway between breeding and industrial production, will have to be planned with due regard to the prospective construction of reeling facilities. In this context, it appears both appropriate and necessary to give top priority to the improvement in the self-sufficiency in staple foods for some time to come.

Considering the wide stretch of stepped maize fields in mountainous districts which is quite a spectacular sight, it is felt that in planning the fundamental approach to the agricultural development of the Hilly Area, greater importance should be attached to the increase of yield per unit area than to the expansion of farmland area.

3. Factors of Smooth Project Implementation

Factors contributory to the smooth implementation of the project are discussed below.

1) Enthusiasm of Nepalese Government

Needless to say, success of the agricultural development project hinges on the readiness of Nepalese side to carry it out of its own volition. Since the project was started three

years and four months ago, it has been constantly promoted and managed through strenuous endeavours exerted by many Nepalese and Japanese experts and personnel. The smooth past progress of the project is to be credited to these people.

Special mention should be made of the enthusiasm displayed by the Nepalese side. Specifically, all the people participating in the project work from 7:30 hrs. to 17:00 hrs., although the working hours of Nepalese government officials is from 10:00 to 16:00 hrs. Nepalese personnel are active in approaching farmers to find out what they want and in incorporating their wishes in the operation of the project. They are eager to absorb advanced knowledges and techniques from books and other sources. They even try to save precious gasoline, and bring lunches with them so as to save gasoline for going home.

What is more impressive is the very close cooperation between personnel specialized in civil engineering and those specialized in farming.

It is also noteworthy that increasing numbers of farmers in mountainous districts have come to be interested in the training offered at Hardinath Farm and many of them visit the Farm in the dry season to train themselves in the advanced farming techniques.

2) Farming Machinery and Equipment

It is no easy task at all to plan and execute the delivery of the great diversity of machinery and equipment to the designated place smoothly and at the right time. The difficulty is particularly great in the case of Nepal which is mountain-bound and has no other means but the land transportation from Calcutta, save for airway transportation, for the supply of

necessary equipment. The security problems, the complexity of procedures and other difficulties involved in the transportation of machinery and equipment are beyond conception.

The team was informed, however, that machinery not meeting the designated purpose have occasionally been supplied in the past.

It is hoped that improvement will be made to eliminate such misarrangement.

3) Collaboration with Medical Cooperation Project

It is known that when cooperations in different fields are simultaneously offered in a same area, they interact and complement each other to produce a greater cooperation effect than can be attained by a single project. This is specially so in the case of agricultural cooperation and medical cooperation which both contribute to the elevation of the farmers' living standard. Since the agricultural cooperation project was initiated in Janakpur zone, it has always been hoped and expressed stated in many past reports that Japan's cooperation with Nepal will concentrated in Janakpur.

As a matter of fact, progress of agricultural development induces more active flow of commodities and more active population migration, giving rise to the development of diseases and need for medical services.

Japan's medical cooperation with Nepal is expected to be offered in Gandaki zone. Although it is understandable that Gandaki zone was selected for justifiable reasons, the mission hopes that the forthcoming medical cooperation will be so implemented as will eventually cover Janakpur zone.

