

Sectoral Study for Development Assistance

“ENVIRONMENT”

December 1988

**Aid Study Group on Environment
Japan International Cooperation Agency**

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This report is based on the discussions and findings of the Aid Study Group on Environment organized by the Japan International Cooperation Agency (JICA). The views expressed in the report are those of the members of the Study Group and do not necessarily reflect those of JICA.

Additional copies of this report are available upon written request from the Institute for International Cooperation (IFIC), the Japan International Cooperation Agency (JICA).
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FOREWORD

A decade ago the major environmental issues were air and water pollution in the industrially advanced countries, however, these days' concern for the environment has taken a much broader perspective to include desertification and deforestation, diversity of the ecosystem, atmospheric pollution on a global scale, and the effect of the environmental deterioration on the welfare of tribal peoples.

The World Commission on Environment and Development, a special committee of the United Nations which was established at the initiative of Japan, stated in its Tokyo Declaration of February 1987 that they regard sustainable development as a concept which brings together environmental conservation and development, and defined it as addressing the progress of human societies in such a way as to meet the needs of the present generation without compromising the ability of future generations to meet their own needs. Meanwhile, it has become necessary to expedite the co-operation between developed and developing countries much more since the interdependent relationship between the world's economic and social activities grows stronger.

Observing the requirement to discuss environmental issues in development assistance in the same light, the Study Group researched the basic manner in which Japan's development assistance towards the environmental problems of developing countries should be carried out, based on the recommendations of the Council of the Organization for Economic Co-operation and Development (OECD) in 1985 and 1986 regarding the implementation of environmental assessment.

With the assistance of a task force, this report has brought together the results of the Study Group's research spanning six meetings from June 1988.

It is hoped that the recommendations contained herein will contribute to a more effective and efficient implementation of Japan's future official development assistance.

December 1988

Michio Hashimoto
Chairman,
Aid Study Group on Environment

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GLOSSARY

Environmental Consideration

Although environmental consideration is a wide-ranging concept, in this report it refers to "environmental consideration in development projects".

In this context, environmental consideration is defined as follows:

- . to study the environmental impact of a development project
- . to assess the results of the study
- . to formulate measures to prevent or alleviate that impact if necessary.

Screening

Screening is a process of judgment on whether a development project requires an environmental impact study or not.

Scoping

Scoping is a process of identification of the critical environmental impacts out of the possible environmental impacts of a development project. Through the scoping process, the priority fields or items of an environmental impact study are also identified.

Terms of Reference (TOR)

TOR is a document which indicates the contents of the development survey requested for JICA, and is normally forwarded with the country's request for development assistance.

Scope of Work (S/W)

A development survey is an integral part of technical co-operation, but before undertaking the full scale survey, a preliminary survey team is sent to the recipient country based on the implementation plan and the basic policy, which are decided upon after a careful examination of the contents of the request. At this preliminary survey stage, the team confirms the contents of the request, examines the feasibility and the form of the full scale survey, and gathers the relevant information.

The S/W is a written agreement exchanged between JICA and the implementing organization of the recipient country at the preliminary survey stage, and stipulates the scope, content, and the provision of facilities for the full scale survey based on the preliminary survey, and examines and summarizes the survey policy and plan. In general, the survey policy and plan are examined in light of the special characteristics of the project, and the size of the budget which can be appropriated to the full scale survey.

Minutes of Meeting (M/M)

The M/M is a written record of the key points associated with the implementation of the development assistance, other than those contained in the S/W, which are discussed at meetings with the recipient government. It is normally signed for validation by the head of the survey team and a representative of the recipient government.

Feasibility Study (F/S)

The F/S can be broadly divided into a pre-F/S and the F/S proper: the difference being the scope of subjects and the accuracy of the study.

The F/S is a study which examines the feasibility, propriety, and the investment effectiveness of a project, and normally attempts to verify objectively the feasibility of a project socially, technically, economically, and financially, and has become pivotal to JICA's development survey operations.

Moreover, the F/S is used by governments in their decision on whether to proceed with a project or not, and, should funds be necessary. The F/S is also used by international funding organizations in their judgment on the appropriateness of the loan.

Inception Report (IC/R)

The IC/R is a report which describes the content and method of the survey and work within the recipient country, and is drawn up at the preparatory work stage, and presented to the recipient country for confirmation when commencing the survey.

Draft Final Report (DF/R)

The DF/R is a draft report which contains the detailed analysis of all survey results, the final development plan, and alternative proposals, and is fully substantiated by supporting documentation.

Final Report (F/R)

The F/R is a report which contains the necessary amendments to the DF/R based on the comments of the recipient country.

Implementation Programme (I/P)

The I/P is a plan of the project's implementation, and is prepared after the implementing organization has confirmed the project's feasibility and decided to proceed, arranged the necessary funding, set in place the implementation systems, and confirmed the work schedule, and contains all of the aforementioned details.

Minutes of Discussion (M/D)

The M/D is a written record of discussions between the Overseas Economic Co-operation Fund (OECF) appraisal mission and the recipient government or the implementing organizations.

Loan Agreement (L/A)

The L/A is a contract which is concluded between OECF and the borrower.

Progress Report (PR)

The PR is a report which is submitted to OECF by the implementing organization during the course of a project to report its state of progress.

Project Completion Report (PCR)

The PCR is a report which is submitted to OECF by the implementing organization to report the completion of a project.

Exchange of Notes (E/N)

The E/N is a document through which the content of the co-operation between the Japanese government and the government of the recipient country is decided.

INTRODUCTION

As the interdependent relationship between the developed and developing countries becomes more tightly knit, the stable social and economic development of the developing countries has become essential for the growth of the international community and the maintenance of world peace. Based on this understanding, the expansion of official development assistance (ODA) has become a cornerstone of Japan's foreign policy, and its further improvement in both quantity and quality has achieved national consensus.

Pollution and the depletion and degradation of natural resources which are global issues are serious problems confronting the developing countries, and, without appropriate counter-measures, will inhibit their sound social and economic development. It is critical that Japan takes the environmental consideration into account when extending technical and financial assistance as a part of development assistance.

Numerous international conferences have been held under the theme of development and the environment since the UN Conference on Human Environment in Stockholm in 1972, and as a consequence, various programmes to ensure a balance between development and environmental conservation have been undertaken on regional, national, and global levels by governments and international aid agencies.

Various arguments regarding the issue of development assistance and the environment also have been presented at international forums, and in 1980 multilateral aid agencies such as the United Nations Environment Programme (UNEP), the United Nations Development Programme (UNDP) and the World Bank adopted the "Declaration of Environmental Policies and Procedures relating to Economic Development". Moreover, in 1985 and 1986 respectively, OECD adopted the "Council Recommendation on Environmental Assessment of Development Assistance Projects and Programmes" and the "Council Recommendation on Measures Required to Facilitate the Environmental Assessment of Development Assistance Projects and Programmes", both of which recommend that member countries give due consideration to the environment when carrying out development assistance.

In the past, aid agencies in Japan, with the co-operation of relevant government authorities, local public bodies and private experts, have given consideration to the environment when implementing development assistance by formulating programmes which are aimed at the prevention of pollution, and the conservation and appropriate usage of natural resources. However, in the future it is essential that this be implemented in a much more systematic and integrated manner. Consequently, JICA established a Study Group which, with the co-operation of OECF, was mandated to examine structures in which Japan's aid agencies could deal with development and environmental issues systematically and methodically, based on the recommendations of the OECD Council.

In light of the above-mentioned efforts of Japan's aid agencies, the study group did not limit the scope of their research to environmental considerations in development assistance. Rather, they strove to make it possible to tackle the issue comprehensively by including in the range of topics for research the expansion and enhancement of projects which improve the developing countries' ability to deal with environmental problems, various measures to counter pollution, and the conservation and appropriate usage of natural resources. The study group also examined the collection and development of information which supports the implementation of such measures, as well as the organizational structure of Japan's aid agencies.

Each of the above topics for research consists of a wide range of items, and their examination on various levels is necessary in order to implement specific measures. While taking this into account, the study group concentrated their research primarily on the basic issues.

Based on the proposals and recommendations put forward in this report, it is hoped that Japan's aid agencies will continue to examine detailed technical issues, and, with the co-operation of the relevant government authorities, undertake specific measures to improve the implementation of environmental consideration.

SCOPE OF THE STUDY

The Aid Study Group on Environment carried out an examination of four issues, namely:

- (1) the implementation of environmental consideration,
- (2) the expansion and enhancement of environment-related projects,
- (3) the systematic development of environmental information, and
- (4) the institutional arrangements of aid agencies for the implementation of environmental consideration.

The following were its basic views.

1. Emphasis on the Improvement of Living Standard and Sustainability of Development

Poverty is one of the factors behind the environmental problems of the developing countries, and can be a cause of the depletion and degradation of natural resources which are the foundation of sustainable development.

An inherent risk in failing to implement development assistance with adequate environmental consideration is that the resultant degradation and destruction of the natural resources will undermine the sustainability of the development, and therefore be of little benefit to the improvement in the living standards of the regional population, or their sustained social and economic growth.

Accordingly, in order to resolve the environmental problems of the developing countries, it is necessary to achieve a sustainable development which is balanced against the natural resources, and which will contribute to a raising of the living standards of the regional communities. This can be accomplished by giving appropriate consideration to the environment when implementing development assistance.

2. Utilization of Local Knowledge

Although the implementation of environmental consideration should be conducted based on an agreement with the recipient country's government after full consultation, it is also important to utilize the knowledge of

the regional inhabitants or the non-governmental organizations (NGO's), while respecting the initiatives of the recipient country.

3. Emphasis on the Realization of Environmental Conservation Measures in Development Projects

In light of the deepening interdependent relationship between Japan and the developing countries, their environmental conservation, particularly the prevention of pollution and the degradation or destruction of natural resources brought about by development projects, has become a key issue.

However, developing countries face tight financial conditions, as is evidenced by their problem of accumulated debts, and as a result, may be in some cases forced to abandon the environmental conservation measures as these will further compound their debt problem. To respond to this reality, it is necessary to utilize Japan's financial and technical assistance effectively so that environmental conservation measures can be undertaken, which would then bring about the benefits expected of the development project.

4. Emphasis on Natural Resources Management

Natural resources such as forests, soil, and water are basis for sustainable development in the developing countries. Being important elements of the regional ecosystem, their careful utilization will ensure the preservation of the valuable species and the genetic resources, which will be of benefit to both the developing countries and the developed countries in the future. Accordingly, there is a need to strengthen the co-operation which contributes to natural resources management, such as the preservation of tropical forests, prevention of desertification, and soil conservation.

5. Development of Capability of Developing Countries in Dealing with Environmental Problems

Developing countries are facing various difficulties in dealing with their environmental problems by themselves. Therefore, it is necessary to extend assistance to improve and expand the legislation, administrative

organizations and structures associated with environmental conservation and natural resources management, and to train the personnel and strengthen the implementation structures so that those systems can operate effectively. Additionally, the awareness and volition of the decision makers is essential if developing countries are to deal with the problems of development and the environment in a positive manner, and in this regard, there is a requirement to stress upon them to increase their determination to tackle these problems.

6. Emphasis on Human Resource Development in Japan

Japan has an abundance of administrative experience and technical knowledge in dealing with air and water pollution, and environmental health, which, if used positively, can be of great assistance to solving the problems of pollution in the developing countries. Co-operation in this area should be intensified. In recent years, Japan has also been accumulating knowledge regarding the problems of degradation and depletion of natural resources in tropical and arid regions, however, the difficulty of coming to terms with these problems may be compounded by social factors within these regions, which gives rise to the necessity to make further efforts to collect, process, and utilize the relevant information. It is, therefore, important to train and secure Japanese specialists, while examining the possibilities of co-operating with the international organizations and the NGO's which have an abundance of knowledge in this area.

7. Emphasis on the Role of Academic and Research Organizations

Japan's academic and research organizations are making positive contributions to the transfer of knowledge and technology associated with development and the environment by accepting trainees and researchers from the developing countries, by training the Japanese specialists who will be playing a future role in this area, and by providing the avenue for personnel exchanges between the developing countries and Japan. In this way, they are playing a key role in the long-term development of human resources, so it is essential that the liaison and co-operation between these organizations and the aid agencies be reinforced.

RECOMMENDATIONS

1. Implementation of Environmental Consideration

(1) Basic Views

In development projects which Japan extends assistance in response to a request by the developing country, the following are the basic principles when incorporating environmental consideration into the project:

- (a) The recipient country is the implementor of the development project.
- (b) The emphasis is on sustainability of development.
- (c) Environmental consideration should be incorporated into the project at the earliest possible stage.

Development projects are implemented at the decision of the recipient country's government, in its territories, within the framework of its laws and institutions, and by taking into account the relevant international treaties. Accordingly, when carrying out environmental consideration for development projects, it must be clearly understood that the implementor is the recipient country itself, and its laws, guidelines and administrative measures related to the environment must be observed.

However, it is a fact that some countries do not have such laws and systems, while others may have them, but do not necessarily apply them appropriately. It is also a fact that the policies and systems differ between countries. Therefore, with this in mind, it is necessary to adopt a flexible approach to the environmental consideration by accepting the variations in the country's policies and implementation systems, by coming to terms with the views of the implementing organizations, and by carrying out full consultation with the recipient country.

If care is not given to the management of the surrounding natural resources when carrying out a development project, there is a possibility that the development will become unsustainable due to the undermining of its very foundations, which, in turn, could unreasonably threaten the basis of the local inhabitants' livelihood. Therefore, in order to ensure that a development project remains sustainable, it must strike a balance

with surrounding natural resources and the foundations of the people's livelihood.

Environmental consideration is to study whether a development project will have significant impacts on the environment or not, to assess the impacts and to incorporate measures to prevent or alleviate its effects, if necessary. It must be carried out as early as possible during a project's planning phase because the environmental considerations in the implementation stage may lead to considerable changes of the project site and design, thus adding unnecessary labour, resources and costs. In other words, it is necessary to carry out an environmental consideration at the stage where alternative proposals to the project site and design are examined and compared. Environmental consideration should be regarded as an essential element of the development plan.

(2) Incorporation into JICA's Activities

In its development survey programme, JICA has worked towards formulating development project plans which include environmental consideration, and, through its project-type technical co-operation, training programme and experts dispatch programme, has been extending assistance for measures to combat environmental pollution, for the conservation and appropriate usage of natural resources, and for other environmental issues. Nevertheless, there is a need for JICA to implement environmental consideration in a more systematic and integrated manner.

Environmental consideration is to identify the environmental impacts of a development project, and to incorporate measures to prevent or alleviate its impact into the project at the earliest possible stage. Consequently, it is critical that an assessment be carried out on projects which are likely to have significant impacts on the environment, the results be reflected in the plan in such a way as to satisfy the needs of the recipient country, and they be utilized when implementing the project.

In light of the above, the Study Group carried out their research on environmental consideration by focussing on the development survey programme (primarily the F/S), and the manner in which JICA puts it

into effect. Below are the conclusions reached regarding screening and scoping for the environmental impact study, and the method of incorporating the results of the assessment on the environmental impacts and other related information in the survey report.

1) Screening and Scoping

- (a) Development projects should be screened to determine whether an environmental impact study is necessary or not, and scoped to clarify the key items of the study if required.
- (b) In addition to the provisions detailed in the annex to the 1985 OECD Council Recommendations regarding the project type and site, screening can be carried out from the following cross-sectoral judgment provisions, which focus on the nature of the impact.
 - * Can the project adversely affect the sustainability of production which depends mainly on natural resources?
 - * Will the project significantly affect people's health?
 - * Will the project lead to a deterioration or loss of valuable living resources and their habitats?
 - * Will the project have an unreasonable impact on the livelihoods and subsistence of the people concerned?
- (c) Screening should be carried out as really as possible before the preliminary survey stage. However, as a comprehensive determination on the necessity of an environmental impact study may not be possible due to a lack of relevant information, it can still be carried out after the preliminary survey stage.
- (d) The S/W agreement is concluded at the preliminary survey stage, and sets forth the overall scope of the survey. Should an environmental impact study be decided upon at the preliminary survey stage, the provision of "Environmental Impact Study" also are laid down within the S/W. When it is recognised that there is a need to reconsider the necessity of the study at the later stage, this should be so recorded in the M/M.

- (e) Scoping is carried out through discussions with the government of the recipient country. These discussions are based on the discussion items which are prepared in advance taking into account the aforementioned cross-sectoral screening judgment provisions. The checklist adopted by the Asian Development Bank is considered applicable for this.
- (f) If scoping has not been possible at the preliminary survey stage, and there is no option but to carry it out during the full scale survey, based on the outcome of discussions with the recipient country which take place during the full scale survey, the important items for the environmental impact study are recorded in M/M.
- (g) The environmental impact study can be carried out by either the recipient government or JICA. Therefore, at the time of scoping, it is necessary to discuss with the recipient country the allocation of undertakings for the study, and to record this and the key items of the study in S/W or M/M.

JICA's Method of Incorporating Screening and Scoping
Procedures into Development Survey

Survey Flow		Content and Timing of Examination	Examination Items
Identification of Survey	Survey request/ Project finding ↓ Receipt of TOR ↓ Examination of TOR	(Screening) . Judgement on necessity of environmental impact study ↓	
Preliminary Survey	Site survey ↓ Consultation and agreement on S/W ↓ Framing of preliminary survey report ↓	(Scoping) . Decision on key items of environmental impact study . Allocation of undertakings ↓	(Records in S/W, M/M) Examination of methods to record items of agreement about screening and scoping (Reporting items in Preliminary Survey Report) Clarification of details up to preliminary survey stage and items of agreement
Selection of Consultants	Framing of working direction ↓ Selection of Consultants ↓	↓	(Direction) Establishment of scope of environmental impact study by consultants and targeted volume of work (Selection of Consultants) Assessment of appropriateness of proposals for work
Full Scale Survey	Framing of IC/R and consultation ↓ Implementation of environmental impact study ↓ Explanation and consultation of DE/R ↓ Framing of F/R ↓	↓	(Design of Environmental Impact Study) Consultation and decision on items, methods etc. of study based on results of scoping (Monitoring) Check on whether appropriate environmental impact study is being carried out or not (Final Reporting) Clarification of results and recommendations of environmental impact study

2) Environment-Related Items of a Report

(a) Preliminary Survey Report

In the preliminary survey, full consultation should be held with the recipient country regarding screening and scoping for the environmental impact study. The outcome of this consultation should be recorded in the preliminary survey and should contain:

- a) a clear indication of the grounds for carrying out the environmental consideration:

relevant laws and treaties; guidelines; examples of environmental consideration in similar projects

- b) a clear indication of the contents regarding the environmental consideration which was agreed upon in the S/W discussions:

TOR of the full scale survey; allocation of undertakings of the study; the survey schedule, etc.

- c) a clear indication of the factors which are to be taken into account when carrying out the environmental consideration:

the recipient country's systems for the implementation of environmental consideration; aspects associated with the local residents; flora and fauna of the region, nature reserves and other protected areas, and cultural assets etc. which require special attention

If, however, scoping cannot be completed during the preliminary survey stage due to a lack of information etc., the progress of consultations thus far and the items of examination for the full scale survey should be recorded.

(b) F/S Report

The F/S report comprises important information which forms the basis for the recipient country's examination on whether to proceed with a project or not. It should contain the result of the environmental impact study and measures to counter that impact, and meet the requirements of lending agencies including the OECF. It should include the following items where necessary:

- a) the method of studying and analysing the environmental impacts;
the method of collecting data; the use of models etc.
- b) the type of impact, and its degree and scope
- c) the assessment process:
environmental standards, method of assessment and the process of the assessment
- d) a clear indication of the way in which the result of the assessment is reflected in the project design (including the conservation measures), and the comparison and examination of the alternatives (site, scale, facilities and costs):
- e) a clear indication of the contents of additional surveys if required
- f) a proposal of the items, method and system of monitoring if required in both construction and operation stages.

(3) Incorporation into OECF's Activities

Environmental consideration is carried out by OECF throughout the various stages of a project, from examination and appraisal to post-completion evaluation, in the following manner.

(a) Pre-Appraisal Stage

During the period between the receipt of a request for loan assistance and the dispatch of an appraisal mission, OECF confirms the necessity of acquiring additional information related to the environment, based mainly on the F/S report which was submitted by the recipient country, and examines the need to include environmental experts in the appraisal mission.

(b) Appraisal Stage

At this stage, OECF confirms the suitability and feasibility of the environmental conservation measures. Specifically, it

confirms the technical level of the measures (the country's maintenance and management capability, and the cost effectiveness regarding their ability to meet the costs involved), the budget allocation, the capabilities of the authority responsible for the environment and its relationship with the implementing organization. If it becomes necessary to modify a portion of the conservation measures, OECF then discusses this with the recipient country.

OECF carries out an economic appraisal of the project by including the costs of the conservation measures in the overall project cost. Should it be necessary to monitor the impact on the environment at the implementation stage of the project, this is recorded in the M/D after the consultation with the recipient country.

(c) Approval Stage

When approving loans for the project OECF confirms with the recipient country that the contents of the minutes agreed upon during the appraisal stage, such as the implementation of conservation measures and monitoring, will be observed.

(d) Project Implementation Stage

During the implementation stage OECF carefully examines the progress reports forwarded by the borrower or the implementing organization to confirm that the conservation measures are being properly implemented, and that no environmental problems have arisen. It also acquires additional environmental information through its overseas offices, and if necessary, includes the environment on the list of items for examination by the project supervisory mission.

(e) Post-Completion Evaluation Stage

Based on the Project Completion Report submitted by the borrower, OECF confirms that the environment-related matters which were agreed upon during the appraisal stage have been carried out, and, if required, gathers additional information from the recipient country. OECF also confirms the necessity

for subsequent conservation measures by examining the effects of measures already in place, and by checking whether any environmental problems have arisen since the start of the operation stage.

OECE's Method of Incorporating Environmental Consideration
into Development Project

Project Flow	Examination Contents and Stage	Examination Items/Steps
<p>Appraisal</p> <p>Request ↓ Examination of F/S and I/P (desk examination) ↓ Dispatch of appraisal mission (M/D) ↓</p>	<p>Confirmation of environmental items in F/S and I/P</p> <p>Confirmation of feasibility and suitability of conservation measures <ul style="list-style-type: none"> • capability of implementation • financial backing </p>	<ul style="list-style-type: none"> • Check of F/S and I/P (identification of insufficient information etc.) • Need for environmental experts in mission etc. • Acquisition of additional information • Co-ordination ability of authority responsible for environment (relationship with implementing organization, capabilities etc.) • Budget allocation • Technical level of conservation measures (ability to maintain and manage, cost effectiveness etc.) • Economic appraisal (where possible) • Monitoring method, others
<p>Negotiations</p> <p>L/A negotiation ↓ Board Approval ↓ L/A conclusion</p>	<p>Confirmation of M/D observation</p>	
<p>Supervision</p> <p>Implementation of project (procurement, construction etc.) ↓ [Completion] Operation maintenance, management ↓</p>	<ul style="list-style-type: none"> • Confirmation that conservation measures have been implemented • Confirmation that environmental problems will not arise during construction stage and after completion 	<ul style="list-style-type: none"> • Environmental check based on Progress Report • Acquisition of additional information through overseas offices • Dispatch of supervisory mission (inclusion of environmental study in TOR) <p style="text-align: right;">} As necessary</p>
<p>Post-Completion Evaluation</p> <p>Post-completion evaluation</p>	<ul style="list-style-type: none"> • Confirmation of the effect of conservation measures • Check on whether environmental problems have arisen, and confirmation of the necessity for subsequent conservation measures 	<ul style="list-style-type: none"> • Check of environmental items in Project Completion Report submitted by borrower (implementation of conservation measures, monitoring, etc.) • Collection and study of information on whether there are any environmental problems during the examination based on PCR. If problems exist, examination of their degree and the necessity for further measures will be examined.

Note: This is the procedure regarding OECE. Additional government-level procedures include the dispatch of government missions, prior notification, and the E/N.

2. Expansion and Enhancement of Environment-Related Projects

(1) Basic Views

There are three aspects fundamental for Japan to expand and enhance environment-related projects. Firstly, Japan has an abundance of knowledge regarding measures to counter pollution. Secondly, Japan, although she is endeavouring to accumulate the knowledge, has not enough knowledge in the management of natural resources in arid and tropical regions. This area is of extreme importance to the developing countries, however social and cultural factors etc. make it difficult to deal with. Thirdly, suitable assistance for the institutional building of developing countries cannot be expected without an understanding of the social and cultural conditions of the recipient country.

Although Japan's aid agencies have extended various forms of development assistance concerned with environmental issues, including training and the preparation of the plans to combat pollution, there is a need to expand and improve projects in those areas where Japan has an abundance of knowledge as a means of responding to the increasing demand for environment-related development assistance. Meanwhile, there is also a necessity to train specialists in fields where there are difficulties in responding to the needs of the developing countries, or where a detailed understanding of the social and cultural background of the recipient country is required. The training of Japanese specialists can be achieved during the implementation of the project itself, or through training or co-operation with the NGO's. The expansion and enhancement of environment-related projects will bring the desired results only when they are linked to the training of Japanese specialists, and not by simply pursuing projects. With this in mind, it is essential that Japan's aid agencies adhere to the following cycle when extending development assistance: implementation of project - accumulation of experience - training of Japanese specialist through the use of experience gained - implementation of a more effective project.

Of the areas included in the broad heading of environment-related development assistance, the first to come to mind is that which will enable the developing countries to tackle environmental problems

effectively. More specifically, it focuses on the lack of trained people and the weakness of the institutional capability to address environmental issues, as well as the lack of basic information on the environment and natural resources. Next is assistance for pollution control programmes which improve the quality of the environment itself. The third is the provision of low interest loans, grants or technical assistance as a means of ensuring that the various conservation measures proposal in the F/S report are carried out even when their implementation is threatened by financial constraints.

Japan must develop these assistances by utilizing its technical assistance systems to its fullest extent. Furthermore, Japan should also actively approach the UN agencies when identifying and implementing environment-related projects.

(2) Tackling Environmental Problems

1) Development of Human Resources and Institutional Building in Developing Countries

(a) Training

When extending assistance to the developing countries for training, it is necessary to ascertain their needs regarding the field of training, the level of training, organizations to receive the training, and the form which the training will take, and then align it with the stage of development of the environmental administration: the country may have a pressing need for people trained at a technical level, or at a policy level. Furthermore, since it is extremely important to view development and the environment as forming an inseparable bond, training for both fields must be carried out in an integrated manner.

There is also a need to undertake programmes in which developing countries tackling environmental problems in an advanced manner in each region of Asia, Central and South America, and Africa use their knowledge and expertise to train people of other countries within the same region ("third country training programme"). Training programmes should also be established in conjunction with the regional

offices of the UN and the international aid agencies. Both of these training measures have the potential to deliver highly effective results based on the experience, skills and knowhow which are acceptable and applicable to respective regions, and should be looked at from a medium-term point of view.

Although manpower development under project-type technical co-operation, which combines into one the dispatch of Japanese experts, the training of counterparts in Japan and the provision of equipment and material, will bring considerable results relative to its scale and time-frame, it requires Japanese side a long-term exercise to improve the structure for carrying this out, and to train Japanese specialists more systematically. Accordingly, countries which are tackling environmental problems within the region in an advanced manner must be at the core of the implementation of this form of assistance.

[Fields of Training]

- * Environmental monitoring, data analysis, information management, methods to incorporate environmental information into the administration
- * Environmental pollution control measures
- * Measures for environmental sanitation
- * Conservation and appropriate use of natural resources
- * Environment and development policies

[Levels of Training]

- * Persons responsible for the formulation of policies and plans
- * Persons responsible for project implementation and management
- * Technical experts

[Organizations]

- * Central environmental administration authorities
(including research institutes: same for all below)

- * Central development administration authorities
- * Regional environmental administration authorities
- * Regional development administration authorities
- * Private enterprises

[Form of Assistance]

- * Dispatch of specialists
- * Project-type technical co-operation
- * Acceptance of trainees
- * Training in a developing country ("third country training programmes)
- * Development survey
- * Joint training with UN, international aid agencies, and aid agencies of the developed countries

(b) Institutional Building

One factor which inhibits the environmental administration is a lack of information regarding the condition of the environment in developing countries. Although the developing countries are attempting to establish environmental research institutes and monitoring network, there is still much to be done, and is an area in which a great deal is expected of Japan.

Research institutes of the developing countries range from those small of scale with few experience of research and monitoring, to those well equipped with an abundance of specialists and achievements, so it is necessary to ascertain needs for the next step when examining and implementing assistance. For example, for the small-scale research institutes, Japan should look at undertaking rather basic training programmes by sending specialists who can give guidance in basic environmental research techniques, and for the medium/large-scale institutes with a number of achievements, comprehensive training programmes by sending specialists who can give guidance not only in environmental monitoring, but also in the comprehensive analysis of information.

Keeping in mind that environmental problems are inherently regional, an institution for environmental monitoring and research is important not only at the central government level, but also at levels which generally equate to Japan's prefectures and cities, and it is desirable that development of an institution takes place at each level responding to the nature of environmental problems.

While assistance towards strengthening monitoring and research capability is important, expenses for its operation, maintenance and management are normally quite considerable. Therefore, giving consideration to the limited budget and number of trained people at the disposal of the developing countries, it is important not only pursue the quantitative increase of monitoring stations, but also try to cooperate for rationalization of monitoring network in the field. Furthermore, the incorporation of the information obtained by monitoring into the environmental administration to the full extent is vital in that it will raise the cost effectiveness of the monitoring, and increase the capacity to deal with the environmental problems. In order to achieve this, it is necessary to ensure that there is an understanding between those responsible for monitoring and the administrators, and to transfer the technique of analysing the data and the method of incorporating it into the environmental administration.

2) Preparation and Development of Information Relevant to Natural Resources

It is pointed out that there is a lack of information on the environment and natural resources when incorporating environmental consideration into a development project. Therefore, it is necessary to examine and undertake projects below to redress this situation.

(a) Country Environmental Profiles

This approach is taken by USAID, and has started to be taken by the World Bank. This project should be undertaken in a

comprehensive manner incorporating the various agencies and groups which have a detailed knowledge of the target area and country. For example, in its environmental profile for Paraguay, USAID is conducting a wide-ranging study on development and the environment through its Paraguay office, with participation from the Paraguay Economic Planning Agency, government research agencies, university scholars, and the international NGO, IIED (International Institute of Environment and Development). Should Japan carry out this type of project, results can be anticipated only when it has received the co-operation of agencies, groups and scholars connected with the target region, and it is imperative that the study deal with development and the environment in an integrated manner. In addition to carrying out the country environmental profile project, it would also be effective to carry it out as a joint project with other aid agencies.

(b) Survey on Regional Natural Resources

These surveys are aimed at getting information on the overall condition of the natural resources, including forests, soils, water, flora and fauna, of areas which are particularly critical for development and natural resources management, or areas which are significant for the protection of the valuable species or the securing of habitats. Although JICA is undertaking resource surveys in several fields, a much more comprehensive approach is required if the results are to be utilized as base-line data for environmental consideration in development projects, or as reference material for examinations into the conservation or the appropriate usage of natural resources.

(c) Co-operation to Research Institutes

In considering the management of natural resources of the developing countries, it is essential for the developing country itself to prepare the related information, and to improve its management capabilities. Needless to say, assistance can be extended in response to their requests by carrying out the projects mentioned in (a) and (b) above,

however, it is difficult to carry out this assistance over a long term and over a wide range of areas. A possible way of carrying out sustained assistance is to extend co-operation to the developing country's institutes which are conducting, or capable of conducting, research on natural resources management over a long period. Through this type of co-operation, it might be expected that in the future these institutes will become central in undertaking the projects mentioned in (a) and (b) above.

(3) Assistance for Improving the Environment

1) Formulation of Master Plan

Requests for assistance to formulate a master plan to counter pollution and to promote environmental health have been increasing in recent years in a reflection of the worsening situation in the cities and surrounding areas of the developing countries. This is an area in which Japan has a wealth of knowledge and skill, so it is necessary to continue this assistance, including the positive implementation of projects, while keeping in mind its relationship with the national development plan or the regional integrated development plans concerned.

The master plan is normally carried out in the form of a development survey, and is highly effective in that it provides for the transfer of environmental monitoring skills to the developing country through on-the-job training during the survey, and the transfer of skills in drawing up environmental conservation measures. While it covers a wide range of areas such as air and water pollution, waste treatment, water supply, and sewer systems, in the future these areas should be looked at not only in isolation, but also as an integrated element of the city or its surrounding area. The master plan normally presents the various steps for the implementation of the plans in the form of action programmes, and it is important to adhere to those steps through comprehensive technical assistance, thereby further increasing the effectiveness of the overall assistance.

2) Projects to Restore Natural Resources

It is crucial to restore the natural resources which have been, or are being, degraded or depleted due to the various economic activities in the developing countries, as it leads to a strengthening of the foundations for sustainable development in the future. There are numerous undertakings which can be carried out for land which has been ruined by soil erosion, deforestation, or excessive grazing such as soil conservation, the planting of trees, formulating plans for reforestation, training programmes or pilot projects through project-type co-operation or grant aid, private-based development projects, and afforestation programmes using yen credits. Needless to say, it is necessary to expand and enhance these projects further. Moreover, it is important that the contents of these projects reflect the conditions of the target area, and are able to obtain the participation and support of the regional population in the region. In this regard, it will be necessary to understand the way of life and the social structure of the people, and examine ways and means to offer incentives for their participation. Furthermore, it is desirable that contact with the active NGO's and members of the Japan Overseas Co-operation Volunteers (JOCV) who are deeply involved in regional activities at the grass roots level be strengthened.

(4) Technical and Financial Assistance

1) Developing Countries' Constraints in Implementing Environmental Consideration

Various difficulties in the areas of finance, technology, personnel, organization and the institutes are likely to be encountered when developing countries implement environmental consideration for development projects.

While development projects contribute to the recipient country's social and economic development, considerable expenditure is required to prevent the resultant adverse effects on the environment, such as pollution, a deterioration of the environmental health conditions, and the degradation or depletion of natural resources etc. This expenditure should be met by the

country carrying out the project, however, there is a case that it become a considerable burden due to financial constraints.

Furthermore, many large scale development projects are implemented with financial assistance from the international aid agencies or the developed countries however raising the funds for environmental measures through ordinary loans result in an increase to their debt burden. For developing countries with unfavourable financial conditions, this can lead to difficulties in carrying out not only the environmental measures, but also the development project itself.

In light of this, when Japan undertakes development assistance to realize the sustained development of a developing country, it is necessary both to propose conservation measures which take into account the country's economic and social conditions and their future development, and to examine the provision of financial and technical assistance to ensure that the environmental consideration is carried out.

2) Environmental Conservation Measures

In this report, "environmental conservation measures" represents projects which are designed to mitigate the environmental impact of a development project and to prevent the deterioration of the environment.

The aims of these projects differ to those of the primary development projects and therefore may not be accepted from the view point of the economic and profitability concepts to date. So it is desirable to examine forms of assistance which are different to those of the primary project itself.

For conservation projects, it is necessary to link and co-ordinate with the primary project itself the different forms of assistance such as loans, grants, technical assistance (dispatch of experts, JOCV volunteers etc.), private-based development projects, and assistance from the NGO's.

For example, the feasibility of separating the grant aid from the loans for the primary project, and using grant aid for the installment of equipment for pollution prevention or the construction of facilities to prevent the degradation of the natural resources associated with the project, should be examined.

Additionally, for the management of environmental conservation facilities, for environmental impact monitoring during the implementation of the project, and for disease control measures to respond to the deterioration in the sanitation conditions brought about by the main development project, it is necessary to undertake non-financial forms of assistance such as the dispatch of experts, project-type technical co-operation providing consulting services using yen credits, and other forms of technical assistance for the operation, maintenance, and management of equipment provided through the above-mentioned financial assistance.

Since detailed assistance at the grass roots level for community-based afforestation activities or soil conservation measures to prevent deforestation or soil erosion is counted upon by the developing countries it is also necessary to examine the feasibility of sending volunteers from JOCV, or offering support to the activities of the NGO's.

(5) Identification and Implementation of Environmental Projects
(co-operation with UN agencies)

While it is critical that Japan identifies and implements projects associated with the environment which are highly effective and which contribute to the development of the country, it is also a reality that a high priority cannot always be given to this type of project. In order to deal with this, UNEP (UN Environment Programme) established the "Clearing House" programme, while the UN specialized agencies like FAO (Food and Agriculture Organization) and WHO (World Health Organization) etc. are currently enhancing their efforts towards environmental issues.

It is essential that Japan identifies environment-related projects not only within a bilateral frame, but also by actively utilizing the above-mentioned UN agencies. In particular, it is important to identify and implement projects associated with natural resources by utilizing these UN organizations, while holding discussions at the bilateral and multilateral level, since the views and values of the developing countries on these matters are diverse. At the minimum, it is essential that JICA and OECF attend the various meetings of these organizations. It is also essential to hold dialogue with the NGO's which are active in the respective developing country.

Moreover, the UN organizations and the international aid agencies are playing a key role in identifying and formulating projects such as these, and it is necessary for the overseas offices of JICA and OECF in the countries in which these organizations are represented to maintain a very close liaison with them.

3. Systematic Development of Environmental Information

(1) Basic Views

In order to carry out environmental consideration and to expand and enhance environment-related projects efficiently, one of the important tasks which JICA and OECF should undertake urgently is survey and research aiming at the collection and development of environmental information.

Firstly, it is crucial that JICA and OECF compile the information currently held by them, as well as that which has been acquired as a result of active liaison with other aid agencies of the developed countries, international aid agencies and NGO's, into a form which can be readily used in the implementation of a project.

Secondly, it is desirable that the contents of the survey and research support the implementation of the environmental consideration or the expansion and enhancement of the environment-related project.

In both cases, it is essential to be thoroughly prepared before undertaking the systematic development of the environmental information, and long-term measures are necessary.

(2) Collection and Development of Information

1) Systematic Development of Information held by JICA and OECF

(a) Utilization of Existing Information

Work reports by experts, survey reports and other forms of information, which have been accumulated by JICA and OECF through their various projects, can become an extremely effective tool for the efficient implementation of future projects. In particular, in order to ensure that the information will contribute to the environmental consideration or to the expansion of environment-related projects, which is the main theme of this study group, it must contain not only basic information regarding the environment and the development of each country, but also information which, utilizing the experience in implementing environmental consideration of both organization and the

knowledge of specialists, is compiled into case studies of environmental problem areas in past projects, the measures to counter those problems and their results. One possibility is to compile the existing information held by JICA and OECF, the World Bank, and RWI (World Resources Institute), etc. into country profiles.

(b) Enhancement of Information Collection/Development by Overseas Offices

The enhancement of the information collection and survey functions of the overseas offices of JICA and OECF is one of the key issues faced by them. The activities of the programme survey officers, which were commenced by JICA in 1988, are expected to contribute to the improvement of those functions.

At OECF, it is desirable to strengthen further the information collection activities in the countries where they have representation by raising the level of feed back of information about environmental problems acquired at the meetings of the overseas representatives of the major aid agencies etc. to the headquarters, in addition to increasing the passage of information regarding those problems from the headquarters to the overseas offices.

2) Access to Information of Other Japanese Institutions

(a) Government Authorities, Research Organizations, and Local Governments

The relevant government authorities or their research organizations, and local governments are developing and expanding their information on the environment and natural resources which is beneficial to Japan's environment-related development assistance. Therefore, it would be advantageous to fully utilize these sources of information by strengthening the ties with them.

Moreover, it is necessary to examine the usage of the existing commercial data base as some of the information contained therein is quite relevant.

(b) Liaison with NGO's

While there are Japanese NGO's which participate, directly or indirectly, in development assistance, it is apparent that Japan's aid agencies do not have sufficient information about their activities. In order to obtain a wide range of information about the developing countries, it is important to establish a close liaison not only with the government organizations but also with the NGO's which are engaged in direct assistance or are aware of the local conditions. For example, it would be extremely beneficial to hold joint seminars and symposiums with the NGO's of Japan and the developing countries to collect and develop the information held by them, and to establish links with the recently established Japanese NGO Center for International Cooperation etc. in order to broaden the understanding of the activities of Japan's NGO's.

The inclusion of information related to NGO's at the library within the JICA International Co-operation Centre would lead to a comprehensive understanding of international co-operation at the various levels, and would be of benefit in improving its function as an information centre.

3) Liaison with Other Aid Agencies

(a) UN and International Aid Agencies

Within the UN organization, UNEP, UNDP (UN Development Programme), FAO, WHO, and ESCAP (UN Economic and Social Commission for Asia and the Pacific) have been tackling the problems of development and the environment since the early stage. Additionally, OECD and the international development funding agencies, including the World Bank, have shown deep concern for the environmental problems faced by the developing countries, and are actively dealing with projects and programmes related to the environment (for example the World Bank's country environmental profiles) by setting up special departments within their respective organizations.

It is crucial that JICA and OECF collect information and establish a close liaison with these agencies by actively participating in the important conferences, seminars and symposiums sponsored by them, and reflect the results of this participation into the activities of JICA and OECF.

(b) International NGO's

Among international NGO's, IUCN (International Union for the Conservation of Nature), IIED, and WWF (World Wildlife Fund) are very active international GNO's which have expertise on development problems in the environmental field, and possess an abundance of information through their respective world-wide networks. Many aid agencies within the developing countries, and the UN and international aid agencies are strengthening their links with these NGO's by extending financial support to their programmes, and entrusting development projects to them, while on the other hand, the relationship between Japan's aid agencies and the international NGO's is relatively shallow.

Since the activities of the international NGO's have a great influence on the environmental policies of the developing countries and the policies of aid for the environment of the advanced countries and the international development funding agencies, JICA and OECF should strengthen this relationship through the active participation in seminars and symposiums etc. carried out by them.

(c) Aid Agencies of the Developed Countries

The institutions for the implementation of environmental consideration of the OECD member countries are well established, and have a plenty of experiences in this field. The holding of joint seminars and the regular exchange of reports etc. with these aid agencies will contribute to the qualitative and quantitative improvement of environmental information.

JICA commenced an exchange of information with the major aid agencies this year with the introduction of the NIMISIS/IDRIS data base, which is operated by Canada's International Development Research Centre.

(3) Promotion of Survey and Research in Japan

1) Survey and Research for the Formulation of Guidelines

When drawing up guidelines and manuals for environmental consideration, it is necessary to undertake numerous surveys and studies regarding the typical problems within each sector and the method of undertaking the related environmental consideration.

2) Development of Applicable Technology

The development and application of technology which corresponds to the social and economic conditions of the developing country has become an urgent issue. JICA has already undertaken survey and research on appropriate technology for infrastructure development, agricultural development, and small and medium sized businesses, as have the related government agencies.

When examining this technology, it is a matter of course that the social and economic, cultural, natural, and manpower conditions of the country be taken into account, however, it should also be remembered that the advanced technology which has supported Japan's development is not necessarily of benefit to the development of the developing countries.

Based on this, the following three approaches might be considered.

(a) Register of Japan's Applicable Technology

There are many examples of Japanese technology which can be applied to the developing countries for environmental conservation measures. However, since Japan is making rapid progress in the field of the development of environmental conservation technology, if the experiences of technological development are not recorded nor accumulated, the engineers who developed and managed it, the associated knowhow, and in fact, the technology itself, will cease to exist.

In order to utilize Japan's technology to its fullest, it is necessary to compile a "Register of Applicable Technology" by carrying out a survey to identify its location and form. Local governments and business have an abundance of information about environmental conservation measures, and these organizations have the knowledge of technology associated with development as well, therefore, it will be necessary to carry out the survey with the co-operation of these organizations.

(b) Development of Applicable Technology

If Japan's technology for environmental conservation or sanitation, which is characterized by its high cost, sophistication, and the need for a high level of management, is transferred to the developing country in its present form, it may not be able to display its expected effectiveness due to various restrictions or a difference in the country's natural and social requisites. It is essential that JICA, with the co-operation of the relevant organizations, develop technology in a form which can be applied to the developing countries. While it should be developed mindful of the restrictive conditions of the recipient country, there is a need to use positively the surplus land and the abundant human resources of developing countries.

(c) Developing Countries' Knowhow and Traditional Techniques

When examining broad and general conservation measures or the environmental consideration for a development projects, there is a necessity to include in the examination the recipient country's development methods and traditional techniques which can be of use. However, for Japan, this is an area in which there is a dearth of information. Accordingly, it is appropriate that JICA and OECF gather information about these aspects during the implementation of projects or through the on-site activities of JICA's experts, and compile that information systematically. Furthermore, it is necessary to exchange information with

the international aid agencies and the NGO's which are knowledgeable in these areas.

- 3) Development of Simple Environmental Pollution Prediction Models
Environmental pollution predictions are considered essential when carrying out an environmental assessment or when examining conservation measures for development projects. However, it is very difficult to apply a level of technology similar to that of Japan, due to a lack of information regarding the environmental conditions of the developing countries. On the other hand, the rapid introduction of personal computers by the developing countries is anticipated, therefore, if Japan can develop and provide simple prediction models which correspond to this level of technology, it will enable the developing countries themselves to tackle the various problems using their own expertise, and will become an effective weapon in supporting their self-reliant efforts.

At present, there is a need to develop the basic soft-ware in Japan, modify it so that it can be used in the personal computers of the developing countries, and then continually update it as it is being applied to actual development projects.

- 4) Examination of Regional Environmental Management Methods
Through its development surveys, JICA is studying measures to counter pollution of specific regions by focusing on the environmental elements of air and water. However, this does not include the environmental management of the region itself. The various developments being undertaken in a given area will place certain pressures on the environment and natural resources of the entire region, which implies a necessity in the future for regional environmental management so as to ensure a balance between development and the environment within the region as a whole. It is viewed that this regional environmental management will constitute environmental consideration for the integrated regional development plans.

Before examining the form of management which might be adopted, it is necessary to study first the respective country's regional management structures and the problems they are facing. It is believed that the importance of survey and research operations similar to those of the UN Regional Development Centre, which is looking into systematic regional management methods which are based on the existing structures, will continue to grow. It is desirable that, in addition to giving support to survey and research operations such as these, JICA and the other aid agencies carry out thorough and long term investigation into the forms of regional environmental management which can be applied when examining definite regional developments, based on those results.

5) Development of Training Material

It is extremely important to use at all times the results of the survey and research mentioned above in training Japan's specialists. Therefore, it becomes necessary to compile those results and the experience gained in environmental consideration into a form which is usable for training purposes, and to investigate and develop its contents and the training methods to ensure that they are practical. At this stage, it is envisaged that this training material will include guidelines and manuals associated with environmental consideration, the Register of Applicable Technology, and the knowhow and traditional techniques of the developing countries.

4. Institutional Arrangements of Aid Agencies for the Implementation of Environmental Consideration

(1) Basic Views

Japan's official development assistance must take the environment into full account if it is to support the efforts of the developing countries to achieve sustainable development. It is undertaken mainly by JICA and OECF, both of which have been endeavouring to implement development assistance projects which give consideration to the environment in co-operation with the relevant government authorities. However, it is evident that the institutional arrangements for incorporating environmental consideration into projects appropriately have not been fully developed.

In order to expand Japan's official development assistance which gives appropriate consideration to the environment, the co-operation between JICA and OECF, and the related government authorities must be strengthened. OECF extends yen credits to numerous development projects based on the F/S and other survey reports prepared under the development survey programme of JICA, therefore, it is essential to strengthen the liaison between JICA and OECF in the areas of project co-operation and information exchange in order to undertake development assistance which takes the environment into full account, from the development survey stage through to the funding of the project.

The overseas offices play a vital role at development project sites in ensuring that the environmental consideration is appropriately carried out, so it is necessary to strengthen their functions to enable them to deal with the increasing amount of work more adequately, which, in turn, will promote a more effective and efficient implementation of the project.

In order to achieve a more appropriate environmental consideration, it is essential that the officers of JICA and OECF who are responsible for its implementation have a full understanding of its necessity, and a better knowledge of the problems of development and the environment. There is also a necessity to press for a proper understanding of the balance between development and environmental conservation among experts who are

engaged in technical or financial co-operation, as well as to train people so that they can carry out the environmental consideration properly.

It is important to strengthen the co-operation with the UN agencies, the international aid agencies, and the aid agencies of other developed countries, and to utilize their expertise in training and in the implementation of environmental consideration.

(2) Organization and Structure of JICA and OECF

1) JICA Headquarters

- (a) Although JICA has endeavoured to implement projects which take into consideration the environment, such as development surveys and project-type technical co-operation, by using their Development Specialists (in-house consultants), environmental specialists from outside of the organization, or development experts who are knowledgeable in environmental issues, there is still room for improvement in its implementation structure.

Environmental problems are cross-sectoral, and common to each aspect of development, so it is essential that the department responsible for planning and coordination play the major role in systematically strengthening and enriching the implementation of an appropriate environmental consideration. This can be achieved by setting up a permanent unit within the department (for example, an environment unit) to undertake the following tasks:

- a) preparation of guidelines or manuals on environmental consideration;
- b) advice to the project departments on screening and scoping in development surveys and grant aid;
- c) advice on the implementation of environmental assessments;
- d) advice on the active inclusion and improvement of environment-related subjects in the staff training programme;

- e) advice on environment-related training which is aimed at fostering specialists; and
- f) other important tasks regarding the environment.

(b) It is also important to compile a list of the Japanese and overseas environmental experts (local public bodies, consulting firms, environmental groups, experienced scholars etc.), and to engage these people as members of survey teams or to send them to the developing countries as JICA experts, in order to contribute to a more effective implementation of projects.

2) OECF Headquarters

As the first step towards a uniform implementation of environmental consideration, OECF appointed an environmental expert as Environmental Advisor, a position which was established in October 1988 within its Technical Appraisal Department. It is, however, desirable that they enhance their structure even more in the future. In order to ensure that environmental consideration is carried out at an earlier stage within the development project, the principle duties of the Environmental Adviser should be:

- a) to confirm that environmental consideration is being properly incorporated in the development projects being carried out by the various technical specialists, and to give advice to them as required;
- b) to develop guidelines on conservation measures or environmental consideration; and
- c) to formulate and implement staff environmental training programmes.

3) Functions of the Overseas Offices

An increase in the amount of available assistance has also seen an increase in the opportunities to negotiate the implementation of that assistance directly with the government of the recipient country through close liaison. It has been strongly pointed out that there is a need to build up the functions of the overseas

offices to ensure a more effective application of development assistance.

The role of the overseas offices is greatest when carrying out technical or financial assistance which gives appropriate consideration to the environment. While there is a need to increase the staff number at the overseas offices in order to improve their capabilities to collect information regarding development and environmental problems, and to improve their basic survey capabilities for project formulation, project follow-up and evaluation, conditions seem such that large increases in the staff number are difficult.

An alternative to this is to increase the size of the local staff, or to use local consultants or university/research institute scholars in the collection of basic information to a greater degree. It is also necessary to promote the exchange of information with the overseas offices of the bilateral and multilateral aid agencies.

(3) Co-operation between JICA and OECF

Although the operations of JICA and OECF are different in content and character, much of the information and expertise accumulated by both organizations can be of mutual use. It is essential that the co-operative relationship between the two organizations be strengthened even more so that environmental consideration can be carried out consistently.

(a) Advisory Committee

When it is likely that a project will be undertaken with yen credits, OECF's Environmental Advisor might participate in the Advisory Committee of JICA, as required, from the point of view of ensuring that the environmental consideration is carried out consistently from the F/S to the project's implementation. It is also important to utilize the knowledge of people well-versed in environmental issues when a project is likely to have a significant effect on the environment.

(b) JICA/OECF Liaison Meeting

The JICA/OECF Liaison Meeting might be used as a forum to examine development assistance which brings together financial and technical assistance. The joint holding and use of environmental information which is at present held separately, and joint seminars and training to raise the level of competency and environmental awareness of the staff members of both organizations might also be put on the agenda.

(4) Human Resources Development in Japan

When examining the methods of implementing environmental consideration, it is extremely important that this examination include the training and securing of the specialists who will be responsible for that implementation, and staff training in the aid agencies.

1) Training and Securing Experts

- (a) Japan has the trained personnel who can respond to the requests for development assistance from the developing countries regarding environment-related projects of the urban areas (waste, air and water pollution, water supply, and sewer systems). In particular, local public organizations, which are at the forefront of this field, are in possession of the engineers for urban management, and can play a key role in this area.

Securing the trained personnel in the field of natural resources management including desertification in the Saharan region can be a more difficult task as compared with the environmental problems of urban areas. If Japan is to overcome this difficulty, it will be necessary, considering the training implications of a project itself on the personnel participating in the project, to focus more on on-site training.

In order to extend assistance to counter the environmental problems within the urban areas or to undertake projects for

the management of natural resources effectively, it is necessary to give comprehensive training in the field of economy, society, culture, and the appropriate technological development of the recipient country to the people engaged in the development assistance.

(b) A sectoral approach should be adopted for training along the following lines:

a) Specialists in the Field of Environment

This type of training is targeted at people specializing in environmental issues, and is aimed at teaching the methods of environmental impact assessment, environmental consideration carried out by the other developed countries, and the process of development project determination and its implementation.

b) Specialists in the Field of Development

This type of training is targeted at the specialists who will be responsible for development projects to build dams, harbours, roads etc., and is aimed at teaching how to incorporate environmental consideration.

(c) The people responsible for environmental consideration in the development survey are consultants, and in this aspect, they play a key role. Therefore, it is necessary for the aid agencies to hold seminars etc. inviting these consultants as a means of improving environmental consideration.

2) Staff Training in Aid Agencies

Training for the staff of the aid agencies is crucial since they are to carry out environmental consideration, particularly in natural resources management, as the number of people competent in this field are limited.

The following specific forms of training need to be undertaken.

- (a) Lectures and seminars for the staff members of both JICA and OECF, to which environmental specialists from the aid agencies of the other developed countries and the international aid agencies etc. are invited. Additionally, there is a need to look into seminars etc. which are jointly sponsored by JICA and OECF so that the issue of environmental consideration can be dealt with consistently from the technical assistance through to the loan assistance.

- (b) Wide ranging personnel exchanges with the Japanese and overseas aid agencies to observe and learn from their expertise.

- (c) Provision of information on the environment and on the headquarters' related policies and measures to the overseas offices in an attempt to raise their level of awareness of the environment, and to increase their capabilities to tackle the associated problems.

5. Items for Future Works

The study group's decision to compile this report by October 1988 has necessitated a scaling down of the items which were to have been examined by then. Consequently, the emphasis of the study has been placed not on detailed technical issues, but on the fundamental issues on which technical issues should be based. Accordingly, it is believed that there is a need for further systematic examination of the following items:

- (1) scoping methods and the items to be included in the related discussions with the recipient country;
- (2) guidelines and/or manuals on environmental consideration; and
- (3) evaluation methods of completed projects from the environmental viewpoint.

An examination of these items must give full consideration to the basic concepts of environmental consideration and to the cross-sectoral screening criteria laid down in this report so that it ensures the quality and the effectiveness of environmental consideration.

AID STUDY GROUP ON ENVIRONMENT

Area of Speciality	Member	Position
1. Environmental Policy (Chairman)	Michio Hashimoto	Vice Director General: International Lake Environmental Committee Foundation
2. Natural Environment	Kazutake Kyuma	Professor: Faculty of Agriculture, Kyoto University
3. Environmental Information	Sukehiro Gotoh	Director: Environmental Information Division, National Institute for Environmental Studies
4. Environmental Management	Masahisa Nakamura	Associate Head: Research Division, Lake Biwa Research Institute, Shiga Prefecture
5. Development Co-operation	Masashi Nagasu (until September 1988)	Director: First Economic Research Division, Economic Research and Technical Appraisal Dept., OECF
	Kazumi Gotoh (from October 1988)	Director: Technical Appraisal Coordina- tion and Planning Division, Technical Appraisal Dept., OECF
6. Socio-economy	Shigeaki Fujisaki	Researcher: Development Studies Department, Institute of Developing Economies
7. Environmental Health	Yasumoto Magara	Director: Sanitary Engineering Department, National Institute of Public Health

TASK FORCE

Member	Position
Senro Imai (Chief)	Development specialist (Environmental Management), Institute for International Co-operation, JICA
Hiroshi Kidono	Development specialist (Agricultural Ecology), Institute for International Co-operation, JICA
Koji Yamanaka (until July 1988)	Development Specialist (Soil Management), Institute for International Co-operation, JICA
Kazuo Sudo	Research and Development Division, Institute for International Co-operation, JICA
Tsuneo Kurokawa	Training Division, Institute for International Co-operation, JICA
Kuniaki Nagata	Industry Division, Mining and Industrial Planning and Survey Department, JICA
Harumi Kitabayashi	First Basic Design Study Division, Grant Aid Planning and Survey Department, JICA
Masami Fuwa	Planning Division, Planning Department, JICA
Naoki Mori (until September 1988)	First Economic Research Division, Economic Research and Technical Appraisal Department, OECF
Hiroyasu Tokuda (from October 1988)	Technical Appraisal Coordination and Planning Division, Technical Appraisal Department, OECF

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