RTC-12 and Its Surrounding Conditions

The RTC in Region 12 is located within the campus of Southern Mindanao University in Cabacan, North Cotobato province, about 80 km southeast of Cotobato city, the major city in west Mindanao Island.

The total land surface of Region 12 is 2,329,300 ha; the total population is about 2,528,000; and the total population density is 108.5 people/km^2 , and is the eleventh most densely populated region in the entire nation.

It is composed of five provinces in western Mindanao Island; and it is commonly known as Central Mindanao Region. This area is known historically for the Islamic faith of its inhabitants and is the base of the Moro national Liberation Front (MNLF). It may be designated as a special autonomous region similar to CAR in Luzon in the near future.

The working population ratio of adults over 15 years of age ranks eighth in the nation, at 64.5 percent and the unemployment rate is ninth at 2.9 percent. The number of households in the region ranks eleventh in the nation, with about 493,000 households, and the average family income is about 34,605 pesos, which is fourth in the nation.

3.2 Natural Environmental, Social, and Agricultural Conditions of Project Sites

The natural environment, social, and agricultural conditions of the regions for each Project site has been summarized as follows:

CAR

The climatic conditions of this region has been classified as type I, which has two distinct seasons of dry (November to April) and wet (May to October) seasons.

Much of the terrain in this region is hilly and the road infrastructure is poor. Until recently, work on roads for the forestry industry were in progress, but with the advent of the earthquake in 1990, serious damages were incurred and reconstruction work is still underway.

Nearly 44 percent of the region's total land surface is utilized for cultivation; and the main crops are rice (160,000 tons), corn (20,000 tons), and coconut. In addition, production of vegetables

such as sweet potatoes, potatoes, leaf vegetables, and peanuts is a special characteristic of the region.

Region 1

The climatic conditions of this region is similar to CAR with distinct dry and wet seasons and has been classified as type I.

The region faces the South China Sea. There is a narrow strip of lowlands continuing along the coastline from Ilocos Norte to Pangasinan along National Highway No.3, which connects the plateau between Pangasinan and Central Luzon.

Approximately 25 percent of the total land surface is cultivated, of which 60 percent is used to produce rice (680,000 tons) and 13 percent is used to grow corn (60,000 tons). The production volume for both crops rank sixth and tenth, respectively for the entire nation. It is also the top mango producing region at 148,000 tons.

Region 2

The climatic conditions are similar to Region 1. However, the region is particularly prone to typhoons and has suffered serious damages in the past.

The Cagayan River flows through the region and terraced farming is carried out along both sides of the river. National Highway No 5 runs along this area to Aparri in Northern Luzon to meet National Highway No. 3 running from Western Luzon Island.

Approximately 30 percent of the total land surface is cultivated, of which 45 percent is used to grow rice (top rice producing area with 1,500,000 tons) and 40 percent is used to produce corn (400,000 tons).
The region is the third ranking producer of rice and corn. In addition, animal husbandry is also popular.

Region 3

The climatic conditions is similar to Region 1. However, the region is hit by annual typhoons and damages to crop production are serious.

The North Super Highway from Manila to Angeles runs through this region which is used as an artery for Northern Luzon. The National

Highway No.3 and 5 are connected to this Northern Super Highway. Approximately 50 percent of the total land surface is cultivated. The main crops in the region are rice (about 1.5 million tons production, first ranking producer in the nation), sugarcane (force producer), mango(third producer) and others. The root crop and vegetables such as sweet potato, tomato, egg plant and etc. are also produced.

Region 4

The climate conditions are similar to Region 1. The area is located within Luzon Island and is often hit by typhoons as in Region 3. This has caused serious damages to agricultural products. The South Super Highway runs from Manila to Calamba, which connects with National Highway No.1 to Davao in Mindanao (the strait is crossed by ferry).

Approximately 41 percent of the total land surface is cultivated, of which 56 percent is used to grow food crops. The main crops are rice (the fourth producer in the nation), corn (the sixth producer), coconuts (the second producer), etc. In addition, the region is also the third ranking producer of pineapples. Animal husbandry is also popular and the production volume of cattle and pigs is high.

Region 5

The climatic conditions of Region 5 differ vastly from Luzon Island; the demarcation between dry and wet seasons is not clear. The region is characterized by heavy rain (November to January) and the remaining months is neither distinctly wet nor dry.

The region is composed of two islands; and although the road network in Panay Island is good, the only means of transportation between the islands is by ferryboat.

Approximately 53 percent of the total land surface is cultivated for rice (1,180,000 tons from mainly Panay Island, second largest producer), and sugarcane (980,000 tons from mainly Negros Island, the top producer). In addition, tropical fruits such as jack fruits and mangoes are also produced.

Region 6

The climate conditions are similar to the typical climate condition of Luzon Island. The area is not normally affected by typhoon, but it has serious drought problems during the dry season nearly every year. The area consists of the two islands of Panay and Negros. The island of Panay is characterized by good road conditions while the island of Negros has poor roads. The transportation between the two islands is dependent on the ferryboat network. Approximately 53 percent of the total land surface is cultivated. The main crops are rice (mainly produced in Panay Island and total production is 1.18 million tons which is the second producer in the nation), and sugarcane (mainly produced in Negros Island, total production is 0.98 million tons, and is the top producer in the nation). Other crops such as jackfruits, mangoes, and other tropical fruits are also produced.

Region 7

Region 7 is typified by a climate characterized by rainfall that falls evenly throughout the year. However, unlike Region 6, it is a region prone to typhoons.

As in Region 6, Region 7 is composed of three major islands and the transportation network utilizing ferries is more developed than the road network.

Approximately 43 percent of the total land surface is used for crop cultivation, namely rice (150,000 tons, the lowest producer in the nation), sugarcane (200,000 tons, third largest producer), and coconuts.

Region 8

The climatic conditions is similar to Region 5. This region is particularly hard hit by typhoons.

National Highway No.1 which runs from Samar to Leyte is the major road infrastructure for this region. Other road systems are less developed.

Approximately 44 percent of the total land surface is used for crop cultivation, namely rice (eighth ranking producer), and coconuts (seventh ranking producer). In addition to these major crops, abaca, sugar, corn, and root vegetables are produced.

Region 9

The climatic conditions are similar to Region 7, but the region does not experience typhoons.

The region has only one major road, the National Highway which runs from Zamboanga to Davao City. Other road conditions are poor and the road infrastructure is less developed.

Approximately 35 percent of the total land surface is utilized for crop cultivation, namely corn (seventh ranking producer), coconut (third ranking producer), cassava, rubber, palm oil, and tropical fruits.

Region 10

The climatic conditions are similar to Region 7, but the region does not experience typhoons unlike Region 9.

Electricity is well developed and power failures are rare. The road network that interconnects the Cagayan ports and airport is in good condition.

Approximately 46 percent of the total land surface is used for crop production, namely corn (fourth ranking producer), coconut (fifth ranking producer), and pineapples (1,100,000 tons, top ranking producer). The region is noted for its pineapple production as in Region 11.

Region 11

The climatic conditions are similar to Region 9 and does not experience typhoons.

A major road interconnects Butuan, Cagayan de Oro, Cotobato, and General Santos. Moreover, a transportation network between Davao port and foreign countries is well developed. However, it is difficult to fully utilize the road network due to security problems.

Approximately 40 percent of the total land surface is utilized for crop cultivation, namely corn, (1,320,000 tons, top ranking producer), coconut (840,000 tons, top ranking producer), and rice. In addition, sweet potatoes, abaca, sugar, coffee, cacao, etc. are also produced.

Region 12

The climatic conditions are similar to Region 11.

Although a road network connecting Cotabato to General Santos, Davao, Cagayan de Oro, Zamboanga, etc. is well developed, it is difficult to fully utilize the road network due to security problems as in Region 11.

Approximately 49 percent of the total land surface is utilized for crop cultivation, namely rice (fifth ranking producer), coconut (fourth ranking producer), corn (1,020,000 tons, second ranking producer), and bananas (690,000 tons, second ranking producer).

4. OUTLINE OF THE PROJECT

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4.1 Objectives of the Project

The main objective of the Project is to strengthen the functions of ATI Central Office, four (4) National Training Centers, and 13 Regional Training Centers by providing equipment and implementing renovation
work on a segment of the ATI Central Office.

4.2 Study and Examination of the Request

4.2.1 Justification and Necessity of the Project

A summary of the contents of the request is given in Chapter 2.4, "Background and Contents of Request". The justification and validity of each request are as follows:

(1) Equipment Provision and Renovation Work for ATI Central Office

a. Equipment provision for ATI Central Office

The equipment which will be provided for the ATI Central Office is mainly the replacement of existing equipment; and in view of its current activities and the depreciation of existing equipment, the request for provision and replacement of such equipment has been deemed valid and appropriate. The justification for each unit of equipment has been delineated in Chapter 4.2.5. However, a considerable amount of requested office furniture has already been procured; and furniture which has yet to be supplemented or replaced should be funded from the maintenance budget. Therefore, it was not included in the grant aid Project. However, as the renovation work requested for the ATI Central Office was for such facilities as training rooms and an enterprise laboratory, furniture for trainees to be accommodated in the training rooms was deemed necessary. Likewise, the provision of audio-visual equipment was also seen necessary when the need for the studio was made clear in the following parts of this chapter.

Based on the contents of the training programs conducted at the ATI Central Office, the necessity for support vehicles to pick up the trainees from the surrounding areas of the ATI Central Office and to transport them to ATI for training was clearly apparent. A micro bus, jeep, and van for outdoor photography was requested. Although the necessity of the micro bus and van was clear, the jeep was not considered appropriate as training equipment since it was to be used by the administrative office. However, due to the frequency and content of the training programs given by the ATI Central Office, one bus with a capacity to transport only 30 people was judged insufficient. Therefore, in place of the jeep, an additional small bus with a seating capacity of 20 people will be included.

The second floor of the printing building of ATI Central Office was burned due to fire on July 2, 1991 and as a result some of the equipment were burned which were relatively new and not included in the Project. At the time of Draft Final Explanation, the Philippine side requested the provision of some of those, namely, Photo Type-setting Machine and Transparency Maker, as additional equipment. Photo Type-Setting Machine is used for making printing plate and thus indespensible for the strengthening of the printing function while Transparancy Maker (OHP film production machine) is among those which are included in the equipment to be provided by the Project to several training centers. Therefore, it is judged valid and necessary to include those equipment in the Project Meanwhile, it is necessary for ATI to repair the roof leakage which caused the short-circuit and consequently the said fire as soon as possible.

b. Renovation Work for ATI Central Office

Renovation work which has been requested for the ATI Central Office includes repair of the printing and audio-visual buildings and installation of training rooms in the main building of the Institute as described earlier. Roof repair against rain leakage for the printing building was not justified as valid for grant aid, since such repairs are usually the responsibility of the maintenance and control division; therefore, it was excluded from the provision. Renovations to be carried out in the audio-visual production building includes renovation work on the studio. During the survey, the studio belonging to the DA Soil Research Institute adjacent to ATI, was

investigated for possible ATI use. However, the size of the studio was concluded as insufficient for ATI's purposes.

Currently, the Institute is utilizing the studio belonging to Channel 4 (National Broadcasting Station) and producing its programs there. The lease is approximately 20,000 pesos/week and is a financial burden in terms of program production. Therefore, renovation of the ATI studio was deemed valid and appropriate for the Project. In addition, other interior renovations for both the printing and audio-visual building were also justified as valid, in view of current ATI activities and the poor working environment within these buildings.

ATI Central Office has been appointed to execute the following training projects. Currently it is using facilities located outside the Institute and the basement halls of its buildings to carry out its training programs.

Training Programs to be Executed by ATI Central Office:

- Train 4,864 officers of seven bureaus under the DA.
- Train a portion of the 11,215 officer of 18 subsidiary organizations and public corporations.
- Train officers of the Region 4 DA administrative office located in the main building of ATI Central Office.
- Train the poor living in the surrounding areas of Metropolitan Manila and the inhabitants of 13 municipalities
- Provide training for the following special projects:
  * Inter-regional Farmer's Exchange Project
  * President's Summer Youth Program for Metro Manila JAEC Program
  * Philippine Agriculture Training Program for Farm Youth
  * National Farm Youth Development Congress and Planning Workshop
  * National Rural Improvement Club Congress and Planning Workshop
  * National Consultation and Planning Workshop for Regions, Bureaus and Attached Agencies (RBAA)

If the training programs delineated above were to be implemented, ATI Central Office would be training approximately 16,000 personnel from the DA, its seven bureaus, and its attached agencies. If this number of trainees were to utilize the 80 and 60 seat training rooms and the enterprise laboratory with a capacity of 40 people, a total of 180 trainees could be accommodated at the ATI Central Office at one time; and it would be necessary to implement training courses approximately 90 times per year in order to train 16,000 people. This would mean that the facilities would be utilized

once every four days. According to past records, training courses were held for a period of four to five days; and at a frequency of once a week, the course was given 40 to 50 times a year. In addition, if simultaneous implementation of other training projects was considered, and the course is offered only once a week, it would mean that agriculture related personnel would be able to participate in training programs only once every two to three years. Therefore, in view of the available space in the existing building, large capacity training rooms can not be provided, although they are required. In evaluating the renovation work requested in the Project, it has been concluded that the new training rooms will be fully and effectively utilized although they are smaller than what is required. Presently, the expenditure for the use of outside facilities amount to approximately a total of 380,000 pesos.

Based on the aforementioned circumstances, renovation work for the training facilities at the ATI Central Office was judged to be necessary and valid in view of its scope and frequency of use.

(2) Provision of Equipment for Other Training Centers

Details of the equipment requested for each training center will be given later. Provision of equipment, particularly for the training centers which were established after 1987, is virtually nonexistent. Moreover, only one or two sets have been requested for each center with the exception of furniture; and provision of equipment for the centers has been considered necessary and valid based on the content of their training activities.

A vast amount of equipment was installed in the training centers which were established before 1987. However, much of the equipment was provisioned in 1978. They are now in a state of severe deterioration and cannot be properly utilized. The lifespan of the equipment which is currently in use is greatly limited. Therefore, replacement is essential.

Equipment such as the copiers which were provided after 1987, are still in good condition; and therefore, were excluded from the list of requested equipment.

The type and scope of the furniture requested for the training centers is the same as the furniture currently in use. However, it is necessary to sufficiently evaluate the present condition of each

facility.

In addition, provision of equipment of the same scope and content as the other RTC, was additionally requested for the Regional Training Center in CAR. However, in contrast to the other training centers which are already in operation, this center will be completed sometime this year. A contract has been signed with the Ifugao State College of Agriculture and Forestry, where the RTC will be located, for the lease of required facilities. Only the number of staff personnel and the institutions from which they will be sent, is known. This training center is located in the northern region of the Philippines which was devastated by an earthquake in 1989, and in view of the urgent need to reconstruct the region, the need for this RTC is great. Therefore, it was concluded that provision of equipment for this training center was appropriate under Japanese grant aid, based on the aforementioned factors and the fact that no equipment has yet been provided for the center.

4.2.2 Evaluation of Project Implementation and Operation Plans

The training centers where equipment and facilities are to be provided by the Project, have basic facilities and staff to operate and maintain the new equipment, with the exception of the training center in CAR. Therefore, it will not be necessary for these centers to employ new staff members to operate the equipment after the Project has been executed.

The facilities required by the regional training center in CAR after its institution, will be leased from the Ifugao State College of Agriculture and Forestry. However, it is necessary for the center to procure its own equipment and personnel. Two personnel from the ATI Central Office, two personnel from the Benguet NTC, and two personnel from the Ifugao State University of Agriculture and Forestry will be sent to the center.

In order to promote sericulture as a regional industry, the Ifugao State University has focused its efforts on developing sericulture technology for the past several years. Specialists in sericulture can be found at Ifugao State University, Don Mariano Marcos University, and the DA. The daily care of the silkworms will

be undertaken by the staff of Ifugao State University. In addition, the ATI central office will lease one hectare of mulberry fields, building, and facilities from Ifugao State University. The ATI budget showed a constant increase since its establishment. However, with the transfer of the FTC to the jurisdiction of the provincial governments as outlined in section 2.3.3, the maintenance and control costs for the FTC in the ATI budget were reduced. But due to planned increases in the budget for training and operational costs of ATI Central Office, NTC, and RTC, implementation and operation costs incurred by the Project is not anticipated to become a burden.

4.2.3 Evaluation of Related International Aid and Other Projects

Agricultural extension activities implemented by institutions other than ATI, are DECS and DAR.

The EDPITAF of DECS is responsible for the administration of the National Agriculture Education System (NAES) created in 1988 and the implementation of training programs for specialists in agricultural extension for new crops and agricultural techniques developed by the universities. The NAES is composed of four faculties of agriculture in national universities, thirteen regional agricultural colleges, and 77 provincial agriculture research institutes affiliated with DECS. The university, college and research institute personnel implement the actual training and educational activities.

DA and DECS have signed an agreement to cooperate in the following areas in agricultural education surveyed by DECS in 1989.

Agricultural research
Rural development
Agricultural education
Agricultural policy
Establishing an agricultural extension system
Developing a research, training, and extension network
Farming, rural enterprises, educating trainees, etc.
Practical application of suitable technology
Exchange of information and personnel
Monitoring and evaluation

According to this agreement, university, college and research institute personnel will be sent as lecturers for the various ATI training courses.

In addition, DAR has developed a training program to provide agricultural supervision for the beneficiaries of CARP and to provide training on implementing social and agrarian reforms. Subsequently, DAR requested the Department of Agriculture to provide the training on the technical aspects of agriculture; and ATI is currently implementing this training. In order to carry out this training program, a portion of the ATI budget is appropriated by DAR. This appropriation, as explained earlier in section 2.3.3 (3), comprises nearly all of the special expenditures of the ATI budget.

Furthermore, DAR has requested other private institutions such as the Philippines Business for Social Progress, the Philippines Shell Foundations, the Mindanao Baptist Rural Life Center, and the Science and Technology Resource Agency Inc., in addition to training programs implemented within its own department, to carry out training programs.

Cooperation from international organizations for agricultural extension has been mainly given to DECS. In particular, the Second Loan Agricultural Education Project (1973-1980) from the World Bank and the Fourth Loan Agricultural Education Project (1977-1984) were implemented for ATI's predecessor, PTC-RD and the agriculture state universities throughout the nation. Grant-aid for ATI was given by the Government of the Netherlands for the International Training Center for Pig Husbandry. However, this training center has been excluded from this Project and there is no overlapping of grant-aid.

4.2.4 Evaluation of Component Factors of the Project

Results of the Project after equipment and facilities have been installed at the ATI Central Office, NTC, and RTC as requested, is given below.

1) ATI Central Office

Production of Audio-visual Material: It will be possible to film on location and to shoot panel discussions in the studio, produce and dub agricultural training videos and extension videos for

telecasting since exclusive studio facilities and equipment will be installed.

Production of a Large Volume of Varied Printed Material: New equipment will allow a continuous variety of pamphlets and posters on agricultural extension and texts to be printed which can be shared by all training centers.

Implementation of Training Courses in Agriculture: It will be possible to conduct seminars on a variety of agricultural subjects, training courses utilizing audio-video equipment, exhibitions and demonstrations on methods, etc. on rural enterprises due to new training rooms and equipment. Training programs will be more effective in content due to available room, board, and transportation facilities for trainees and lecturers.

Reinforcing the Training Network: A large volume of data will become available for program planning as communication with each training center will be possible; and research and development in agricultural technology will be more effective.

2) NTC

Production of Audio-visual Material: It will be possible to produce training videos which are based on agricultural conditions of the region and thereby, improve program planning and training implementation.

Production of Training Texts: Improved printing equipment will allow production of higher quality training texts and raise training course effectiveness.

Implementation of Training Programs: It will become possible to conduct training programs utilizing audio-visual materials produced by the ATI Central Office. Transport, room, and board facilities for trainees and instructors will be available and thereby, allow training programs to be more effective.

3) RTC

Production of Audio-visual Material: It will be possible to produce training videos which are based on agricultural conditions of the region and thereby, improve program planning and training

implementation.

Production of Training Texts: Improved printing equipment will allow production of higher quality training texts and raise training course effectiveness.

Implementation of Training Programs: It will become possible to conduct training programs utilizing audio-visual materials produced by the ATI Central Office. Exhibitions of regional products, demonstrations of methods in rural enterprises, and implementation of on site training courses using video equipment are expected to improve mobile training programs.

As delineated above, it is believed that the Project which aims to provide new equipment and to renovate facilities for the ATI network will greatly improve the effectiveness of their agricultural extension training programs. Therefore, it has been concluded that the Project based on the request for renovation and equipment is valid and appropriate for implementation.

Based on the aforementioned results the Project is expected to achieve the component factors of the Project shown in Fig 4.

4.2.5 Evaluation of Requested Equipment and Contents of Facility Renovation

4.2.5 (1) Requested Equipment

Equipment which has been requested are audio-visual equipment, printing equipment, information processing equipment, information communication equipment, support vehicles, demonstration farms/enterprise laboratory equipment, and training furniture/fixtures.

The list of requested equipment is shown in the Table 6 and the need and use of the equipment are described below.

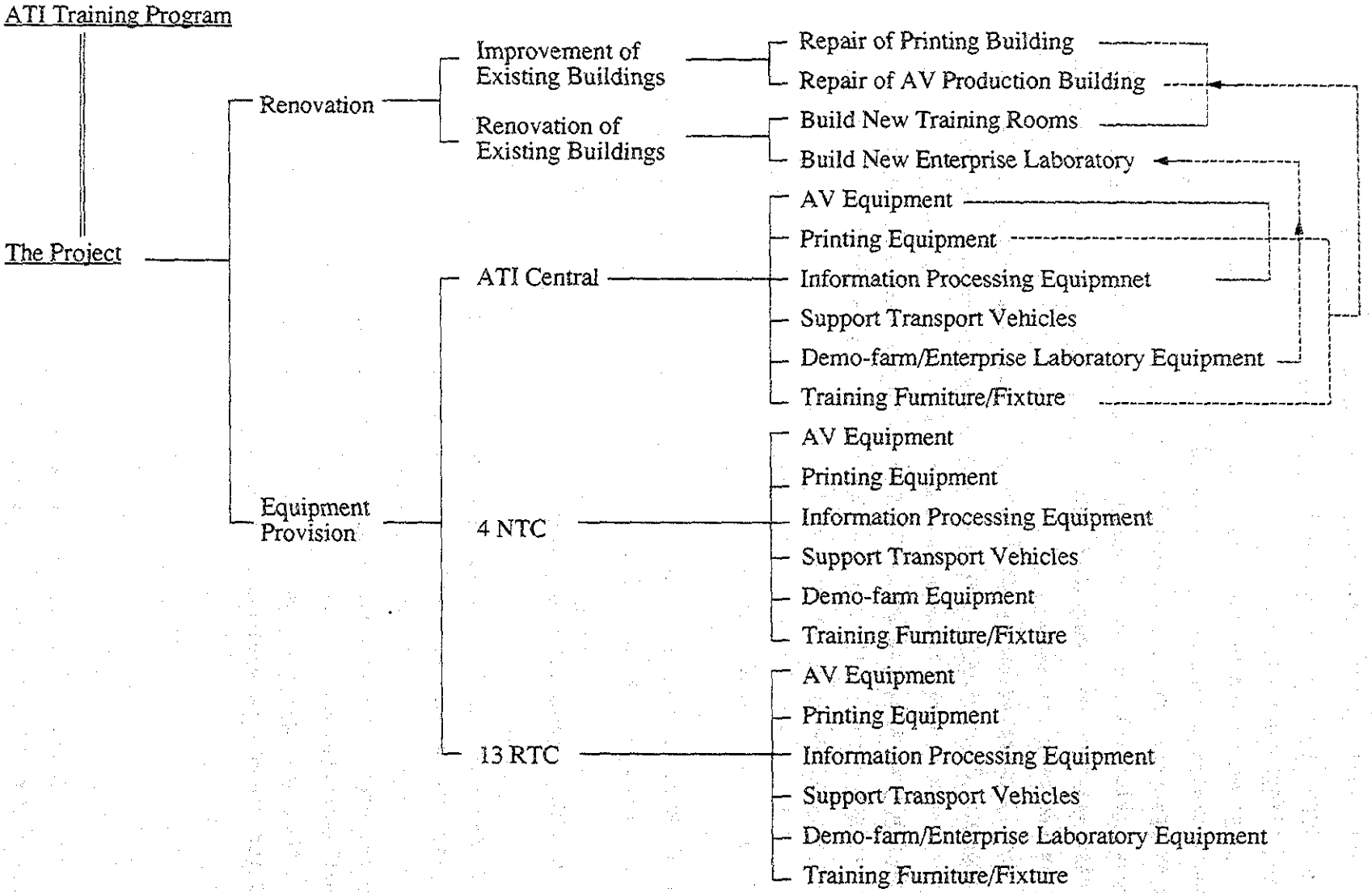


Fig. 4 Component Factors of the Project

Table 6 List of Equipment Requested

	Items Requested	Q'ty	ATI Central	NTC	RTC
I.	Audio Visual Equipment				
I-1)	Studio Equipment	1 set	o	-	-
I-2)	Post Production Equipment	1 set	o	-	-
I-3)	Outdoor Production Van and Equipment	1 set	o	-	-
I-4)	AV Training Equipment	1 set	o	-	-
I-5)	Portable Audio System Equipment	19 sets	o	o	o
I-6)	Portable Sound System Equipment	35 sets	o	o	o
I-7)	Video Camera Set	17 sets	o	o	o
I-8)	Video Playback System	18 sets	o	o	o
I-9)	AV Equipment for AV Van	17 sets	-	o	o
I-10)	Photography Equipment	18 sets	o	o	o
I-11)	Presentation Equipment	17 sets	-	o	o
I-12)	Equipment for Video Library System	4 sets	o	-	-
II.	Printing Equipment				
II-1)	Lettering & Sketch Making Equipment	18 sets	o	o	o
II-2)	Processing & Plate-making Equipment	18 sets	o	o	o
II-3)	Offset Machine	20 sets	o	o	o
II-4)	Mimeograph Printing Equipment	18 sets	o	o	o
II-5)	Bookbinding Equipment	1 sets	o	-	-
III.	Information Processing Equipment	47 sets	o	o	o
IV.	Information Communication Equipment	18 sets	o	o	o
V.	Support Vehicles				
V-1)	Mini Bus	19 sets	o	o	o
V-2)	AV Van	17 sets	-	o	o
VI.	Demo Farms/Enterprise Laboratory Equipment				
VI-1)	Demo Farms Equipment	17 sets	-	o	o
VI-2)	Enterprise Laboratory Equipment	18 sets	o	o	o
VII.	Training Furniture/Fixtures	18 lots	o	o	o

I. Audio-visual Equipment

There are two training methods in agricultural extension education, lectures and field study; and irrespective of either farmer or DA employee, training methods which appeal to the sense of sight and sound vastly heighten the effectiveness of the program. The medium of audio-visual teaching aids is a particularly effective means to give added stimulus to an otherwise dry subject such as agricultural extension. Recently, video materials are especially in high demand by both instructor and trainee alike. The equipment to be provided in the Project is indispensable as an educational means of utilizing sight and sound to present moving and still pictures.

I-1) Studio Equipment

As delineated earlier in section 4.2.1, the studio of the Soil Research Center adjacent to ATI was too small in scope to meet the needs of ATI, which required an independent studio large enough to produce educational programs suitable for large audiences, involving panel discussions, etc.

ATI Central Office has an audio-visual production section with seven full-time workers engaged in the production of audio-visual materials. This department produces audio-visual teaching aids used by the NTCs, RTCs, and the regional DA offices and produces promotional videos on agricultural extension which are aired by the National Broadcasting station. Presently, the ATI studio is out of order, and it has been leasing a studio from the National Broadcasting Station.

Three video cameras for commercial use, studio control system, studio lighting, etc. were the main equipment originally requested. However, the size of the ATI studio is small for a three-camera system. Much of the photography component will be centered on panel discussions and demonstrations for the enterprise laboratory, which will require a lot of movement or filming from different camera angles. Therefore, a two-camera system was considered more appropriate in terms of limited studio space and insufficient number of staff members required to handle a three camera system. Other factors such as maintenance and operation were also considered and it was concluded that a two camera system will be installed under the Project.

I-2) Post Production Equipment

In order to complete the production of audio-visual materials and TV broadcasting tapes, it is essential to provide post-production equipment in conjunction with studio equipment. Major equipment include audio recording equipment, video editing, and video audio dubbing equipment. This equipment allows the recording of pictures and voices in the studio and announcer's booth, the addition of special effects, editing, dubbing, etc. in the production of video materials and TV broadcasting tapes.

I-3) Outdoor Production Van and Equipment

This is a small special vehicle loaded with outdoor video production equipment which is indispensable in outdoor filming of educational videos for television broadcasting and other training purposes. These videos will be edited at ATI with post-production equipment for telecasting and later copied for use in ATI training programs.

The video equipment which will be installed in this van will have built-in shock absorbing units which will protect these precision instruments from vibrations when moving about outdoors. It will also have an electric generator that will enable videotaping and lighting equipment to be used in the field.

I-4) Training Equipment

An audio-visual conference system which will be utilized in international conferences for ATI Central Office was included in the request. However, this system is much too large for the training rooms of the ATI Central Office which will accommodate only 60 to 80 people. Therefore, the following substitute system has been proposed. A set of amplifier, video playback unit, automatic winding screen, etc. will be provided for each of the training rooms and a portable audio system as described below will be provided for the Enterprise laboratory at the Central Office.

I-5) Portable Audio System Equipment and

I-6) Portable Sound System Equipment

Portable audio and sound systems equipment are sound amplifier

equipment which are especially effective during field study, out of the center training courses given in other facilities, or within the training center itself. The portable audio system equipment can be used in relatively large lecture halls and it is necessary to consider the site where each unit will be placed according to its use. Therefore, a system which consists of the microphone amplifier, cassette tape, speaker, etc. which can be used separately will be considered. The portable sound system is a monobody unit which can be used in comparatively small lecture halls and in field study for small outdoor training programs. This equipment is indispensable for lectures and will have wireless microphones and a cassette tape playback unit. However, the portable sound system has been introduced to many of the training centers in 1987 and are currently in full use. Therefore, the system will not be provided for training centers which already have this system.

I-7) Video Camera Set

This set of equipment will be utilized to produce teaching materials unique to each center by videotaping field studies in regional conditions. The initial request specified an electric news gathering (ENG) camera system, but was excluded from the Project in view of current or future technical skills of the staff of each center and frequency of use. However, in lieu of the ENG system, a portable video camera with a built-in simplified recording/playback function will be included. The camera will be of a high caliber which will produce quality video tapes suited for editing by the ATI Central Office studio.

I-8) Video Playback System

Equipment for an audio video playback system will be utilized to play the video materials distributed to the NTCs and RTCs by the ATI Central Office and to edit videotaped field studies for use as teaching materials. This equipment will be used jointly with a video camera to edit raw video materials.

I-9) Equipment for AV Van

This equipment is an audio video playback system which is loaded on the AV Van. In contrast to the outdoor production van for

videotaping, the AV Van is used to playback video instructional materials directly to the farmers in the villages by agricultural extension workers who are teaching farming skills, techniques, etc. This equipment will be provided only to the RTCs since the participants of the NTC agricultural extension programs do not include farmers or farmers' organizations.

I-10) Photography Equipment

Photography equipment will mainly consist of a 35m/m camera, a 35m/m slide projector, and screen with stand. The camera is indispensable for making slides and photographing the progress of training programs. The initial request included photography developing and printing equipment which was excluded from this Project, in view of the small volume of developing and printing which is carried out by each center. Therefore, it was deemed more economical to have the development and printing done commercially and thereby save costs in maintenance, labor, and materials such as developing fluid. The slide projector and screen is considered indispensable; and therefore, will be included in the Project.

I-11) Presentation Equipment

The overhead projector (OHP) is commonly utilized in all the training centers. Despite this fact, many of the centers are currently using old and barely functional equipment. Since there is no OHP that can copy manuscripts to a transparency, poor projections have lowered the concentration of the trainees during lectures. Therefore, it is necessary to provide this equipment to centers which do not have them, so that lectures will be conducted effectively.

I-12) Equipment for Video Library System

There are presently 103 video tapes which are kept at the ATI Central Office as supplementary teaching materials which remain unused and unavailable for public use, due to the lack of video playback equipment. Consequently, video playback equipment will be included in the Project to allow trainees and visitors interested in agricultural extension to easily operate, view, and borrow audio-visual teaching materials. It will be installed in the library of main building of ATI Central Office.

II. Printing Equipment

The printing volume of the ATI Central Office in 1990 was about four (4) million pages or approximately 260,000 copies. Therefore, the average number of pages is about 15.7 pages. In addition, this printed material consists of 2,354 different pages; and out of 250 working days, this is equivalent to an average of 9.4 pages/day of different plates which must be prepared. Consequently, the printing section of the ATI Central Office is required to print a large number of different pages for a comparatively small volume of copies. In order to cope with this demand, numerous printing equipment of middle range scope or below is required.

The printing equipment requested for the Project is fully capable of printing a total volume of 4 million pages, but in order to cope with the different types of printing, the following variety of printing equipment is necessary:

II-1) Lettering & Sketch Making Equipment

This equipment is required for producing lettering and sketches of printing materials for illustrations and graphics which will visually express training material content to hold the interest of the trainees. The equipment will include a typewriter, tracing table, lettering tools, etc.

II-2) Processing & Plate-Making Equipment

ATI Central Office produces and prints training and agricultural extension materials such as booklets, pamphlets, posters, etc. However, printing machines currently in use were purchased ten years ago and are completely worn out hence it is necessary to replace them. Partial color printing is done to enhance the output of the printed material; and it is essential to replace reprinting equipment such as the vertical compact camera, direct plate maker etc. to meet the increasing volume of printing work.

In contrast, a direct platemaker for a baby offset unit which was requested for the NTCs and RTCs has been excluded from the Project, in view of the fact that though printing material was varied, the volume of copies is small. An offset printing machine, capable of printing large volumes of material, is much too uneconomical for

printing needs requiring only one plate for a few hundred pages. It is financially much more economical to have the printing done commercially or at the ATI Central Office.

II-3) Offset Machine and II-4) Mimeograph Printing Equipment

A color offset printer and mimeograph printer for use by the Central Office has been included in the Project. More than 4 million pages were printed in the last year alone and it is necessary to replace the worn-out offset printer. The mimeograph printer is used for printing training materials of less volume. The initial request included a mimeograph machine with an unified specification capable of automatically processing the entire operation from stencil paper cutting to finishing. Therefore, a portable mimeograph printer with this automatic processing function is preferred, as it is more economical and easier to handle for relatively small volume of printing.

A baby offset printer was requested for the NTCs and RTCs. However, since the printing volume is small and maintenance is difficult when an offset printer breaks down, an easy-to-operate mimeograph machine has been considered. The NTCs and RTCs are often required to print more than 100 pages in a short period of time. Therefore, two mimeograph machines will be provided for each training center, in order to meet this requirement. However, for training centers that are already equipped with functional mimeograph equipment, the number of machines which will be provided by the Project for that center, will be decided according to need. In addition, if the training centers require color printing for their texts, the printing department of ATI Central Office or commercial printers will be utilized.

II-5) Bookbinding Equipment

It is not efficient to manually hold and bind a large volume of printing paper. Furthermore, different binding methods are required for different types of printed matter. Therefore, the equipment required for this process is a paper holder, paper binder, etc. Appropriate equipment will be selected based on the scope and type of printing requirements, etc. Heavy duty stapler and plastic-ring binder will be provided for each center.

II-6) Photo Typesetting Machine

The size and type of letter to be printed shall be selected before plate making in accordance with the printing requirement. The machine should print any size of letter required on the plate, and it is necessary equipment for printing purpose. There was one machine for printing purpose in ATI Central, however, it was burned due to fire on July 2, 1991. Consequently the machine will be considered in the Project.

III. Information Processing Equipment

A personal computer is required for processing of training records and statistics and preparing manuscripts used as teaching materials in order to improve course content and create effective educational materials. The number of personal computers which will be provided, will be decided after evaluating utilization content.

IV. Information Communication Equipment

Currently, there are very few telephone lines at each of the training centers with the exception of the ATI Central Office; and communication between the Central Office and each training center has been hampered. In order to improve this situation a facsimile and SSB radio system was requested. Although it is possible to install an SSB radio system since a license has been obtained from the pertinent government agency, a communications staff member is required to be on hand at all times for the system to be operated effectively. This system cannot be used effectively by centers with limited staff members. Therefore, in substitute for a SSB radio facsimile which utilizes a telephone circuit, a radio facsimile which utilizes a SSB radio system will be considered. A radio facsimile can select and communicate with other centers without an operator, in addition to wireless communication.

V. Support Vehicles

Support vehicles which have been requested are a mini buses, outdoor production van, and AV van.

V-1) Mini Bus

The mini buses will be utilized to transport lecturers and trainees from areas with poor transportation facilities to the centers, in order to expedite efficiently managed training programs. One training course is composed of approximately 35 to 45 trainees. Therefore, mini buses with a capacity of 30 passengers (40 passengers using supplemental folding seats) will be provided.

In addition, a mini bus with a capacity for 20 passengers(26 passengers using supplemental folding seats) will be provided for the ATI Central Office. The ATI Central Office will be utilizing three training rooms and subsequently, one 30 passenger capacity mini bus to transport instructors and trainees was considered insufficient.

V-2) Audio-visual Van

The functions of the outdoor production van and the AV van differ. The former will be used for outdoor videotaping, while the latter will be used for on-site video agricultural extension training programs. Currently, there are 30 Agri Vans (whose function is similar to the AV van) in use by the regional agriculture offices; and they are used daily in on-site agricultural training activities. Each regional agriculture office has two to three Agri Vans, but in a nation with 73 provinces and 1,532 towns and villages (40,904 barangays), statistically one agri van must cover approximately 2.4 provinces.

If one Agri Van is requested to visit 51 towns and villages (about 1,363 barangays), the van will be required to work 200 days per year, visiting 6.8 barangays per day. It is impossible for the Agri Vans to respond to requests from all the villages; hence it is necessary to increase the number of Agri Vans.

VI. Demonstration Farms/Enterprise Laboratory Equipment

VI-1) Demonstration Farm Equipment

The request for Demonstration Farm equipment consists of equipment used in Demonstration Farms owned by ATI training centers and equipment leased to directly support agricultural cooperative associations. The latter will be excluded from the Project because the equipment directly supports civil groups where the users will be

limited; and the activity is not in line with Japanese grant aid program objectives. In addition, the equipment may not be supervised by ATI.

VI-2) Enterprise Laboratory Equipment

The enterprise laboratory equipment will not be used in training programs promoting agricultural industry on a large scale, but will be used to provide added value to special local products for farmer cooperatives and rural housewives' groups, to help increase their incomes and self-sufficiency in daily commodities. The objective of the enterprise laboratory is to assist the farms in branching out into rural enterprises. It is in line with ATI's program for rural industrialization. Therefore, it was concluded that the lab equipment was indispensable.

The enterprise laboratory includes equipment for food processing, soap production, home industry and sericulture.

VII. Training Furniture/Fixtures

Training furniture/fixtures requested include such office equipment as copiers, furniture for training rooms, dormitory beds, and dining furniture. Office equipment which is not directly relevant to training activities will be excluded.

Training room furniture are desks/chairs, blackboards, whiteboards,etc. These are all furniture basic to training rooms and their number will be decided according to the capacity of the training/lecture room. However, furniture which can still be used will be deducted from the furniture to be provided from the Project. There will be 35 to 45 trainees in one training class and each training program will require trainees to participate in several different courses in one day. One course will have 40 trainees and two courses will have 80. Subsequently, dorm facilities will be able to accommodate 80 trainees.

There will be five instructors for every one class and dorm facilities will be able to accommodate 10 instructors at one time. However, adjustments will be made according to prevailing circumstances. In addition, the instructors will be provided bunk beds if the number of trainees surpasses this standard.

4.2.5 (2) Renovation of Requested Facilities

Renovation work will be carried out at the ATI Central Office. The content and evaluation of the renovation work are shown in Table 7.

Table 7 List of Requested Facilities For Repair Work

BUILDING (Status)	REPAIR WORK
1) Main building (IF-Maria Orosa Hall, B1-Storage	air conditioning, ventilation work, illumination, electric work, water supply, interior finishing, furniture and equipment installation, remodeling into training rooms with capacity for 80/60 seats
2) Audio-visual production building (studio, video master control room, announcer's booth, audio master control room, Beta editing room, VTR dubbing room, slide editing room, video preview room, dark room)	air conditioning, ventilation work, illumination, electric work, water supply, exterior and interior finishing, equipment installation, remodeling into condition installation, operation and preservation of project equipment
3) Printing building (printing room, dark room, storage)	the same as above

An evaluation of the renovation work initially requested is given below:

The dark room for the audio-visual production building was excluded from the Project since developing and printing equipment for the photography equipment, section 4.2.5 (1), was also excluded from the Project.

Renovations requested for the printing building included a request to elevate the roof of the printing room to accommodate new printing equipment which will be provisioned by this Project and exterior finishing work involving roof repair against rain leakage. Both of these requests have been excluded from the Project based on the conclusions that: 1) new equipment to be provisioned will be much lower than the ceiling of the current printing room and 2) repairs of

the wooden and GI sheet roof against rain leakage can be covered by the building maintenance budget.

4.2.6 Subject Matters Concerning the Implementation of Cooperation

As delineated earlier, the ATI was created as the main institution responsible for agricultural extension training, while actual agricultural extension services are implemented by the regional, provincial, and municipal agricultural offices.

In the past, agricultural extension services were centralized and implemented by BAEx, however, this work is presently being carried out by the regional agricultural offices. Subsequently, regional agricultural extension work was implemented according to programs planned by a central source. Highly experienced extension specialists were sent out to supervise regional extension activities. However, with decentralization, this system was eliminated and regional agricultural offices were given the task of planning their own extension programs and were held responsible for all aspects of agricultural extension activities within their region. Meanwhile, these regional offices which were unfamiliar with implementing agricultural extension activities until this time, were suddenly required to spend much time overseeing matters concerning new crop cultivation technology, implementation methods for rural industrialization, collecting data to promote policies on agricultural development, etc. As a result, ineffective extension programs or extension activities very narrow in scope have been carried out.

Under these circumstances, the responsibilities of ATI have increased rapidly in its efforts to resolve this urgent issue on improving the extension skills of regional extension personnel. Consequently, major issues in agricultural extension training in the Philippines today include: how to incorporate extension technology and information which are vital to the regions, into its training curriculum; how to produce new extension technology suited to the times; and how to train a large number of inexperienced agriculture related personnel.

Further continuous action to solve these issues should be taken up besides implementing this project as a first step.

4.2.7 Basic Policies in the Selection and Implementation of Cooperation

The basic policies for equipment selection, renovation work, and Project implementation are given below.

1) Requested audio-visual and printing equipment will be selected in accordance with the actual needs and conditions of each training center.

2) Requested demonstration farm equipment will be provided for the centers where farmland is secured. Equipment will be selected in accordance with the content and scope of the demonstration farm training projects.

3) Enterprise laboratory equipment will be provided for the centers which are currently in operation and for centers where construction of facilities will be completed within a few years, as stipulated by the Government of the Philippines. Equipment will be selected based on a confirmation of training and project content.

4) Support vehicles will be selected after careful and thorough examination of the role, organizational system, system of maintenance and controls, payment of expenses, and training project content of each training center.

5) Renovation of facilities which can be carried out within the framework of maintenance and controls of the Government of the Philippines will be excluded from the Project.

6) Renovation of the studio will be carried out after post-production achievements, production plans, electrical supply capacity, etc. are carefully studied.

7) The content of each training center's activities at the national and regional levels has been standardized by ATI; and it is also necessary to standardize the quality of the training programs given by training centers at each level. Therefore, equipment of the same grade will be selected for all the regional training centers since

their program content is uniform and the same criteria will be applied for equipment distributed to the national training centers. However, the scope of the equipment will differ according to the conditions of existing equipment at each center. The grade of the equipment to be selected will take into consideration, the skills and the number of current staff personnel, and the basic functions which are to be carried out by each training center. Another factor which will also be taken into consideration, is the possibility of advanced training courses which may be given in the future.

8) Presently, the network of regional training centers is nearly completed. Therefore, the national training centers should not be allowed to take on the functions of the FTCs, but should rather pursue its appointed task of training agriculture-related mid-level officers. Since the number of FTCs is currently insufficient, the RTCs should be allowed to fulfill the functions of the FTCs. In turn, the NTCs should be permitted to carry out a segment of RTCs functions.

9) Equipment which may not be properly maintained by the training centers will be excluded from the Project.

4.3 Outline of the Project

4.3.1 Executing Agency and Operational Structure

The executing agency for the Project is ATI. The operational structure for Project implementation is outlined below. The Project Director shall coordinate program implementation and will be assisted by the Assistant Director for Training, Research and Development. The Planning, Monitoring and Evaluation Staff will monitor and evaluate the status of the Project. Technical assistance and administrative support services shall be provided by the technical staff and administrative staff respectively.

Project implementation at the NTC and RTC level is the responsibility of the respective superintendents at each training center; and actual operations will be carried out by the Extension and Communication Unit, Specialist Services Unit, and Evaluation Unit and Administrative Services Unit.

1) ATI Central Office (total number of personnel: 153)

Planning, Monitoring and Evaluation Division (13 personnel)

The division is responsible for providing assistance in planning and programming, monitoring, computerization, evaluation of training and development programs; and preparation of overall status.

Specialist Services Division (14 personnel)

The division is responsible for policy direction, developing curriculum, develop educational training content, prepare training module, training implementation.

Extension Communication Division (39 personnel)

The division is responsible for producing TV program and training videos, printing and binding of various printed materials.

Administrative Support Services Division (87 personnel)

The division is responsible for providing administrative supervision of the training centers, preparing budgetary requests and administering fund releases; providing services on accounting,

bookkeeping, personnel matters, supply management, record management, cashiering, vehicle repair maintenance, and other general services functions.

2. NTC (average number of personnel: 24)

Planning, Monitoring and Evaluation Unit:

The division is responsible for Developing plans, programs and projects of the Center; monitoring and evaluating training and development programs being conducted; maintaining basic planning data and information on status of program/project implementation; and preparing the Center's accomplishment reports.

Extension Communication Unit

The unit is responsible for developing and producing printed and audio-visual instructional and other communication materials in support of extension and training operations, and developing location specific prototype instructional materials.

Specialist Services Unit

The unit is responsible for conducting training research on farming systems development (FSD); farm home resources management and farm youth development; formulating and recommending policies/guidelines for training; developing training modules, curriculum materials, methodologies and innovative training activities; and preparing project messages.

Training Operations Unit

The unit is responsible for designing and implementing training courses, including the conduct of training needs assessment, administrative arrangements and process evaluation, and assisting in defining training research projects in program planning and curriculum development, and in the preparation of instructional and other communication materials.

Administrative Services Unit

The unit is responsible for providing administrative support training operations and rendering services on personnel matters,

budgeting, accounting, record and supply management, cashiering, vehicle maintenance/repair and other general service functions.

4.3.2 ATI Corporate Plan

The ATI Corporate Plan was formulated for the four year period of 1989 to 1992 and is divided into the two areas of training and support services. Presently, training services is based on the ATI Corporate Plan.

1) Training Support Services

Training support services is composed of three training programs, regular training program, special training program (CARP), and agrarian reform/rural development support technology program.(See Appendix- Table 1)

The regular training program consists of the following six courses:

* Short-term Refresher Course (for 12,909 extension workers)
* Masteral Degree or Diplomate Course (for 1,170 specialists)
* Professional Enhancement Course (for 1,728 specialists)
* Agro-based Enterprise Development Course (for 25,140 specialists)
* Course in Enterprise Development for Farm Families (for 35,718 farm families)
* Packaged Applied Technology Course(for 12,909 extension workers)

In support of the goals and priorities of the DA, ATI and all the training centers have aligned its training support services to the DA priorities pursuant to Administrative Order No. 204 dated 19 December 1990 as follows:

1. Rice-based farming systems to include rice, vegetables and legumes
2. Corn, Livestock, poultry farming system to include corn, ruminant livestock, swine and poultry
3. Community Organizing for Agricultural Cooperation in support of Cooperative Development

The special training program (CARP) offers training in agrarian reform management, farming as an enterprise, and farming system technology. It was instituted as a part of CARP in 1989.

2) Support Services

Support services are divided into the three areas of training network development, information development/dissemination, and training and research. In 1987 the ATI network consisted of ten (10) training centers and currently it has expanded to 42 centers. Two new regional training centers are being planned in CAR, which will complete the ATI network at the regional level. Subsequently, the next step is to reinforce cooperation in training program content between the training centers within the network.

In the area of information development/dissemination and training/research, current support services such as publication and distribution of various printed matter, and developing training curriculum will be continued.

4.3.3 Location and Condition of Project Site

The Project will be implemented at the ATI Central Office, four (4) NTCs and thirteen (13) RTCs. The present conditions of these centers and the installation sites of the equipment are given below.(Details of NTCs and RTCs are shown in Appendix Table 3)

1) ATI Central Office

The major facilities of the ATI Central Office consist of a main building, an audio-visual production building, a printing building, a trainees' dormitory and a garage. The training room which will accommodate 60 people is planned on the B1 floor of the main building. Currently, the floor is divided into eleven small unused storage rooms and total floor space is 24m long and 7.5m to 9m wide. The training room with a seating capacity of 80 people will be installed on the ground floor of the Maria Orosa Hall. Presently, a segment of this hall is divided into three small rooms which are used as an office; and the remaining space is used to display processed agricultural

products from each center. There are no exclusive training rooms in the Central Office. Desks and chairs are arranged along the corridor of the B1 level near the storage rooms. This condition does not contribute to effective training programs.

In the audio-visual production building, there has been serious rain leakage of the concrete roof of the video master control room and the studio. The interior of these rooms have been so severely damaged that sound absorption is nonexistent. As a result, both rooms have been unused for a long period of time. In addition, poor sound insulation of the announcer's booth has made optimum recording impossible. The air conditioners are also old and noisy. Their background noise is a hindrance during the editing, dubbing, processes, etc. in video tape production.

Based on an agreement between the DA and National Broadcasting Station (Channel 4), the ATI Central Office broadcasts a one hour agricultural training program nationwide every Saturday morning. For this reason,the ATI Central Office leases a studio from Channel 4 to shoot and record the TV program. The lease is high at 5,000 pesos per hour; and one program takes about four hours to prepare. In addition, spot programs, which are telecasted three times a week, are also produced at the same studio. The current state of the studio and video master control room of the audio-visual production building makes it impossible to produce ATI audio-visual training materials for the NTCs or RTC much less TV programs.

Work efficiency in the printing room of the printing building has been poor due to depreciated facilities and equipment which were purchased ten years ago. In addition, the sink in the dark room is old and damaged. Despite these circumstances, the printing volume of leaflets, handbooks, newsletters and posters was 4.7 million in 1989 and 4.0 million in 1990. Printing demands are exceedingly high.

2) National Training Center

All the NTCs are located within the compounds of national or state universities and are totally or partially exclusive ATI facilities. All the centers have two to three training rooms. The audio-visual and enterprise laboratory equipment which will be provided by this Project will be used in these training rooms. The

NTCs which have multi-purpose halls with seating capacities for 100 to 200 people, are the Benguet and Los Banos NTC. There are dormitories for trainees and lecturers, but they are not conducive due to the poor condition of the furniture and the ventilation system.

3) Regional Training Center

The RTC 3 (Panpanga), RTC 8 (Leyte), and RTC 11 (Davao del Norte) have in addition to training facilities, coordination offices in the neighboring cities. RTC 4 conducts training courses in the training center and in three other non ATI facilities it has rented. With the exception of RTC 4 (Cavite) and RTC 6 (Aklan), each RTC has an administrative and training building (in some RTCs the administrative and training building are two separate structures), a cafeteria, a trainees' dormitory, and demonstration farm. Each RTC has at least two training rooms. The present condition of the furniture at the trainees' dormitory is unsatisfactory like the NTC dorms, and accommodation capacity is small.

4.3.4 Outline of Equipment and Facility Renovation

The scope and grade of facility renovation and Project equipment are as follows: (The same numbering system used for equipment in Chapter 4.2.5 is used here.)

4.3.4 (1) Equipment

I. Audio-visual Equipment

The audio-visual equipment for the ATI Central Office, particularly video equipment, will be compatible with a VHS output system since the Beta system will be removed from the market in the near future. The video system currently utilized in the agri van is equipped with a Beta playback unit; and it may be necessary to consider a system compatible with a Beta output. However, the current Beta equipment is ten years old, and the possibility of switching to a VHS system is high. The dubbing equipment currently in use is a Beta system and for the time being this system will be used. Video

educational materials will be produced by S-VHS or U-matic equipment. An outline of the main types of equipment which will be provided by the Project are given below.

Grade of Equipment

Currently, ATI Central Office is equipped with two sets of U-matic camera and VTR. However, because the studio is damaged and impossible to use, these cameras and VTRs are mostly used for outdoor photographing. When ATI needs a studio, it leases the studio and equipment of the National Broadcasting Station and produces its programs and instructional materials there. Among the ATI staff members producing programs and instructional materials for the National Broadcasting station is one person who finished a 6 month audio-visual training course held at JICA Okinawa Training Center. This staff member has taught the audio-visual instructional material production techniques to other members. Those personnel are as capable as the technical staff of the National Broadcasting Station and are able to handle the equipment of the National Broadcasting Station. Equipment to be installed by this project is new with superior performance and is easy to handle and operate.

The post production equipment to be installed by this project is basically the same as the present equipment in the ATI Central Office in terms of performance, handling and maintenance operations. Hence present ATI staff members are capable of handling the newly installed equipment.

Other audio-visual equipment for each new training room includes video reproduction equipment and an audio system for the training rooms. They do not require specialized technical knowledge in order to operate. At present, most NTCs and RTCs have limited audio-visual equipment and many are to be installed for the first time by this Project. Particularly, video camera and video reproduction equipment. However, the equipment will be easy to operate since video reproduction equipment is becoming popular in the Philippines. One easy-to-operate video camera will also be provided by the Project. The video camera will not be as advanced as the U-matic system installed at the former PTC-RD but will be an easy-to-use VTR. Both the video reproduction equipment and the video camera will not require

any specialized knowledge to operate. Other audio-visual equipment to be given to each training center are audio systems and projectors which do not require specific technical knowledge as the equipment which will be provided for the ATI Central Office.

ATI central office

I-1) Studio Equipment:

The studio equipment which will be installed in the ATI Central Office will be a two camera system which is able to cope with television broadcasting productions utilizing the U-matic format. This decision was made in view of the number of video production staff members and the number of staff members who are capable of producing video material for TV telecasting. The microphone system will be applied for panel discussions of five to six people.

The studio control system is an image and sound recording device which is indispensable in the intermediate process of video production. The system will be compatible with the scope of the studio equipment.

I-2) Post Production Equipment

Video Editing System: This equipment edits recorded tape and is capable of producing special effects and composing character telops. Dubbing System: This system will enable the edited original tape to be copied for use at each training center. It can be converted to the U-matic standard for television broadcasting.

I-3) Outdoor Production Van and Equipment

This van is equipped with simple video shooting equipment and a control system to enable videotaping at outdoor locations where there is no power source.

I-4) AV Training Equipment

The equipment which will be installed in the training rooms of the ATI Central Office will include an image projector with a video

system and a public address and presentation system which is compatible with video standards such as PAL and SCAM for video materials brought by foreign guest speakers and lecturers.

I-5) Portable Audio System, and I-8) Video Playback System

This system consists of a small portable projector including video system/public address units which will be used to upgrade the training course in the enterprise laboratory of the ATI Central.Office.

I-10) 35m/m Photography Equipment

The photography equipment consists of 35m/m still cameras with accessories such as a one eye reflection system, and slide projector with self-standing screen.

I-12) Video Library System

This system is a combination of video and playback deck and color monitor which is easily operable by trainees for video viewing.

National and Regional Training Center

I-5) Portable Audio System, I-6) Portable Sound System and I-8) Video Playback System

The portable audio system and video playback system to be installed in the NTCs and RTCs will have the same specifications as the system in the enterprise laboratory of the ATI Central Office. The portable sound system will be of the same grade as the system which will be provided for the smaller training room at ATI Central Office. It will consist of sound amplifier with a microphone, speaker, amplifier, cassette deck, wireless microphone, etc.

I-7) Video Camera set

The video camera set is a S-VHS type compact video camera with recording and replaying functions.

I-9) AV Equipment for AV Van

The AV van will be reconstructed from a four-wheel-drive pick-up truck, and will be equipped with a device to protect AV equipment from the vibration of the truck during travel on a dirt roads. The equipment will consist of a video deck, color monitor and educational presentation units and an engine generator to allow operation in locations with no power source.

I-10) 35m/m Photography Equipment, and I-11) Presentation Equipment

The photography equipment consists of 35m/m still cameras with accessories such as a one eye reflection system, and slide projector with self-standing screen. The presentation equipment consists of an overhead projector with a reflection screen with a 400W lamp capacity.

II. Printing Equipment

The equipment consists of II-1) lettering & sketch making equipment,
II-2) processing & plate-making equipment, II-3) Offset Machine, II-4) mimeograph printing equipment and II-5) book binding equipment. The ATI Central Office has an annual printing volume of more than four million pages which is anticipated to increase further due to active agricultural extension services. Current printing equipment has been in use for more than ten years and is in need of replacement. Future printing demands cannot be met with equipment currently in use and consequently, a color offset, baby offset printing equipment, and a rotary press will be provided by the Project to allow the printing department to efficiently produce large-size color prints, various types of print size, small volume of printed matter, etc. The printing volume of educational materials at the NTCs and RTCs averages about 100 copies. Therefore, mimeograph machines will be provided.

The printing equipment to be installed at the ATI Central Office is the same grade as existing equipment to enable the ATI staff to proficiently handle the equipment. In addition, printing equipment to be provided at each training center is a combination of mimeograph machines and stencil scanning machine which will enable the current staff at each training center to easily handle the equipment.

III. Information Processing Equipment

The ATI Central Office, NTCs, and RTCs need personal computers to develop instructional materials by agricultural extension experts (for the enterprise laboratory and for agricultural extension technology in the case of ATI Central Office) and teaching materials for the NTCs and RTCs. Therefore, four personal computers will be installed at the the ATI central office and one computer will be furnished to each NTC and RTC.

IV. Information Communication Equipment

Presently only six out of a total of 17 centers within the ATI network are equipped with a telephone communications network. Installation of a telephone network for the entire ATI network is not anticipated for the near future. Consequently, a radio communication network is indispensable for effective implementation of training programs. However, this network requires the presence of an operator at all
times; and in view of the limited number of staff members at each center, a wireless-type facsimile which does not require an operator will be introduced.

V. Support Vehicles

The support vehicles are composed of V-1) mini bus and V-2) AV Van. All RTCs with the exception of RTC-4 and RTC-7, have some means of transportation at their disposal. If this situation is not remedied, basic training activities cannot be implemented.

At the Annual Conference of Japan and Philippine Cooperation of 1990, it was confirmed that revolving funds from the Increased Food

Production Program which can be utilized to purchase vehicles relevant to this Project will be deliberated. ATI has also requested funds from the government for the same purpose. However, due to a shortage in the budget, it is difficult for the Philippine government to purchase all the necessary vehicles with the limited funds available.

Presently, in order to implement agricultural extension activities, vehicles are urgently needed and a lack of support vehicles will greatly affect the results of the Project. Therefore, a minimum number of minibuses to transport trainees, AV vans for field training, and an outdoor production van will be provided by the Project since they are necessary in implementing training activities.

VI. Demonstration Farms Equipment/Enterprise Laboratory Equipment

VI-1) Demonstration Farms Equipment/Enterprise Laboratory Equipment

All training centers possess demonstration farms of one hectare or less, with the exception of the NTC in Mindanao and RTC 3 which have 3.0 and 6.0 ha demonstration farms, respectively. Due to leasing agreements, for every one ha of farmland, a ten horsepower tractor and its attachments will be provided. However, since the demonstration farms of the NTC in Mindanao and RTC 3 have three and six ha of farmland, a 35 horsepower tractor with a four wheel drive and its attachments will be provided. Other farming equipment which will be supplied to the training centers is an irrigation pump, reaper, and grain thresher for cultivating lowland paddy fields. This equipment will not be furnished to demonstration farms cultivating upland fields also knapsack type sprayers will be supplied to all the training centers.

VI-2) Enterprise Laboratory Equipment

The enterprise laboratory equipment which will be provided by the Project is food processing, soap manufacturing, home industry, and sericulture equipment. However, the cookie manufacturing, electric small-size canning, and home paper manufacturing equipment were not available according to ATI specifications, and therefore were not

included in the Project. Consequently the Enterprise Lab equipment will consist of the following:

-Food processing equipment:
motorized corn mill grinder, root crop presser, doughmaker, cake mixer, gas oven range, food processor, banana slicer, pressure cooker, platform scale, food mixer, plastic sealer, electric meat grinder, bacon slicer, refrigerator, and freezer

-Soap making equipment:
soap mixer and soap pressor for the soap manufacturing equipment

-Home Industry equipment:
electric planer, grinder, drill, circular saw, belt sander, zigzag sewing machine for the home industry equipment

-Sericulture equipment:
a set of sericulture equipment.

VII. Training Furniture/Fixtures

Furniture will be provided for the training room, dormitory and dining room for trainees. Furniture for the training room is indispensable; and dormitory and dining room furniture directly affects the comfort and well-being of the trainee and his performance.

-Furniture for training rooms:
The furniture will be utilized exclusively in the training rooms and will consist of work tables (2.4m long x 40cm wide), foldable chairs, large and small adjustable ceiling fans, blackboard, whiteboard, and two air conditioners for RTC-7 where the ventilation is poor.

-Dormitory furniture:
Dormitory furniture which will be provided include double deck beds for trainees and lecturers (in principle, a separate bed for each lecturer, but double deck beds when there is a large number of lecturers), desk and chair sets for trainees' rooms (one set for two

trainees, 60cm wide desk with fluorescent light), desk and chair set for lecturers (one set per person, 90 cm wide desk with fluorescent light), ceiling fans (medium and small with controller), washing machine (for washing dormitory sheets to maintain good sanitation standards), and water thermostat (for Benguet NTC).

-Dining room furniture:
Dining room furniture directly affects the well-being of the trainees utilizing the facility. Therefore, a minimum quantity of necessary dining room furniture in the Project.will be included.
The furniture consists of tables for four people, foldable chairs, food counters (three meter long service counter), cooking range for kitchen, a set of pans and kettles (pots and pans for commercial use, chinapan, Bat set) and electric hot water supply equipment.

4.3.4(2) Renovation of Facilities

Renovation will be carried out in the audio-visual production building, the printing building, and the main office building (to install two training rooms with a seating capacity of 60 and 80 people) of the ATI Central Office. The function of each facility and the location of the renovations are as follows:

I. Audio-visual Production Building

The function of the audio-visual production building is to produce audio-visual educational and training materials. A studio capable of producing audio video materials for television broadcasting will be installed. Main renovation work consists of repairing the concrete roof of the video studio and video master control room and interior finishing work of each room relevant to audio-visual production.

II. Printing Building

The function of the printing building is to print training material. Main renovation work will consist of installing air conditioners, ventilators, and a water supply and drainage system.

III. Main Building

Renovations which will be carried out in the main ATI building will be the installation of two training rooms with a 60 to 80 seat capacity, the enterprise laboratory, and audio video facilities such as a video replay system.

4.3.5 Operation and Maintenance

4.3.5 (1) Operation and Maintenance System

Operation and Maintenance of equipment provided by the Project is shown below.

1) ATI Central Office

Operation and Maintenance of audio-visual equipment and information processing equipment will be undertaken by the Extension Communication Division (39 personnel); the Specialist Services Division (14 personnel) will be responsible for enterprise laboratory equipment; and Administrative Services Division (87 personnel) will be in charge of the support vehicles, information communication equipment, and furniture.

2) NTC and RTC

Each training center has at least one personnel in charge of operation and maintenance of audio-visual and printing equipment. Many of the old mimeograph machines are still in use due to their efforts.

The operation and maintenance of furniture, support vehicles, information communication equipment is the responsibility of the administrative director of each training center.

Demonstration farm and enterprise laboratory equipment will be maintained and controlled by the specialists of each training center.

4.3.5 (2) Operation and Maintenance Costs

1)Operation and maintenance costs of audio-visual equipment

The major operation and maintenance costs of audio-visual equipment are for electricity, video tapes, and repairs. Based on the

number of activities implemented by the ATI Central Office and the training program content of each training center, it is estimated that audio-visual equipment will be utilized an average of 20 hours per week, 1,000 hours a year. In many cases, the head and other consumables of the audio-visual units need replacing after every 1,000 hours of use. In addition, other parts also require replacement once a year. It is estimated that replacement of parts and repair costs for a five year period is about 5 percent of the initial equipment cost. Therefore, it has been estimated that annual repair and parts replacement costs are one percent of the initial equipment cost.

(Unit: thousand pesos)

	ATI central office	Each training center	sub-total
Electricity	186	221	407
Tape	905	153	1,058
Repairs	550	510	1,060
Total	1,641	884	2,525

2) Operation and maintenance costs for printing equipment

Basic operation and maintenance costs for printing equipment are incurred for electricity, consumables, and repair costs as shown below.

(Unit: thousand pesos)

	ATI central office	Each training center	sub-total
Electricity	396	34	430
consumables	3,200	4,675	7,875
Repairs	600	102	702
Total	4,196	4,811	9,007

3) Operation and maintenance costs of support vehicles

Operation and maintenance costs of support vehicles are divided into fixed costs and variable costs. They are outlined as follows:

a. Fixed Costs

Fixed costs are incurred for insurance and repairs. Insurance cost is approximately 0.25 percent of initial vehicle cost and repair costs are estimated at 5.0 percent (there are no set standards at the Ministry of Transport in Japan, therefore, Ministry of Agriculture,

Fisheries and Forestry guidelines in Japan were used), for a total of 5.25 percent.

b. Variable Costs

According to the geographical jurisdiction of each training center, support vehicles are estimated to cover 160 km per day (averaging 4 hours/day at 40km/hour), 250 days /year, 40,000 km/year. Based on this estimation, the volume of fuel consumed for a 30 passenger mini bus is 5km/liter, 8,000 liters/year according to its exhaust displacement; and 7km/liter, 5,700 liters/year for a 20-passenger mini bus and agri van. Major variable costs are for fuel and lubricant oil. The cost of lubricant oil is estimated to be 15 percent of fuel costs, therefore, variable costs are 115 percent of fuel costs. Gasoline is 7 pesos/liter (as of Feb. 1991). According to these estimations, variable costs have been calculated as follows:

30 passenger mini bus

ATI Central Office: 40,000 km divided by 5km/lit x 7 pesos/lit x 1.15 = 64,400 pesos/year

Total for NTCs, RTCs: 40,000 km divided by 5km/lit x 7 pesos/lit x 1.115 x 17 = 1,094,800 pesos/year

20 passenger mini bus

ATI Central Office: 40,000 km divided by 7km/lit x 7 pesos/lit x 1.15 = 46,000 pesos/year

Agri van

Total for ATI Central Office, NTCs, RTCs:
40,000 km divided by 7 km/lit x 7 pesos/lit x 1.15 x 13 = 598,000 pesos/year

Outside production van

ATI Central Office: 40,000 km divided by 7 km/lit x 1.15 = 46,000 pesos/year

(Unit: thousand pesos)

	ATI Central Office		Each training center		Subtotal	
	Fixed expense	Variable expense	Fixed expense	Variable expense	Fixed expense	Variable expense
30 passenger bus	44.1	64.4	749.7	1,094.8	793.8	1,159.2
20 passenger bus	18.5	46.0	314.2	598.0	332.7	644.0
Agri van	--	--	154.6	598.0	154.6	598.0
Outside Production van	9.1	46.0	---	---	9.1	46.0
Total	71.7	156.4	1,218.5	2,290.8	1,290.2	2,447.2

4) Total operation and maintenance costs

Total operation and maintenance costs are as follows:

ATI Central Office	6,065 pesos
NTCs and RTCs	9,204 pesos
Total	15,269 pesos

The total operation and maintenance costs are approximately 14 percent of the total ATI budget for 1991. These costs include the cost of consumables such as printing paper and ink and the costs for both the mini buses and agri van will be covered by each respective training center. The cost of support vehicles for ATI Central Office is only one third of its operation and maintenance budget and is minimal. Much of this budget will cover the costs for audio-visual and printing equipment. Appropriations for the operation and

maintenance budget is the same as the previous year. The only expense incurred was for the replacement of printing related equipment. Subsequently, the DA increased the previous year's appropriations for operation and maintenance to about 33,810 pesos which is twice the estimated cost given above. Subsequently, operation and maintenance costs of equipment provided by the Project are not anticipated to be a financial problem for ATI.

4.4 Technical Cooperation

Together with the project implementation, the Government of the Philippines is requesting technical cooperation of Government of Japan on the following fields;

(1) Technology transfer in the following areas: legislation, organization, finances, work responsibilities of extension personnel, extension activities, ties between general administration and extension activities, developing methods suited to training programs for extension workers in the Philippines, etc.

(2) Technology Transfer of developing concrete methods in producing and using materials for use in the media (effective utilization of video instructional materials), effective use of equipment and its effective utilization in lectures and developing a media network Further study will be necessary on the request.

5. BASIC DESIGN

5. BASIC DESIGN

5.1 Design Policies

The basic design for equipment provision and renovation of facilities under this Project will be based on the following policies:

(1) Equipment will be selected in accordance with the role and goals of the ATI Central Office, NTCs, and PTCs with the objective of promoting the technical level of the Philippine government extension officers and the beneficiaries of agricultural extension services.

(2) Some of the equipment which will be utilized at each center will have the same specifications. In such cases, equipment will be selected after a thorough study of an interchangeable system.

(3) As the training centers which will receive the equipment are scattered throughout the nation, the equipment will be selected based on grade and specifications which will ensure that equipment, consumables and spare parts will be easily obtainable after the Project has been implemented.

(4) Renovation of facilities will be undertaken to allow equipment which will be provided by the Project to function effectively within a limited space. Renovations will be in harmony with the existing interior design of the building.

5.2 Study of Design Criteria

5.2.1 Conditions for Equipment Selection

The trainees of ATI programs consist of public servants from the DA and attached agencies, staff members of public corporations, agricultural technologist and administrative officers stationed throughout the nation, and eligible farmers' groups. The ATI Central Office, NTCs, and RTCs are responsible for implementing training programs which fulfill the goals of agricultural extension services. Therefore, it is fundamentally important that equipment provided for the ATI Central Office, NTCs, and RTCs enhance the results of the

training programs. Selection criteria for equipment to be used by the ATI Central Office and its training centers are as follows:

(1) ATI Central Office

The ATI Central Office is mainly responsible for preparing and distributing teaching materials including Audio-Visual materials to each training center and for conducting training programs for the senior officers of the DA and each training center. The principal difference in equipment content provided by the Project for the ATI Central Office, and NTCs, RTCs is the audio video production equipment for the central office and the audio video replay equipment for the NTCs and RTCs.

Selection criteria for equipment necessary to prepare audio video educational materials at the central office are:

a. Equipment will be of a grade that is capable of producing TV broadcast videos in agricultural extension.
b. The equipment will contain a dubbing system capable of dubbing both the TV broadcasting and training video tapes distributed to each raining center from the Central Office.
c. The equipment will have inexpensive and readily available consumables.

(2) The NTC and RTC

Agricultural extension training programs of the NTCs are mainly given to RTC staff members and agricultural extension officers of regional DA offices, whereas the RTC training programs are given to agricultural extension technicians and a segment of eligible farmers' groups. The focus of NTC training programs are the development of agricultural planning capabilities rather than production techniques directly applicable to the farm. The RTC training programs are centered on developing and reinforcing the capabilities of agricultural extension technicians in order to assist them in giving better technical guidance to farmers. Therefore, equipment for RTCs will be operational in the field or at the site.

Selection criteria for NTC and RTC equipment are as follows:

a. Equipment will be easy to operate and will not require technical skills or knowledge.

b. Equipment requiring a lengthy period of time to obtain spare parts or which requires specialized consumables will be excluded.
c. Equipment with uneconomical production costs due to infrequent use or with high operation and maintenance costs will be excluded.
d. Demonstration and enterprise laboratory equipment ill demonstrate basic technology and will be easy to supply to farmers and other beneficiaries, and will have inexpensive maintenance and control costs.

5.2.2 Criteria for Determining the Scope of Equipment

The scope of the equipment has been selected on the following criteria:

a. Technical skills and number of existing technicians
b. Number of trainees
c. Size and condition of training facilities
d. Production volume and activities for instructional training materials and other printed matter
e. Condition of existing equipment

5.2.3 Guidelines on Conditions for Renovation of Facilities

Renovation of the audio-visual production and printing buildings will consist of modifications of rooms currently used and rooms unused due to damage. The training rooms which will accommodate 60 to 80 people will be installed in the B1 and ground floor of the main building. The space is currently being used for other purposes.

The design guidelines for renovation of facilities are as follows:

a. Renovations will harmonize with the interior design and finish of the existing buildings.
b. The video studio and other rooms for recording production will be insulated against noises emanating from air conditioners and other rooms and will absorb sound and noise from within the studio itself.

c. Air conditioning units will be installed in rooms which require ventilation, humidity, and temperature control for efficient operation of equipment.

d. Certain segments of the concrete roof will be repaired and replaced against rain leakage.

e. Construction materials will be supplied from local sources.

5.3 The Basic Plan

5.3.1 Site and Layout Plan

The location of equipment and facilities to be renovated under this Project are as follows:

List of Equipment

Name of Training Center/Rooms		Main Equipment Under the Project
o Central Office (rooms to be renovated are Nos through 16)		
1	Video studio	Internal studio equipment
2	Video master control room	Studio control system
3	Announcer's booth	Audio recording equipment
4	Audio master control room	Audio recording equipment
5	Editing room (1)	Video editing equipment
6	Editing room (2)	(Existing beta video tapes)
7	VTR dubbing room	Video dubbing equipment, Audio dubbing equipment
8	Slide editing room	35 mm camera, Slide projector
9	Video preview room	Video library system
10	Printing room	2 colors offset press, Baby offset press
11	Dark room	Process camera, Direct plate-maker
12	80 seaters training room	AV training equipment, Desks/chairs for training room
13	Enterprise laboratory	Portable audio system for enterprise laboratory

Name of Training Center/Rooms	Main Equipment Under the Project
14 Equipment storage 1	Storage for training room (80) and Enterprise lab equipment
15 60 seaters Training room	AV training equipment, Desks/chairs for training room
16 Equipment storage 2	Storage for training room (60) equipment
17 Garage	Outdoor production van (AV equipment) Mini bus
18 Dormitory	Double deck beds, Dormitory desks/chairs
o NTC	
1 Training room	Portable audio system, Portable sound system, Video reproduction system, Desks/chairs of training rooms (excluding Los Banos), Presentation equipment (only for VISCA, CMU)
2 Office for Technicians	Stencil scanning machine, electricmimeograph machine, personal computer
3 Audio-visual Storage Room	Video camera set, 35 mm camera
4 Dormitory	Double deck bed, dormitory desks and chairs
5 Garage	Demonstration farm equipment, Mini-bus
o RTC	
1 Training room	Portable audio system, Portable sound system (only for Camarines Sur, Ifugao), Video reproduction system, Training room desks/chairs (excluding Aklan), Presentation equipment (only for Pampanga, Cavite, Camarines Sur, Leyte, Misamis Oriental, Davao del Norte & Ifugao), Food processing equipment, Soap making equipment, Home industry equipment and sericulture equipment (only for Ifugao)
2 Technical Office	stencil scanning machine, electric mimeograph machine, personal computer

Name of Training Center/Rooms		Main Equipment Under the Project
3	Storage	Video camera set, 35 mm camera
4	Dormitory	Double deck beds (excluding Cavite, Isabela, North Cotabato), dormitory desks and chairs
5	Garage	Mini-bus, AV Van (AV equipment), Demonstration farm equipment

5.3.2 Architectural Design

a) Floor Plan

The floor plan for renovation work in the Audio Visual production building will allow current layout of the rooms to be kept. In the printing building, the dark room will be renovated to secure work space for the direct plate-makers. The 60 and 80 seat capacity training rooms in the main building will be installed by demolishing the existing small rooms, in order to secure the necessary floor space. The floor area and use of each room is given as follows:

Building/Room Name	Floor area (m^2)	Application purpose
Audio-Visual Production Building		
1. Video studio	81	Interior photographing for videos (including videos for TV broadcasting)
2. Video master control room	30	Video photographing/recording machine operation
3. Announcer's booth	8	Recording work including commentary and after-recording
4. Audio master control room	27	Audio machines operation for video recording/photographing
5. diting room (1)	23	Video tape editing
6. Editing room (2)	23	Beta tape editing
7. VTR dubbing room	23	Video tape dubbing work
8. Slide editing room	23	Slide materials preparation
9. Video preview room	51	Preview and rating of video teaching materials
Printing building		
1. Printing room	141	Printing and book binding of texts, and posters, etc.
2. Dark room	38	Photograph plate-making & development
Main building		
1. 80 seat capacity Training room	185	Training lectures
2. Enterprise Labratory	74	Training in agricultural & livestock products processing techniques
3. Equipment storage 1	37	Storing the equipment of training room (80)
4. 60 seat capacity Training room	174	Training lectures
5. Equipment storage 2	39	Storing the equipment of training room (60)

b) Section Plan

An examination of the inner structure of the existing buildings was conducted to implement the internal renovation work.Particular attention was given to the video studio and video master control room in the audio-visual production building. In the video studio, photographic lighting will be hung from the grid pipe on the ceiling to produce even luminosity and eliminate shadows within the studio to enable shooting below it. The video master control room will be placed on a slightly elevated floor level than the video studio to permit the operation of audio-visual tuning systems during shooting work. The machine wires and cables in the two rooms will be connected by pits.

The printing building will accommodate an offset printing machine which can be installed under the existing ceiling. Each of the 60 and 80 seat capacity training rooms has a video projector hung from the upper floor slab to enable the trainees to see the pictures projected on the screen.

c) Electrical and Mechanical Plan

Power will be supplied to lightings and receptacles from the existing power distribution board. The printing building will require a large amount of electricity with the installation of new equipment, but the capacity of the existing transformer will be capable of meeting this demand. The audio-visual production building will have special receptacles for audio-visual equipment, in addition to common lighting receptacles. Air conditioners are essential for all the rooms in the audio-visual production =building, the printing and dark rooms of the printing =building, the 60 and 80 seat capacity training rooms, and the enterprise laboratory. In addition, each room of the printing building and the enterprise laboratory in the main building requiring forced ventilation will be provided with ventilation fans. Sink drainage will be installed in the dark room of the printing building and Enterprise Lab of the main building.

d) Construction Material Plan

The existing ATI buildings have rigid frames with columns and beams made from reinforced concrete and walls made from hallow concrete blocks, which is a common building method in the

Philippines. Common room interior specifications are floors which are finished with vinyl tiles or Terrazo tiles, walls which are coated with mortar and painted, and suspending ceilings of painted plywoods. The audio-visual and conference rooms have sound absorption materials in the walls and ceilings.

The finishing materials which will be used are as follows:

Position	Finishing material to be used
1. Roofs	Bituminous membrane waterproofing on concrete slab
2. Outer walls	Mortal and paint finish on hallow concrete block
3. Floors	Vinyl tile finish or mortar finish with steel troweling
4. Inner walls	Mortal and paint finish on hallow concrete block or perforated plywood including wooden furring
5. Ceilings	Suspending ceiling of perforated plywood including wooden furring

The aforementioned equipment and renovation plan are tabulated as follows:

Equipment/Renovation		Q'ty	Central	NTC	RTC
I.	Audio Visual Equipment				
I-1.	Studio Equipment	1 set	o		
I-2.	Post Production Equipment	1 set	o		
I-3.	Outdoor Production Van and Equipment	1 set	o		
I-4.	AV Training Equipment	1 set	o		
I-5.	Portable Audio System Equipment	18 sets	o	o	o
I-6.	Portable Sound System Equipment	6 sets		o	o
I-7.	Video Camera Set	17 sets		o	o
I-8.	Video Playback System	35 sets	o	o	o
I-9.	AV Equipment for AV Van	13 sets			o
I-10.	Photography Equipment	19 sets	o	o	o
I-11.	Presentation Equipment	9 sets		o	o
I-12.	Equipment for Video Library System	4 set	o		
II.	Printing Equipment				
II-1.	Lettering & Sketch Making Equipment				
	a. Typewriter Set	18 sets	o	o	o
	b. Drafting & Tracing Equipment	19 sets	o	o	o
II-2.	Processing & Plate-making Equipment	1 set	o		
II-3.	Printing Machine				
	a. 2 colors Offset Press	1 set	o		
	b. Baby Offset Press	2 sets	o		
II-4.	Mimeograph Machine				
	a. Automatic Mimeograph Duplicating Machine	1 set	o		
	b. Mimeograph Machine (Stencil Scanning Machine, Mimeograph Machine)	34 sets		o	o
II-5.	Bookbinding Equipment	1 set	o		
II-6.	Photo Typesetting Machine	1 set	o		
III.	Information Processing Equipment	22 sets	o	o	o
IV.	Information Communication Equipment 18 sets	o	o	o	
V.	Support Vehicles				
V-1.	Mini Bus (Large Size)	18 sets	o	o	o
V-2.	Mini Bus (Small Size)	1 set	o		
V-3.	AV Van	13 sets			o

Equipment/Renovation	Q'ty	Central	NTC	RTC
VI. Demonstration Farms/Enterprise Laboratory Equipment				
VI-1. Demonstration Farms Equipment				
a. Hand Tractor	15 sets		o	o
b. Tractor (4WD)	2 sets		o	o
c. Engine Pump	12 sets		o	o
d. Knapsack Sprayer	17 sets		o	o
e. Reaper & Thresher	12 sets		o	o
VI-2. Enterprise Laboratory Equipment	14 sets	o		o
VII. Training Furniture/Fixtures	18 sets	o	o	o
VIII. Renovation				
VIII-1.Audio-Visual Production Building				
a. Video Studio	81 m^2	o		
b. Video Master Control Room	30 m^2	o		
c. Announcer's Booth	8 m^2	o		
d. Audio Master Control Room	27 m^2	o		
e. Editing Room (1)	23 m^2	o		
f. Editing Room (2)	23 m^2	o		
g. VTR Dubbing Room	23 m^2	o		
h. Slide Editing Room	23 m^2	o		
i. Video Preview Room	51 m^2	o		
VIII-2.Printing Building				
a. Printing Room	141 m^2	o		
b. Dark Room	38 m^2	o		
VIII-3.Main building				
a. 80-seaters training room	185 m^2	o		
b. Enterprise Laboratory	74 m^2	o		
c. Equipment Storage 1	37 m^2	o		
d. 60-seaters training room	174 m^2	o		
e. Equipment Storage 2	39 m^2	o		

5.3.3 Equipment Plan

Equipment which will be provided by the Project are as follows:

Equipment List

Description	Q'ty	Specifications
I. Audio-visual Equipment		
I-1) Studio Equipment		
A. Internal Studio Equipment		
(1) Color Video Camera Set	2 sets	3-chip CCD, 380,000 or more picture elements with tripod, cable, etc.
(2) Studio Monitorse	1 set	Color Monitor(20"), Monitor Speaker, Microphones, Cables, etc.
(3) Studio Lighting System	1 set	2K Primo Spot Light andother kinds of lighting equipment
B. Studio Control System		
(1) Studio Control System	1 set	Special Effect Generator, Master VTR, Video Typewriter, Telop System, Slide Film-TV Converter, Vector Scope, Waveform Monitor, etc.
(2) Peripheral Equipment	1 set	Color Monitors, Audio Mixer, Open Reel Deck, Cassette Deck, CD Player, Power Amplifier, MonitorSpeaker, Control Console, etc.
I-2) Post Production Equipment		
A. Audio Recording Equipment		
(1) Audio Recording System	1 set	Open Reel Deck, CD Player, Cassette Deck, Equalizer, Power Amplifier, Monitor Speaker,
(2) Peripheral Equipment	1 set	Announce Booth System, VTR, Color Monitor, System Console, etc.

	Description	Q'ty	Specifications
B.	Video Editing Equipment		
	(1) AB Roll Video Editing	1 set	Horizontal Resolution: 330 or more TV lines, Editing Player, Editing VTR, Editing Controller, Switcher,
	(2) Peripheral Equipment	1 set	Video Typewriter, Telop System, Color Monitor, Waveform Monitor, Vector Scope, Audio Mixer, Casset Cassette Deck, CD Player, Open Reel Tape Deck, Power Amplifier, Monitor Speaker, Console, etc.
	C. Video Dubbing Equipment		
	(1) Master VTR System	1 set	U-matic VTR, S-VHS VTR, TBC, Routing Switcher, AV Distributor
	(2) Slave S-VHS VTR System	1 set	S-VHS VTR(x10), Dubbing Controller, Monitor Selector, Color Monitor(x3), Dubbing Rack(x3), etc.
	D. Audio Dubbing Equipment		
	(1) Audio Dubbing System	1 set	Open Reel Deck, Dubbing Cassette Deck
	E. Tapes		
	(1) Video Tapes	1 set	U-matic Tape(x50), S-VHS Tape(30min. x100), S-VHS Tape(60min. x100)
	(2) Audio Tape	1 set	Cassette Tape(60min. x100) Open Reel Tape(7" x100)
I-3)	Outdoor Production Van and Equipment		
	(1) 3-CCD Color Camera with Portable VTR	2 sets	3-chip CCD, more than 380,000 TV lines, with Tripod, Color Monitor, Portable Lighting Set
	(2) Portable Audio Recording System	2 sets	Cassette Deck, Mixer, Microphones
	(3) Engine Generator	1 set	Gasoline Engine, 5KVA
	(4) Vehicles	1 set	Four wheel drive wagon

	Description	Q'ty	Specifications
I-4)	AV Training equipment		
	A. AV Equipment for 80 seaters Training Room		
	(1) Video Projector	1 set	Projection Size : 120"
	(2) Motor-drive Screen	1 set	Screen Size : 120"
	(3) Lecture Table	1 set	with Microphone Connector
	(4) Audio System	1 set	Power Amplifier (100Wx2), Speaker (x2), Microphones, Wireless System, Cassette Deck, CD Player, Audio Mixer, etc.
	(5) Video System	1 set	VTR(S-VHS, VHS), Visual Presenter, Slide Film-TV Converter, Color Monitor, etc.
	(6) Overhead Projector	1 set	Projection Lamp : 36V, more than 400W
	(7) AV Rack	1 set	Rack for Audio System and Video System
	(8) Portable TV/VTR Set	1 set	37" Color Monitor, S-VHS VTR, TV/VTR Rack with Casters, etc.
	B. AV Equipment for 60 seaters Training Room		
	(1) Video Projector	1 set	Projection Size : 80"
	(2) Motor-drive Screen	1 set	Screen Size : 80"
	(3) Lecture Table	1 set	with Microphone Connector
	(4) Audio System	1 set	Power Amplifier(100Wx2), Speaker Set(x2), Microphones, Wireless System, Cassette Deck, CD Player, Audio Mixer, etc.
	(5) Video System	1 set	S-VHS VTR, Visual Presenter, Slide Film-TV Converter, Color Monitor, etc.
	(6) Overhead Projector	1 set	Projection Lamp : 36V, more than 400W
	(7) AV Rack	1 set	Rack for Audio System and Video System

	Description	Q'ty	Specifications
I-5)	Portable Audio System Equipment		
	(1) Portable Audio System	18 sets	Audio Mixer, Power Amplifier, Speaker, Cassette Deck, Microphones, etc.
I-6)	Portable Sound System Equipment		
	(1) Portable Sound System	6 sets	Wireless Amplifier, Tuner, Microphones, etc.
I-7)	Video Camera Set		
	(1) Video Camera with S-VHS Recorder	17 sets	S-VHS Cassette, 2-CCD type, with Zoom Lens, Tripod, Light, etc.
I-8)	Video Playback System		
	(1) S-VHS VTR/TV Rack	35 sets	S-VHS VTR, 37" Color Monitor, Rack with casters, Visual Presenter, etc.
I-9)	AV Equipment for AV Van		
	(1) S-VHS Video Player	13 sets	Horizontal Resolution: more than 400 TV lines, with Remote Controller
	(2) 33" Color Monitor	13 sets	33",AV Input, S-Video Input
	(3) Visual Presenter	13 sets	Presenting Materials : more than B4 size, Slide Film, etc.
	(4) Audio System	13 sets	Mixing Power Amplifier, Microphones(x2), Radio Cassette Recorder
	(5) Horn Speaker	26 sets	Rated Output : more than 50W
	(6) Engine Generator	13 sets	Gasoline Engine, 1.3KVA
	(7) Equipment Rack	13 sets	Vibration Proof Type, Materials : Steel, Strong & Solid Type
I-10)	Photography Equipment		
	(1) 35m/m Camera	19 sets	with Standard, Macro, Wide & Zoom Lens, Tripod, etc.
	(2) 35m/m Slide Projector	18 sets	Projection Lamp: 24V, more than 250W
	(3) Tripod Stand Type Screen	18 sets	Screen size : 180 x 180cm

	Description	Q'ty	Specifications
I-11)	Presentation Equipment		
	(1) Overhead Projector	9 sets	Projection Lamp: 36V, more than 400W
	(2) Tripod Stand Type Screen	9 sets	Screen Size : 180 x 180cm
	(3) TP Maker	9 sets	with TP making kit
I-12)	Equipment for Video Library System		
	(1) Video Library System	4 sets	S-VHS VTR,14" Color Monitor Headphone, etc.
II.	Printing Equipment		
II-1)	Lettering and Sketching Making Equipment		
	(1) Electric Typewriter	18 sets	Electric type, 220V, with Memory
	(2) Table & Chair	18 sets	for Typewriter, with casters
	(3) Tracing Table	19 sets	A-1 size
	(4) Drafting Set	19 sets	Drafting Machine, Table, Light, Chair, etc.
	(5) Lettering Tools	19 sets	Template, Lettering Set, etc.
II-2)	Processing & Plate-making Equipment		
	(1) Process Camera	1 set	Max. Effective Image Size : 400 x 500mm
	(2) Automatic Film Processor	1 set	Max. Processing Size : 685 mm(Width)
	(3) Direct Plate-maker	2 sets	Max. Effective Image Size : 400 x 500mm
II-3)	Offset Machine		
	(1) 2 Colors Offset Press	1 set	Max. Printing Area : 650 x 470mm
	(2) Baby Offset Press	2 sets	Max. Printing Area : 300 x 420mm
II-4)	Mimeograph Printing Equipment		
	(1) Stencil Scanning Machine	34 sets	Max. Original Size : 260 X 370mm
	(2) Film Cabinet	2 sets	with drawer
	(3) Automatic Mimeograph Duplicating Machine	1 set	Original Size : A3 - post - cord size
	(4) Electric Mimeograph Machine	34 sets	Paper Size : Approx. 260 x 380mm

	Description	Q'ty	Specifications
II-5)	Bookbinding Equipment		
	(1) Buckle & Knife Folding Machine	1 set	Max. Paper Width Size: Approx. 420mm
	(2) Bookbinding Machine (Thread type)	1 set	Max.Binding Width Size: Approx. 410mm
	(3) Bookbinding Machine (Non-thread Type)	1 set	Max. Binding Width Size: Approx. 320mm
	(4) Automatic Collating Machine	1 set	Max. Collating Size: A3
	(5) Wire Stitching Machine sheets up to 30mm (one	1 set	Stitching Size: 2 side)
	(6) Office Duty Stapler	17 sets	Needle: 6,8,10,13,15mm
II-6)	Photo Typesetting Machine	1 set	Plain Paper Laser Printer, 4.5 to 72 point
III.	Information Processing Equipment		
	(1) Computer W/accessories	22 sets	3.5", 5.25" Floppy Drive, with 20MB-HD
	(2) Table & Chair	22 sets	for Computer
IV.	Information Communication Equipment		
	(1) HF Single Side Band Transceiver	18 sets	HF Band with Facsimile
V.	Support Vehicles		
	(1) Mini-bus(Large Size)	18 sets	for 30 seaters, Diesel Engine
	(2) Mini-bus(Small Size)	1 set	for 20 seaters, Diesel Engine
	(3) AV Van	13 sets	4WD Pick-up Van, Special modification type
VI.	Demonstration Farms/Enterprise Lab Equipment		
VI-1)	Demo Farms Equipment		
	(1) Hand Tractor Set	15 sets	more or less 10HP for low and up land use Power Tiller
	(2) 4WD Tractor Set	2 sets	4WD, riding type and low and up land use 35HP class of 4 wheels Tractor
	(3) Pump with Engine	13 sets	3" low pressure Irrigation Pump with engine
	(4) Knapsack Sprayer	17 sets	Knapsack type Power Sprayer
	(5) Reaper	12 sets	Rice reaping machine with 4HP class engine
	(6) Thresher	12 sets	Holding type Thresher with 5HP class engine

	Description	Q'ty	Specifications
VI-2)	Enterprise Lab Equipment		
	(1) Food Processing Set 1	14 sets	Motorized Corn Mill Grinder, Root Crop Presser, Dough-maker, Electric Cake Mixer, Gas Range with Oven, Food Processor, Pressure Cooker, Platform Scale, Food Mixer, Plastic Sealer, Can Sealer, Refrigerator(300l), Freezer (300l)
	(2) Food Processing Set 2	8 sets	Banana Slicer with refracto-meter
	(3) Food Processing Set 3	7 sets	Electric Meat Grinder, Bacon Slicer
	(4) Soap Making Set	14 sets	Soap Mixer, Soap Presser
	(5) Home Industry Set	14 sets	Electric Planer, Grinder, Drill, Circular Saw, Belt Sander, Zigzag Sewing Machine
	(6) Sericulture Set	1 set	Rearing Stand Set, Deflossing Machine, Reeling Machine Cocoon Dryer, air-conditioner etc.
VII.	Training Furniture/Fixtures		
	(1) Desk for training room	315 sets	240(L)x40(W)cm
	(2) Chair for training room	1,260 sets	Stack Type
	(3) Ceiling Fan for Training Room (Large)	137 sets	Ceiling Mount Type, Low Speed, Diameter
	(4) Ceiling Fan for Training Room (Small)	66 sets	Ceiling Mount Type, High Speed, Small Diameter
	(5) Blackboard	17 sets	4(W)x1.5(H)m
	(6) Whiteboard	35 sets	2.4(W)x1.2(H)m
	(7) Air-conditioner	2 sets	2HP, Separate Type
	(8) Double-deck Bed (for trainee)	353 sets	Steel-made, 2 stair Type
	(9) Double-deck Bed (for instructor)	135 sets	Steel-made, 2 stair Type
	(10) Desk & Chair for Trainee Dormitory	513 sets	Wooden, W:60cm, with fluorescent light
	(11) Desk & Chair for Instructor Dormitory	135 sets	Wooden, W:90cm, with fluorescent light

Description	Q'ty	Specifications
(12) Ceiling Fan for Dormitory (Middle)	19 sets	Ceiling Mount Type, Low Speed, Middle Diameter
(13) Ceiling Fan for Dormitory (Small)	305 sets	Ceiling Mount Type, High Speed, Small Diameter
(14) Washing Machine	18 sets	Heavy Duty & Powerful Washing Type
(15) Hot Well	1 set	Electric Type, for shower
(16) Table for Dining Room	63 sets	for 4 seaters, Steel-made
(17) Chair for Dining Room	252 sets	Stack Type
(18) Food Counter	9 sets	L:4m, for food supply
(19) Kitchen Range for Dining Room	11 sets	Heavy Duty, Double-ring Butane type
(20) Kitchen Pan & Caldron for Dining Room	11 sets	Heavy Duty, Aluminum-made,
(21) Hot Well for Dining	11 sets	Electric Type, 20 liter

5.3.4 Basic Design Drawing

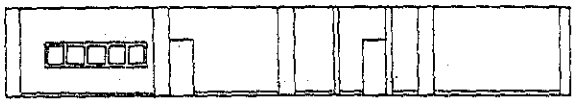
The basic design drawings for the renovation of ATI Central Office buildings are shown in the following pages.

1) Audio-visual Production Building - Floor Plan, Section and Interior Elevation.

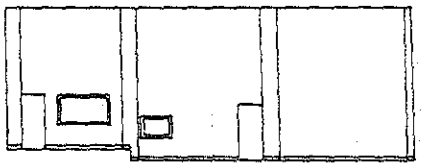
2) Printing Building - Floor Plan and Section

3) Training Room for 80 seats - Floor Plan, Section, and Interior Elevation.

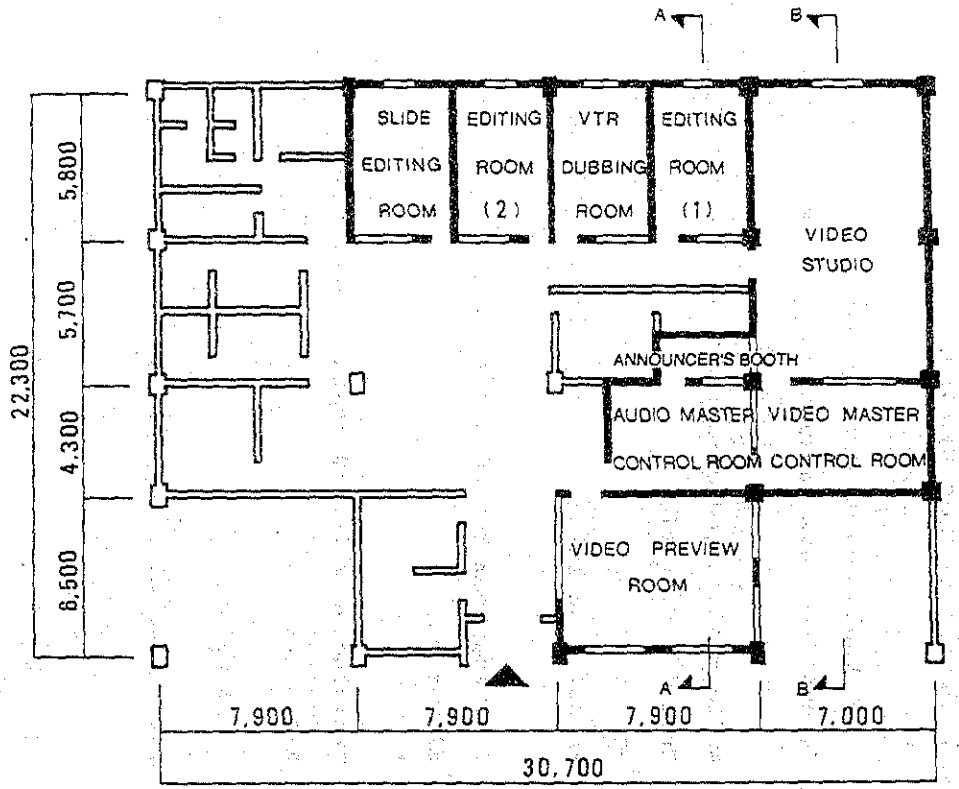
4) Training Room for 60 seats - Floor Plan, Section, and Interior Elevation



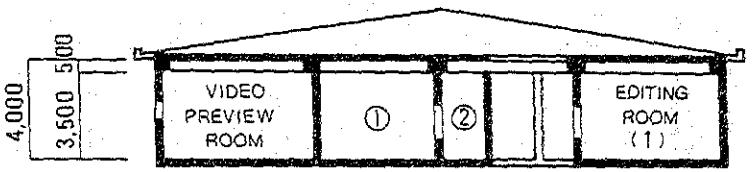
A-A INTERIOR ELEVATION



B-B INTERIOR ELEVATION

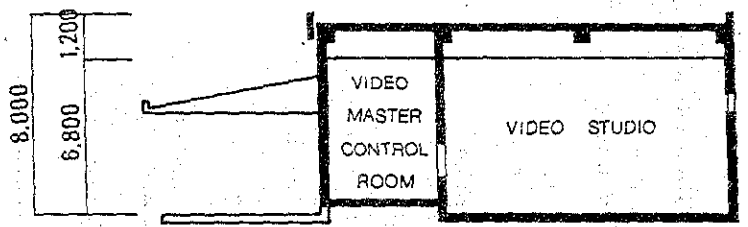


FLOOR PLAN

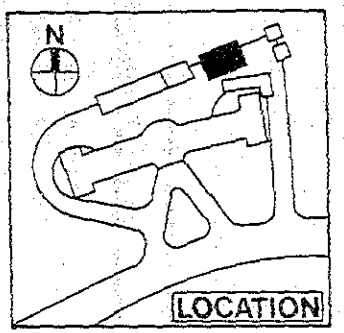


A-A SECTION

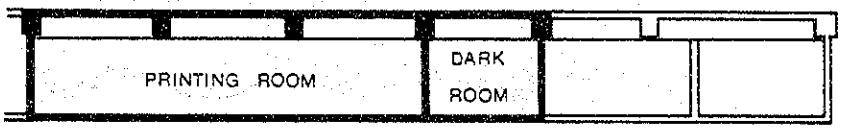
① AUDIO MASTER CONTROL ROOM
② ANNOUNCER'S BOOTH



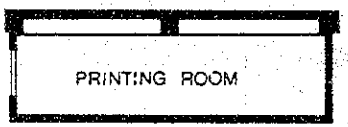
B-B SECTION



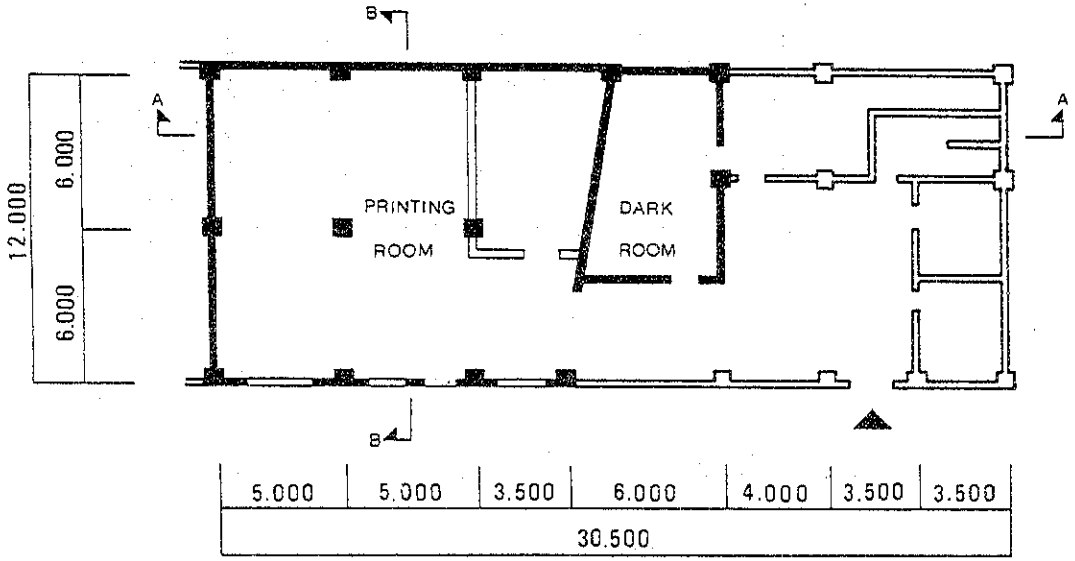
AUDIO VISUAL PRODUCTION BUILDING	FLOOR PLAN, SECTION, INTERIOR ELEVATION	THE PROJECT FOR STRENGHENING THE ATI NATIONAL AND REGIONAL TRAINING CENTERS



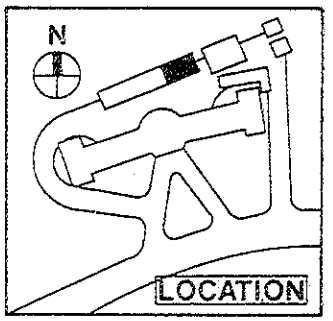
A-A SECTION



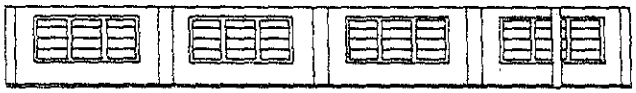
B-B SECTION



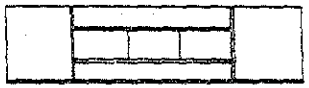
FLOOR PLAN



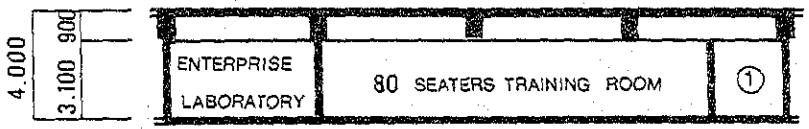
PRINTING BUILDING	FLOOR PLAN , SECTION	THE PROJECT FOR STRENGHENING THE ATI NATIONAL AND REGIONAL TRAINING CENTERS



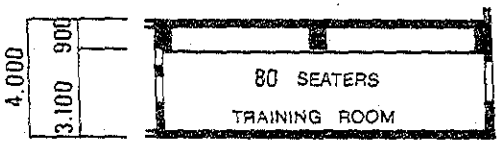
A-A INTERIOR ELEVATION



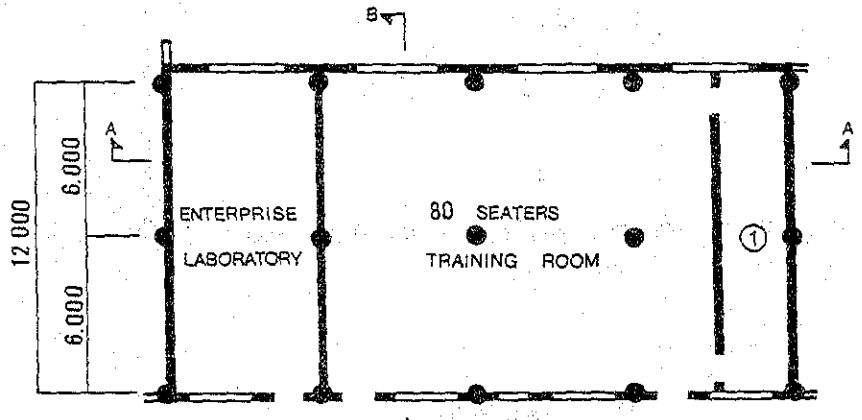
B-B INTERIOR ELEVATION



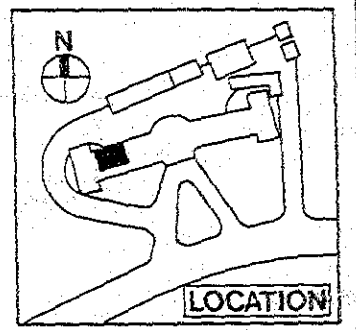
A-A SECTION ① EQUIPMENT STORAGE 1



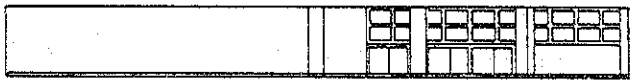
B-B SECTION



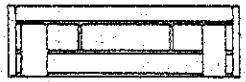
FLOOR PLAN ① EQUIPMENT STORAGE 1



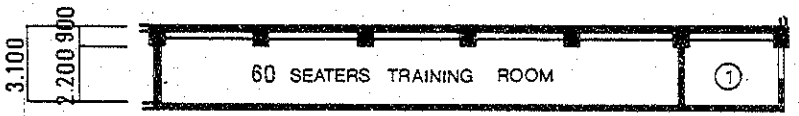
TRAINING ROOM FOR 80 SEATERS	FLOOR PLAN, SECTION, INTERIOR ELEVATION	THE PROJECT FOR STRENGHENING THE ATI NATIONAL AND REGIONAL TRAINING CENTERS



A-A INTERIOR ELEVATION

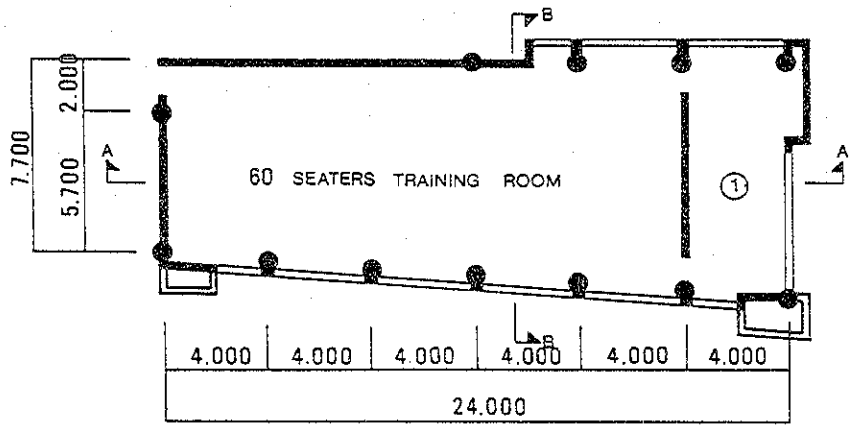


B-B INTERIOR ELEVATION

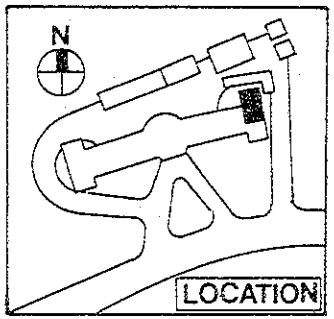


A-A SECTION ① EQUIPMENT STORAGE 2

B-B SECTION



FLOOR PLAN ① EQUIPMENT STORAGE 2



TRAINING ROOM FOR 60 SEATERS	FLOOR PLAN , SECTION , INTERIOR ELEVATION	THE PROJECT FOR STRENGHENING THE ATI NATIONAL AND REGIONAL TRAINING CENTERS

5.4 Implementation Plan

5.4.1 Organization for Project Implementation

The executing agency of the Project is ATI. After the Exchange of Notes is concluded between the Government of the Philippines and the Government of Japan, a Japanese consultant firm responsible for the implementation of the detailed design and supervision of the Project, and a Japanese trading firm responsible for the supply and installation of the equipment and implementation of the renovation work will sign a contract with the Philippine government; and the Project will be implemented.

5.4.2 Items to be Undertaken by Both Governments

Items which will be undertaken by both governments for the Project are shown in the following table.

Items of Undertakings	Japan	Philippines
1. Equipment		
(1) Procurement of equipment	o	
(2) Installation of equipment	o	
(3) Test run and adjustment of equipment	o	
(4) Operation Instruction of equipment	o	
2. Renovation work		
(1) Demolition and Removal	o	
(2) Audio-visual Production Building	o	
(3) Printing Building	o	
(4) Main Building-Training Room for 60 and 80 seats	o	
(5) Roof work of Printing Building		o
(6) Garages and necessary works		o
3. To ensure import/customs clearance		
(1) Transportation to the Philippines	o	
(2) Tax exemption/customs clearance		o
(3) Internal transportation in the Philippines	o	
4. To bear the commissions to the Japanese foreign exchange bank for the banking services based upon the B/A (Banking Arrangement)		o
5. To accord convenient official services for Japanese nationals whose work may be required in connection with the Project at their entry into and departure from the Philippines and during their stay there in for the performance of their work		o
6. To maintain and use properly and effectively the facilities and equipment provided by the Grant-in-Aid		o
7. To bear all expenses, other than those to be borne by the Grant-in-Aid, necessary for the construction of facilities as well as for the transportation and installation of the equipment		o
8. Procedures to get approvals necessary for the Renovation works, etc.		o

5.4.3 Implementation Policies

The Project will be implemented on the following policies since it is a grant in aid project provided by the Government of Japan:

1) A thorough exchange of opinions will be made between ATI, the Japanese consultant firm, and the Japanese trading firm to maintain a good working relationship for smooth implementation of the Project.

2) Renovations in the ATI Central Office buildings and provision, delivery, installation, inspection, and instruction of the equipment will be rationally implemented; and delivery and installation will be efficiently carried out for equipment provisioned for the NTCs and RTCs

3) Preventive measures will be taken to ensure that equipment will not be damaged during temporary storage and renovation work.

4) Japanese audio visual experts will be dispatched to supervise and instruct in the operation of certain audio-visual equipment when scramble construction begins during renovation work.

5) Thorough consultations with the Japanese architectural expert provided by the Japanese trading company whii be carried out during renovation work in order to ensure smooth implementation. Renovation work will be carried out so as not to disrupt the daily activities of the center, to quickly demolish the small divided rooms which will be renovated, and to deliver quality work on roof repairs against rain leakage and room insulation for soundproofing of the audio visual production rooms.

5.4.4 Supervision of Project Implementation

The following items will be considered in the supervision of the Project.

1) The consultant firm will maintain close communication with ATI in order to ensure smooth implementation of equipment installation and renovation work. In particular, when construction work is commenced by ATI in equipment installation locations, a thorough exchange of consultations will take place and adjustments will be made to ensure that all construction work is completed before equipment is installed.

2) Prior to renovations and equipment provision, the implementation plans and contract drawings of the contractor will be carefully reviewed and evaluated for appropriateness of working schedule, delivery plan, quality, and specifications.

3) Equipment which will be sent from Japan will be inspected in Japan prior to shipping to ensure smooth delivery and installation.

4) Before delivered equipment and completed renovated facilities are turned over to the ATI, inspections will be conducted to ensure that conditions in quality and specifications are met and proper supervision and instruction for equipment operation has been carried out.

5) Equipment installation, renovation work, and electric and mechanical work will be supervised by Japanese supervisors.

5.4.5 Procurement Plan

The following methods will be taken to supply and transport the equipment in order to execute the Project.

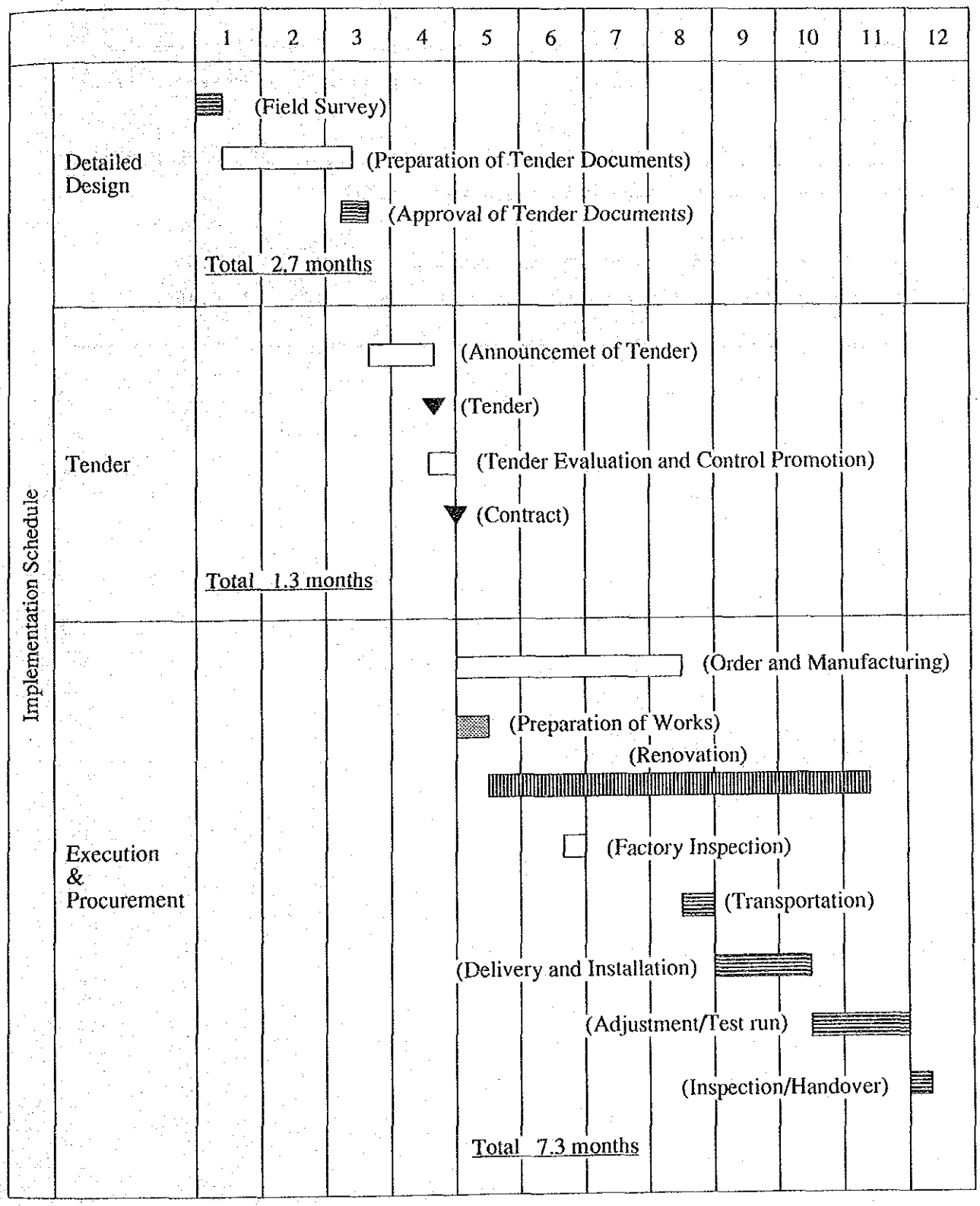
Equipment sent from Japan will be packed according to each training center and shipped to the Philippines. They will be sent to the respective training centers in conjunction with equipment which will be supplied from Manila.

Description	Japan	Philippines	Transport
1. Equipment		o	by ship between interislands
(1) Furniture, Enterprise Lab equipment			
(2) Other equipment	o		by ship
2. Construction material		o	

5.4.6 Implementation Schedule

Implementation schedule is divided into the three stages of (1)design, (2)bidding, (3)provision, installation, and construction. The complete implementation schedule of the Project is shown in the following table.

Table 8 Implementation Schedule



5.4.7 Project Cost Undertaken by the Government of the Philippines

The project cost undertaken by the Government of the Philippines is estimated to be approximately 2.83 million pesos. The breakdown is as follows:

	(million pesos)
1) Renovation of printing building's roof in ATI Central Office	0.91
2) Construction of garages for the centers	1.50
3) Construction of kitchens for the centers	0.42

6. CONCLUSION AND PROJECT EFFECTIVENESS

6. CONCLUSION AND PROJECT EFFECTIVENESS

6.1 Project Effectiveness

In order to strengthen the ATI network which was established in 1987 under Executive Order No.116 clause 20(b), the ATI of the Department of Agriculture, the Government of the Philippines requested grant aid from the Government of Japan. Policy and problems in Project implementation, and improvements instituted by the Project are summarized and presented below.

Project Effectiveness and Improvements

Current Conditions and Issues -1

ATI has established many new training centers after its institution. Due to the rapid development of those new training centers, the demand for instructional materials has grown and strengthening the capacity to produce such materials has become ATI's foremost responsibility. Many of the training centers either do not have the facilities or equipment or are unable to use them due to severe depreciation.

Project Countermeasures -1

* In order to enable the ATI Central Office to produce instructional materials, the studio, the Audio-visual production and printing buildings will be renovated and audio-visual production and printing equipment will be provided.

* Audio-visual production and printing equipment to produce instructional materials at the NTCs and RTCs will be provided.

Project Effectiveness and Improvements -1

* Video text production which has been dependent on the cooperation of the National Broadcasting Station, will be independently produced by the ATI Central Office. Current annual production output of video text will be increased from nine to fifteen videos per year. In addition, new printing equipment which will replace existing old equipment, will improve the printing content of text material and allow the printing department to respond quickly to demands in text supply.

* Text production equipment which will be provided for the NTCs and RTCs, will allow these centers to produce their own texts which incorporate regional characteristics and thereby improve training program effectiveness.

Current Conditions and Issues -2

Although the ATI Central Office, NTCs, and RTCs have been provided with major facilities, the ATI Central Office does not have training rooms and equipment; and most of the facilities of the training centers are old and unusable. Subsequently, basic training functions cannot be carried out and training program effectiveness has diminished.

Project Countermeasures -2

* Renovation work will be implemented to install two training rooms with an 80 and 60 seat capacity and an enterprise laboratory at the ATI Central Office.

* Training equipment to be utilized in the aforementioned facilities will be furnished and installed.

* Training equipment, mainly audio-visual equipment will be provided for the NTCs and RTCs.

* Enterprise laboratory equipment will be furnished for the ATI Central Office and RTCs.

Project Effectiveness and Improvements -2

* ATI Central Office will be able to conduct training courses within its own facilities which have hitherto been conducted at leased facilities. Due to these facilities, approximately 16,000 DA and related agency personnel will be able to receive training once in every two to three years at the ATI Central Office.

* Training content will improve its effectiveness due to improvements in training center facilities. With installation of an enterprise laboratory within ATI Central Office facilities, new training courses using the enterprise laboratory can be developed.

Current Conditions and Issues -3

Training courses include field study such as observation and on-site demonstrations, instruction at the demo farm, etc.in addition to classroom instruction. However, support equipment in various areas for field study is lacking at ATI and has impeded effective training.

Project Countermeasures -3

* Support vehicles, mini buses to transport trainees and instructors, for ATI Central Office, NTCs, RTCs and AV vans for RTCs will be provided by the Project.

* Furniture for training facilities such as desks, chairs, dormitory beds, dining room furniture, etc. will be provided by the Project.

* Computers will be provided as information processing equipment.

* Communication between the training centers of the ATI network will be carried by wireless radios with facsimile which will be provided by the Project.

Project Effectiveness and Improvements -3

* Support vehicles provided by the Project will transport trainees and instructors to the training centers and will allow the training courses to be pursued aggressively.

* Dormitory facilities at the training centers for trainees and instructors will enhance a serious learning atmosphere at the centers.

* Processing data on training, information for texts will be facilitated to help improve training programs.

* By improving the means of communication between the training centers, information exchange will be facilitated, differences in training content among the centers will be removed, and cooperation between the training centers will accelerate.

6.2 Conclusion

The objective of the Project is to strengthen the ATI network comprised of the ATI Central Office, NTCs, and RTCs, which is responsible for developing agricultural extension personnel and new agricultural technology transfer in the field of agricultural extension. The main beneficiaries of the ATI program are the DA personnel. The Project will provide training equipment to strengthen ATI functions in text production, training courses, and services which support training programs. It will implement renovation work on buildings currently in use at the ATI Central Office.

The direct beneficiaries of this Project for 1991 are 12,909 agricultural extension workers, 1,170 agricultural specialists, and a total of 1,728 officials of each regional, provincial, and municipal agricultural office, in addition to personnel of related DA bureaus and their attached agencies. However, the final beneficiaries of the Project are the 4.1 million farmers, 2.8 million housewives and out-of-school rural youth who will receive guidance and supervision from the aforementioned DA personnel.

From its initial start four years ago, ATI has grown from ten training centers to 42 training centers (including the RTC planned for CAR) in 1992; and its personnel and facilities have also expanded

along with the ATI network. However, in contrast to the expanding network, the
content of the training centers, particularly in the area of equipment facilities, has been deficient. This condition has affected agricultural extension training and impeded comprehensive agricultural extension activities. In the long term, this is expected to affect improvements in the rural economy; and in turn, delay reconstruction of the Philippine economy as well. Therefore, it is urgent that the Project be implemented as soon as possible.

The Project is anticipated to produce very successful results, that will simultaneously play an important role in elevating the life of the citizens of the Philippines. Therefore, it has been concluded that it is appropriate to implement the Project under Japanese grant aid.

6.3 Recommendation

In order that the equipment and facilities to be provided by the Project are effectively utilized, it is proposed that the Philippine government take the following points into consideration.

Although ATI provides training by outside instructors, limited audio visual instructional materials are utilized at present. It is recommended that ATI request instructors to fully and effectively utilize the high quality instructional materials produced by ATI and use the new equipment to be provided by this Project so as to enhance the efficiency of their training course.

It is recommended that each training center in the ATI network follow the plan set forth by ATI and fulfill their task of carrying out training services to the best of their abilities.

The FTCs, currently under the jurisdiction of the ATI, will be transferred to the autonomous provincial governments in the near future; and it would be detrimental to ATI if the ties between ATI and the FTC become estranged. The ATI network is effective with the existence of the FTCs. Therefore, it is recommended that ATI maintain close ties with the FTCs after their transfer to the autonomous provincial governments.

Dispatch of experts on agricultural extension training method and training material production is requested by the Government of the Phillipines in order to improve the effectiveness of extension training. However, further study will be necessary on the request.

APPENDIX

APPENDIX-1 Members of the Study Team (Basic Design)

1) Hiroshi HASEGAWA	Team Leader (Deputy Director of Extension and Education Division, Agricultural Production Bureau, Ministry of Agriculture, Forestry and Fisheries)
2) Koichiro KOROKI	Project Coordinator (First Basic Design Study Division, Grant Aid Study and Design Department, JICA)
3) Yoshihisa ONISHI	Training Planner System Science Consultants Inc.
4) Akemitsu MOCHIZUKI	Training Equipment Planner System Science Consultants Inc.
5) Kyoichi SUGIYAMA	Training Facility Planner System Science Consultants Inc.

Members of the Study Team (Explanation of Draft Report)

1) Hiroshi HASEGAWA	Team Leader (Deputy Director of Extension and Education Division, Agricultural Production Bureau, Ministry of Agriculture, Forestry and Fisheries)
3) Yoshihisa ONISHI	Training Planner System Science Consultants Inc.
4) Akemitsu MOCHIZUKI	Training Equipment Planner System Science Consultants Inc.

APPENDIX-2 Study Team Survey Itinerary(1/3) (Basic Design Study)

No.	Date	Itinerary	Activities
1	1/31(Thu)	Narita→Manila	Arrival in Philippine(HASEGAWA, KOROKI, ONISHI MOCHIZUKI and SUGIYAMA) Courtesy call at JICA Manila Office and Japanese Embassy.
2	2/ 1(Fri)	Manila	Courtesy call at Department of Agriculture and ATI Central Office Meeting at ATI Central Office on explanation and discussion of Inception Report and Questionnaire. ・Site reconnaissance at ATI Central Office.
3	2/ 2(Sat)	Manila	Sectoral study and survey
4	2/ 3(Sun)	Manila～Baguio	Sectoral study and survey
5	2/ 4(Mon)	Baguio～La Trinidado ～Santa Barbara	・Site reconnaissance at NTC-BSU
6	2/ 5(Tue)	St Barbara～Sat Nino ～Manila	・Site reconnaissance at RTC-1 ・Site reconnaissance at RTC-3
7	2/ 6(Wed)	Manila	Meeting at ATI Central Office
8	2/ 7(Thu)	Manila	Meeting at ATI Central Office on the Draft Minutes of Discussion. Signing of the Minutes
9	2/ 8(Fri)	Manila Manila～Los Banos ～Manila	Meeting at ATI Central Office ・Site reconnaissance at NTC-UPLB
10	2/ 9(Sat)	Manila→Narita	Leaving Philippine(HASEGAWA, KOROKI)
		" Followings are the activities to be continued by ONISHI, MOCHIZUKI and SUGIYAMA "	
		Manila	Sectoral study and survey
11	2/10(Sun)	Manila	Sectoral study and survey
12	2/11(Mon)	Manila→Tacloban ～BayBay	・Site reconnaissance at RTC-8 ・Site reconnaissance at NTC-VISCA

Remark 1 : → (by air) ～ (by land)

Remark 2 : Team member separated on Site reconnaissance ① MOCHIZUKI and SUGIYAMA
② ONISHI
③ SUGIYAMA
④ MOCHIZUKI

Study Team Survey Itinerary(2/3)

No.	Date	Itinerary	Activities
13	2/12(Tue)	BayBay～Alan Alan ～Tacloban	・Site reconnaissance at NTC-VISCA ・Site reconnaissance at RTC-8
14	2/13(Wed)	Tacloban →Cagayan De Oro (Through Manila)	・Site reconnaissance at RTC-10
15	2/14(Thu)	Cagayan de Oro～Musuan ～Cagayan de Oro	・Site reconnaissance at NTC-CMU
16	2/15(Fri)	②Cagayan de Oro→Davao ③Cagayan de Oro→Cebu ④Cagayan de Oro→Manila	・Site reconnaissance at RTC-11
17	2/16(Sat)	③Cebu→Kalibo～Banga ②Davao →Cebu ④Manila	・Site reconnaissance at RTC-6 ・Site reconnaissance at RTC-7 Meeting at ATI Central Office
18	2/17(Sun)	④Manila ②Cebu→Zamboanga ③Bangas	Sectoral study and survey Sectoral study and survey Sectoral study and survey
19	2/18(Mon)	④Manila ③Banga ～Kalibo →Cebu→Manila ②Zamboanga → Ipil	Meeting at ATI Central Office ・Site reconnaissance at RTC-6 ・Site reconnaissance at RTC-9
20	2/19(Tue)	②Ipil→Zamboanga →Cotabato～Kabacan ③Manila→Tuguegarao ～Cabagan ④Manila	・Site reconnaissance at RTC-12 ・Site reconnaissance at RTC-2 Meeting at ATI Central Office
21	2/20(Wed)	②Kabacan ～Cotabato →Manila ③Cabagan ～Tuguegarao →Manila ④Manila→Naga～Pili	・Site reconnaissance at FTC-Midsayap Sectoral study and survey Sectoral study and survey ・Site reconnaissance at RTC-5

Remark 1 : → (by air) ～ (by land)

Remark 2 : team member separated on Site reconnaissance ① MOCHIZUKI and SUGIYAMA
② ONISHI
③ SUGIYAMA
④ MOCHIZUKI

Study Team Survey Itinerary(3/3)

No.	Date	Itinerary	Activities
22	2/21(Thu)	④Pili～Naga→Manila ①Manila～Trece Martires ～Manila ②Manila	・Transfar ・Site reconnaissance at RTC-4 Meeting at ATI Central Office, EDPITAF and DBCS
23	2/22(Fri)	②③④Manila～Los Banos ②Manila	・Site reconnaissance at NTC-UPLB Meeting at EDPITAF
24	2/23(Sat)	②③④Manila	Meeting at ATI Central Office ②③&④
25	2/24(Sun)	②③④ Manila	Sectoral study and survey
26	2/25(Mon)	②③④Manila	Meeting at ATI Central Office
27	2/26(Tue)	②③④Manila	Meeting at ATI Central Office Meeting at DAR
28	2/27(Wed)	②③④Manila	Meeting at ATI Central Office and Reporting to Japanese Embassy
29	2/28(Thu)	②③④Manila	Meeting at ATI Central Office and reporting to JICA Manila Office
30	3/ 1(Fri)	②③④Manila→Narita	Leaving Philippine(ONISHI, MOCHIZUKI and SUGIYAMA)

Remark 1 : → (by air) ～ (by land)

Remark 2 : team member separated on Site reconnaissance ① MOCHIZUKI and SUGIYAMA
② ONISHI
③ SUGIYAMA
④ MOCHIZUKI

Study Team Survey Itinerary(1/1) (Expranation of Draft Repor)

No.	Date	Itinerary	Activities
1	7/ 3(Wed)	Narita→Manila [JL741]	Arrival in Philippine Courtesy call to JICA Manila Office and Japanese Embassy ①②&③
2	7/ 4(Thu)	Manila	Courtesy call to ATI Central Office and Min. of Agriculture Meeting at ATI Central Office on explanation of Draft Report ①②&③
3	7/ 5(Fri)	Manila～Bayombong	Proceeding to RTC-CAR ①&② Sectoral Meeting w/ATI Central③
4	7/ 6(Sat)	Lamut, Ifugao Manila	Site reconnaissance at RTC-CAR ①&② Sectoral Meeting w/ATI Central ③
5	7/ 7(Sun)	Bayombongo～Manila Manila	Returning to Manila ①&② Sectoral study ③
6	7/ 8(Mon)	Manila	Meeting at ATI Central Office on Contents of Draft Report ①②&③
7	7/ 9(Tue)	Manila	Meeting w/ ATI Central Office on the Draft Minutes of Discussion Signing of the Minutes ①②&③
8	7/10(Wed)	Manila→Narita(JL742)	Leaving Philippine ①②&③

Remark 1 : → (by air) ～ (by land)
Remark 2 : team member separated on Site reconnaissance ① HASEGAWAI
② ONISHI
③ MOCHIZUKI

APPENDIX-3 List of Members Contacted (Basic Design Study)

●Japanese Officers

Naoki HAYASHIDA	First Secretary, Embassy of Japan
Moriya MIYAMOTO	Representative, JICA Philippine Office
Kikuo TAKEUCHI	Deputy Representative, JICA Philippine Office
Makoto KASHIWAYA	Assistant Representative, JICA Philippine Office
Shigetaka SABURI	JICA Expert for DA

●DA

TERESA C. CAPELLAN	Assistant Secretary, DA
MANUEL M. LANTIN	Assistant Secretary, DA
ROY R. RODRIGUEZ	Chief, PPG IADCCO
MARILOU VELASCO	Project Development Officer III
ELEANOR C. MANARIL	Project Development Officer III

●ATI Central

SEGUNDO C. SERRANO	Director ATI
ILDEFONSO DEL ROSARIO	Assistant Director ATI
PABLO T. TAMESIS	Assistant Director ATI
PAULINO W. RESMA	Chief, Specialist Service Div. ATI
ROBERTO T. MASBANG	Chief, Extension Communication Div. ATI
ROSARIO R. ICARRO	Chief, Planning Monitoring & Evaluation Div. ATI
ANTONIO H. ZAMAR	Chief, Printing Section ATI
EDARLINA M. PERDIDO	Sociologist, ATI

Others

●ATI Training Centers

ALBERTO B. MANINGDING	Superintendent, Benguet NTC
SALVACION U. BOTER	Superintendent, Los Banos NTC
ANTHONY V. ISRAEL	Superintendent, Visayas NTC
RENATO B. DELA CRUZ	Superintendent, Bukidonon NTC
SIMOUN V. CRUZ	Superintendent, RTC-1
MARIA C. AQUINO	Superintendent, RTC-2
ELENITA G. TAMAYO	Superintendent, RTC-3
B. A. COBARRUBIAS, JR	Superintendent, RTC-4
RAFAEL L. PRADO	Superintendent, RTC-5
AMBROSIO R. VILLORENTE	Superintendent, RTC-6
LILIA R. ALMARIO	Superintendent, RTC-7

PAULINO T. CABAHIT	Superintendent, RTC-8
PEDRO B. FRANCISCO	Superintendent, RTC-9
LEONARDO T. MADDUMA	Superintendent, RTC-10
ELFREN N. AQUINO	Superintendent, RTC-11
LEONORA P. MANERA	Superintendent, RTC-12

●DECS-EDPITAF (Department of Education, Culture and Sports)

YOLANDA RAMO	O.I.C. Research & Project Development DIV.
EDGAR M. RICAMONTE	Assist.Chief Research & Project Development Div.

●DAR (Department of Agrarian Reform)

ENGRACIA VALENCIA	Director, Bureau of Agrarian Reform Information & Education
TAMASA V. MINA	Chief, Beneficiarist Education Div.

List of Members Contacted (Explanation of Draft Report)

●Japanese Officers

Yuugo MATSUDA	First Secretary, Embassy of Japan
Masataka IIJIMA	Representative, JICA Philippine Office
Fumio KIKUCHI	Assistant Representative, JICA Philippine Office
Makoto KASHIWAYA	Assistant Representative, JICA Philippine Office
Shigetaka SABURI	JICA Expert for DA

●DA

TERESA C. CAPELLAN	Assistant Secretary, DA
MANUEL M. LANTIN	Assistant Secretary, DA
BENITO ESTACIO	Assistant Secretary, DA
ROY R. RODRIGUEZ	Chief, PPG IADCCO
LOURDES G. FAUSTINO	Project Development Officer III
ELEANOR C. MANARIL	Project Development Officer III

●ATI Central

SEGUNDO C. SERRANO	Director ATI
ILDEFONSO DEL ROSARIO	Assistant Director ATI
PABLO T. TAMBSIS	Assistant Director ATI
PAULINO W. RESMA	Chief, Specialist Service Div. ATI
ROBERTO T. MASBANG	Chief, Extension Communication Div. ATI
ROSARIO R. ICARRO	Chief, Planning Monitoring & Evaluation Div. ATI
ANTONIO H. ZAMAR	Chief, Printing Section ATI
EDARLINA M. PERDIDO	Sociologist, ATI
Others	

●ISCAF (RTC-CAR)

TORIBIO B. ADACI	President of ISCAF
MANUEL G. DULNUAN	Vice President of ISCAF
LEPOLDO CULHI	Dean of Agriculture, ISCAF
VICENTE K. BARIT	O.I.C. Provincial Agricultural Office, Bayambong
OTHERS	