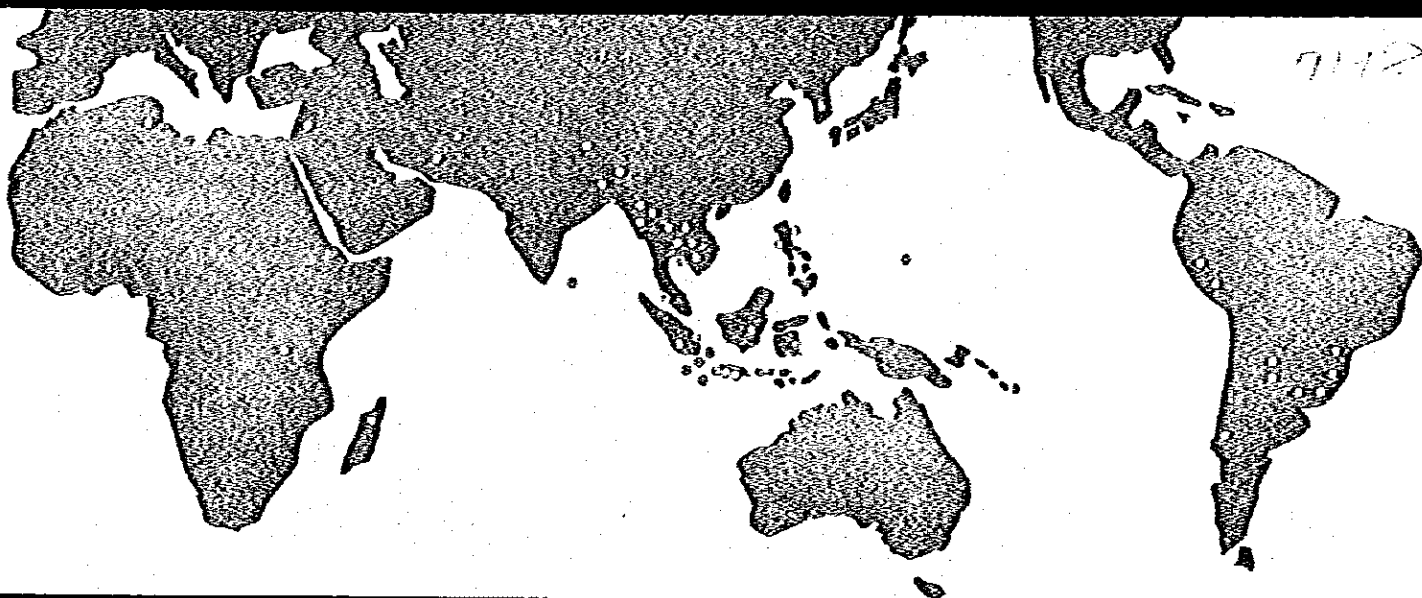
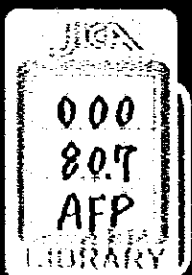


EVALUATION OF EFFECTS  
OF  
AGRICULTURAL COOPERATION PROJECTS



March 1979



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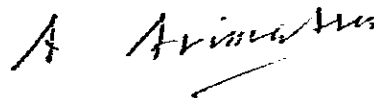
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## FOREWARD

A markedly increasing number of proposals is being received today from developing nations for cooperation in agricultural and forestry projects. Development of a methodology for the evaluating of effects of such projects is becoming essential in order to carry out the projects with greater ease and efficiency. Since fiscal year 1978, we have intensified our search for such a methodology, selecting the agricultural extension project as a test case.

Whatever the project may be, the evaluation of its effect is of course no easy task. Such questions as defining project effects and setting a criterion for judging the strength of the effects--or, in the final analysis, the philosophy of project evaluation--is in fact deeply related to the fundamental question of attitude toward technical cooperation. In addition, the fact that agriculture and forestry are susceptible to their natural and socio-economic environment makes the comprehension of any relationship between project objective and result even more difficult.

Despite said difficulties, the urgent need compelled us to strive in hope of coming close to, if not reaching, an objective means of effect evaluation. In 1979, we tested a certain methodology in the country of project implementation and clarified items which require attention when evaluating project effects, as explained in this Report. In view of the nature of the matter, all of this Report's content may not necessarily be applicable to all kinds of projects. However, it is believed that the concept and approach presented therein will offer clues to the answers. We should be pleased if this Report will provide a useful reference material to all concerned.



Akira Arimatsu

Executive Director

Japan International Cooperation Agency

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## INTRODUCTION

The agricultural sector accounts for 60 to 80 percent of total population and well over 50 percent of Gross Domestic Product in developing countries. At the same time these countries are experiencing every high rates of population growth. Thus, development of agricultural sector is one of the crucial issues for most of these countries. Accordingly, international economic and technical cooperation has been required to place emphasis on agricultural projects. It is expected that agricultural cooperation projects will increase in number, scale, and type in the future.

However, what is important about agricultural cooperation is not so much of the number, the scale, nor the type of the projects but how much each project contributes to the development of agricultural sector in these countries. In other words, it is the effects of projects that really count as the contribution of agricultural cooperation projects. Thus, it is vitally important for both the country offering the cooperation and the benefactory country to be able to accurately evaluate the effects of projects in order to insure that each implemented project will achieve the expected effects.

To determine the number, the scale, and the type of the projects is easy: it is a matter of keeping a good record of projects. However, evaluating the effects of agricultural cooperation projects is an entirely different matter. In fact, there seems to have been no previous works available on the subject. Thus, no ready-made methodology seems applicable to the subject. Some fundamental methodological works must be performed prior to the establishment of evaluation methodology for the effects of agricultural cooperation projects.

The purpose of this report is to present a basic analytical frame-work in which to evaluate the effects of agricultural cooperation projects in the agricultural sector in developing countries. It is believed that this report has successfully identified almost the full scope of this very new question and that a basic analytical framework of the evaluation methodology has been constructed for the first time.

However, there are details yet to be worked out. For example, items called project effects must be selected for the evaluation of effects, but that selection methodology must be constructed for such a process to be performed. Also, a weight has to be assigned to each project effect, but what kind of weight distribution should be employed must be determined before the evaluation methodology will be put to practical usage.

Despite its incompleteness it is believed that this report will provide an adequate initial contribution to the development of a science evaluating such effects derived from implementing agricultural cooperation projects. In what follows, the basic analytical framework is presented for the evaluation of the effects of agricultural cooperation projects.

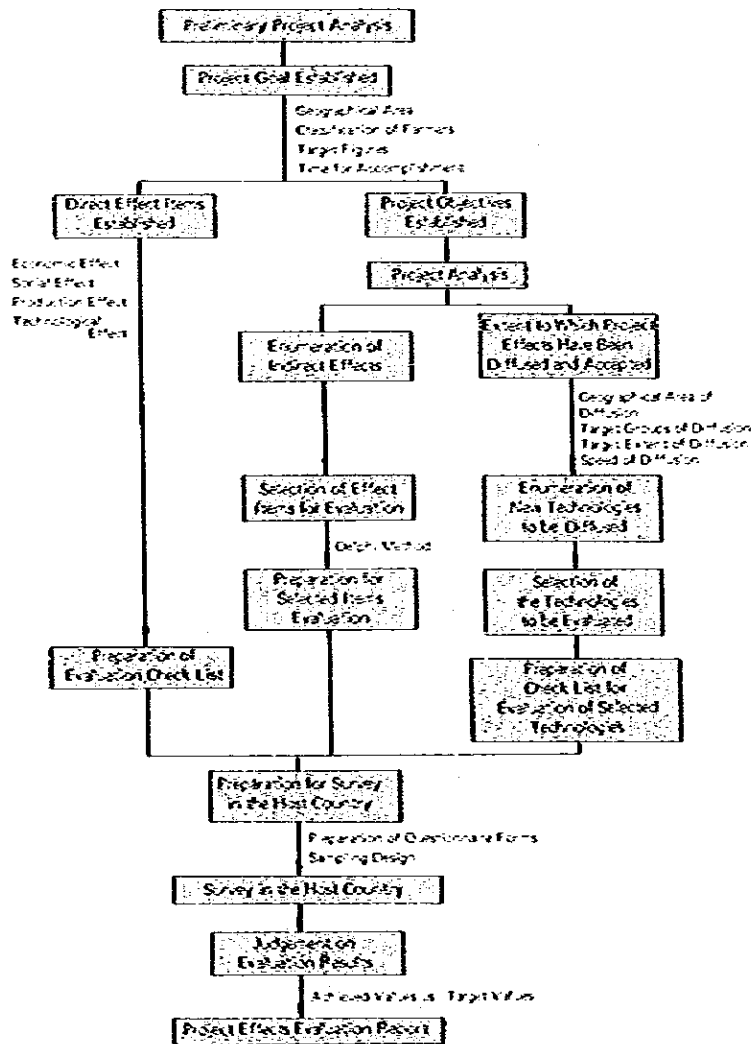


# EVALUATION METHODOLOGY

## General Overview

The following flow chart shows methodological steps to be taken for the evaluation of effects of agricultural cooperation projects.

### Evaluation Procedure



### Necessity of Establishing a Methodology

The effects of agricultural cooperation projects have heretofore been treated only partially in the evaluation of various projects, and the thorough evaluation of such effects has almost never been a major subject of study. No systematic and organized approach has ever been attempted toward evaluating such effects, and, therefore, a fundamental methodology must be first developed in order that accurate evaluation of such effects can be accomplished.

### Basic Issues

When an agricultural cooperation project is implemented, many kinds of effects of the project are expected to arise. Fundamental to the evaluation of effects of agricultural cooperation projects is the determination of whether or not the project has produced effects that warrant the project's implementation. In order to do so, one must be able to tell what constitutes desired effects of the project. In other words, the definition of agricultural cooperation projects must be made clear before any works on evaluation begin.

### Project Goal

Before anything can be said of evaluation methodology, it is vitally important to understand why a particular agricultural cooperation project was actually implemented. The host country usually has basic agricultural policies such as an increase in national food production, an increase in its farmers' productivity, or an increase in general welfare of farmers. There are very general policies. In order to achieve these policy goals, these general policies must be implemented by pursuing more concrete policies such as trying to increase rice production by const-

ructing an irrigation system. When national agriculture policies are made specific and concrete, they can be implemented.

It is generally after this stage of the host country's policy making that international technical and economic cooperation is called for. In other words, agricultural technical cooperation is generally implemented in order to achieve policy goals set forth by the host country well before the cooperation project was implemented. Looking at this activity from a different view point, it can be said that agricultural cooperation projects are there to help the host country achieve the policy goals set forth.

Of course, technical cooperation projects alone can not achieve policy goals. Many other conditions must be fulfilled along with the technical cooperation. However, it is also clear that the purpose of agricultural cooperation project is to help the host country achieve the policy goals set forth. This policy goal is hereafter called the project goal in this report. To repeat the purpose of implementing agricultural cooperation projects is to help the host country achieve the project goal set forth by the host country. The relation between the project goal and the agricultural cooperation projects may be expressed as follows:



Project Objective

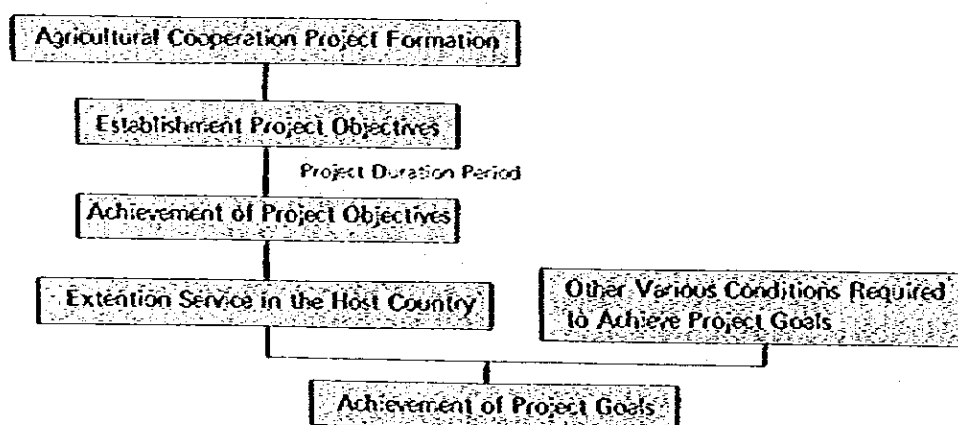
When the host country asks for agricultural cooperation, an agricultural

cooperation project will be jointly formulated. As mentioned above, the purpose of implementing a project is to help the host country achieve its national policy goals. In order to do this, it must be clearly decided what must be done and how it must be done.

What is intended to be achieved during the project's duration period by implementing the project is called the project objectives. Generally these project objectives are related to technical know-how in agriculture.

### Project Goals and Objectives

When the general goal of a project has been set forth, specific objectives for the project will be established and the project will be implemented. Ways and means for the accomplishment of the goal are developed, delivered to the beneficiary country, and distributed and propagated through extension system. When technological and other various conditions have been satisfied, the goal is accomplished.



### Direct Effects

The implementation of a cooperation project must result in the development

and successful transfer to the beneficiary country of the essential technological ways and means to be used by the farmers. Of the project effects, those which are directly striven for in the fulfilment of the project goal are referred to as "target effects".

Since "direct effect" is defined in terms of project goals, there are as many direct effects as project goals. In order to evaluate the target effects, the project goals should be defined as concretely as possible. At least the following four criteria should be included when the project goals are specified: (1) Target geographical boundary; (2) Target farmers' groups; (3) Target figures to be achieved; and (4) Target time schedule. Once project goals are specified in terms of these four criteria, it is easy to evaluate direct effects of agricultural cooperation projects.

#### Indirect Effects

In addition to direct effects which a given project aims to achieve, the project implementation can result in some unintended effects, which are referred to as "indirect effects". Failure to produce an indirect effect is no defect of the project. Indirect effects are generally secondary to direct effects in significance.

#### Importance of Indirect Effects

The secondary nature of indirect effects does in no way impair their importance for measurement, because they can sometimes have greater impacts on the local community than direct effects, depending on the project's nature, background, and community's capacity.

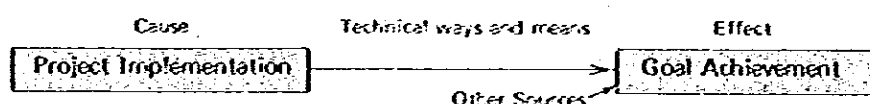
As seen in the above, this Report proposes a fundamental process through which direct effects and indirect effects are first measured separately in order to finally arrive at an evaluation of the total effect of each project.

### Cause-Effect Relationship

In order that the items of "effect" to be measured can be attributed to a specific project, a cause-effect relationship must be proven between the project and the items, overcoming the discontinuity between the time of project implementation and the time of evaluation. Between them lies the process of technical diffusion. The relationship can be proven only by actual measurement of achieved values.

### Extension and Full Adoption of Project Output

While the technological ways and means offered by a project are being disseminated and propagated through extension system, it is possible that farmers obtain similar ways and means from a source or sources outside the project, which constitute effects unascrivable to the project. No causal relationship can be asserted between the project and such effects. The measurement of the degree and extent to which the ways and means (technological) offered by the project have been adopted and put to use by farmers will enable the establishment of a causal relationship between the project and the effect. This is an important consideration of effect evaluation.



The essential framework of effect evaluation has been explained. The accomplishment of a project goal is considered primary and direct effects, and other effects to result from the project implementation as indirect effects. Procedures for measuring the scales of both direct and indirect effects and procedures for the measurement of the technological ways and means for the establishment of a causal relationship between the project and these effects are yet to be developed.

## Project Goal

Project goal plays a central role in project effect evaluation, as said previously. The establishment of goal leads to the determination of the specific effects to be watched for in the evaluation. Some examples of goals will be discussed.

## Examples of Project Target

Typical goals are increased food production, realization of double cropping, increased farmer income, elevation of farmers' level of living, increase in rural employment opportunities, and so forth. In order for these important goals to offer evaluation criteria, they must be specific which farmers' group and geographical area are to be the subject of the project, extent of diffusion, and time for accomplishment of the objective. An example of target values achievement program will be shown below.

		<u>Time Schedule to Achieve Goal</u>								
Year		1979	1980	1981	1982	1983	1984	1985	1986	1987
(1) Income/Farm Household (Estimated, US\$)		100	100	100	125	150	200	250	275	300
(2) Project Phase		← First Phase →			← Second Phase →			← Extension Service →		
		Project Implementation Begins			Agreement Renewal			Completion of Project		
(3) Results of Effect Evaluation (US\$)							175			325
(4) Rate of Achievement					$\frac{175}{200} \times 100 = 87.5\%$				108.3%	

In this example, the project objective is to increase farm income, the project is implemented in 1979, and the target value of 300 dollars of average income per farm household is to be achieved by 1987. Line (1) shows yearly target values. If the effect evaluation resulted in the value of 175 dollars in 1984,

the year following the project completion, this 175 dollars is to be compared against the target value for the same year, 1984, rather than against the final target value of 300 dollars for 1987. Thus, the effect of this project in 1984 is assessed at an achievement rate of 87.5 %.

#### Goal Establishment in Case Goals are not Clear

Project goals may not always be established in a way convenient to evaluation. When it is not, evaluation criterion is not available, and effect evaluation is subject to much doubts. However, it is believed that in reality the cases wherein no project objective is established by the parties concerned in practical terms are rather frequent. In order to accomplish effect evaluation in such cases, two possibilities are conceivable:

- (1) The use of target values, if any, of goal proposed by a reliable public organization not directly related to the project implementation, or
- (2) The use of goal to be established by an effects evaluation term.

#### Goal Appropriateness Check

Discussions heretofore has assumed that project goals are always appropriate. It is believed ordinarily unnecessary to check the appropriateness of goal in evaluating effects (except, of course, for conformity between goal and for obviously inappropriate target values).



### Enumeration of Effect Items for Measurement

Each project effect will have secondary, tertiary (and so on) effects. Therefore, the number of effects of each project will be large. Effect evaluation would ordinarily have to be done within a limited length of time and under a limited amount of budget. Evaluation of each and every of the numerous effects is neither possible, nor necessary. Therefore, effects to be evaluated must be carefully selected in order to limit the task of evaluation to a scope reasonable and meaningful. The selection should be accomplished as objectively as possible, and the selection should be made from a thoroughly comprehensive list of possible effect items.

### A List of Direct Effects

The list of items of direct effect need not be narrowed down since all of them should be evaluated. Direct effect items can be classified into economic, social, productive, and technological effects.

A List of Direct Effects

Category	Item
Economic Effects	i. Increase in the income of farm families ii. Stabilization of farmers' income iii. Increase in agricultural production in a given region iv. Improvement of farmers' standard of living
Social Effects	i. Increase in rural employment opportunities ii. Establishment of organizational activities (agricultural coopes, coopes, irrigation associations) in farm villages iii. Improvement of labor practices in farm villages
Production Effects	i. Realization of importance of farm management ii. Increase in production iii. Stabilization of production iv. Improvement of land productivity v. Improvement of labor productivity vi. Improvement of production system
Technological Effects	i. Cultivation of interest in appropriate technology ii. Adoption of appropriate technology

### Examples of Indirect Effects

Indirect effects would be found in all of the above four areas and, also, in the areas of administration and operation. Indirect effects are listed for each typical effect area as follows:

## **Economic Effects**

### **(1) Indirect effects stemming from farm families income increases:**

- Increase in the proportion of cash income to total income
- Participation in money economy
- Realization of importance of farm management
- Changes in risk bearing computation
- Brighter future prospects
- Improvement of consumption life
- Improvement of qualities of life (clothes, housing, and food)
- Changes in Engel's coefficient
- Increased food supply
- Increase in medical and education expenses
- Improvement of children's education level
- Departure from rural life
- Purchase of motorcycles, transistor radios, and other durable goods
- Extension of activity radius
- Consciousness of improvement of life's quality
- Increase in goods distribution
- Expansion of information sources

## **Social Effects**

### **(2) Indirect effects stemming from the organization of an irrigation association:**

- Introduction of new organizational behavioral principles
- Establishment of group purchase and marketing routes
- Initiation of agricultural cooperative organization
- Cultivation and fostering of human capabilities
- Joint insect extermination/prevention activities
- Establishment of new extension channels

- Fostering extension
- Improvement of productivity

### **Production Effects**

**(3) Indirect effects to factors of production resulting from double cropping through the development of improved varieties:**

- Improvement of land productivity
- Changes in cultivation system
- Changes in land ownership
- Changes in tenancy and other contractual relationships
- Use of intermediate goods
- Development of fertilizer and agricultural chemicals distribution network
- Organization of farmers
- Improvement of labor productivity
- Outflow of labor force from farm villages
- Labor Shortage
- Mobility of labor force
- Tendency to mechanize
- Increase in employment opportunities
- Immobility of agricultural labor force

### **Technological Effects**

**(4) Indirect effects of the adoption of fertilizing technology:**

- Increase in harvest
- Increase in income
- Ease of obtaining loans
- Need for availability of an appropriate amount of fertilizer at all times
- Recognition of optimum cultivation technology

- Increased aggressiveness in obtaining new technology
- Realization of importance of farm management
- Necessity of financial system
- Improvement of marketing/distribution system
- Necessity of agricultural cooperative organization
- Use of agricultural chemicals
- Aggressiveness in obtaining information
- Multiplied contacts with extension agents
- Increased aggressiveness of extension activities
- Group cultivation
- Recognition of necessity for capital investment

#### **Administrative/Operational Effects**

##### **(5) Indirect effects in the area of administration and operation:**

- Experience in formulation of terms of reference
- Experience in preliminary study
- Experience in preliminary study evaluation
- Contents of pre-study planning
- Experience in implementation program formulation
- Experience in pre-study findings evaluation
- Experience in agreement drafting
- Experience in agreement conclusion
- Process of project implementation
- Experience of experts dispatched from Japan
- Method of checking work process
- Method of keeping a budget
- Experience of native counterparts
- Organizations to accept foreign experts
- Project evaluation method

- Process of agreement renewal
- Materials/equipment procurement method
- The methods of writing periodical reports
- Reports handling method
- Implementation reports

### Indirect, Particularly Social, Effects Comprehension Method

The most controversial of effect evaluation would be the items of indirect, effect. Because impacts on rural communities have almost never considered systematically or organically in project evaluation heretofore, much is unknown as to how social effects should be understood. The methodology for the comprehension of indirect effects must be developed eventually.

### Selection of Effect Items

While all of direct effects are to be assessed, only those which most typically represent project effects in a most objective manner should be selected for evaluation from the list of indirect effect items, which are numerous because every secondary (indirect) effects would cause chain reactions in all directions and cause further indirect effects. Evaluation of all conceivable (listed) indirect effects is neither possible, nor necessary.

### Method of Effect Items Selection

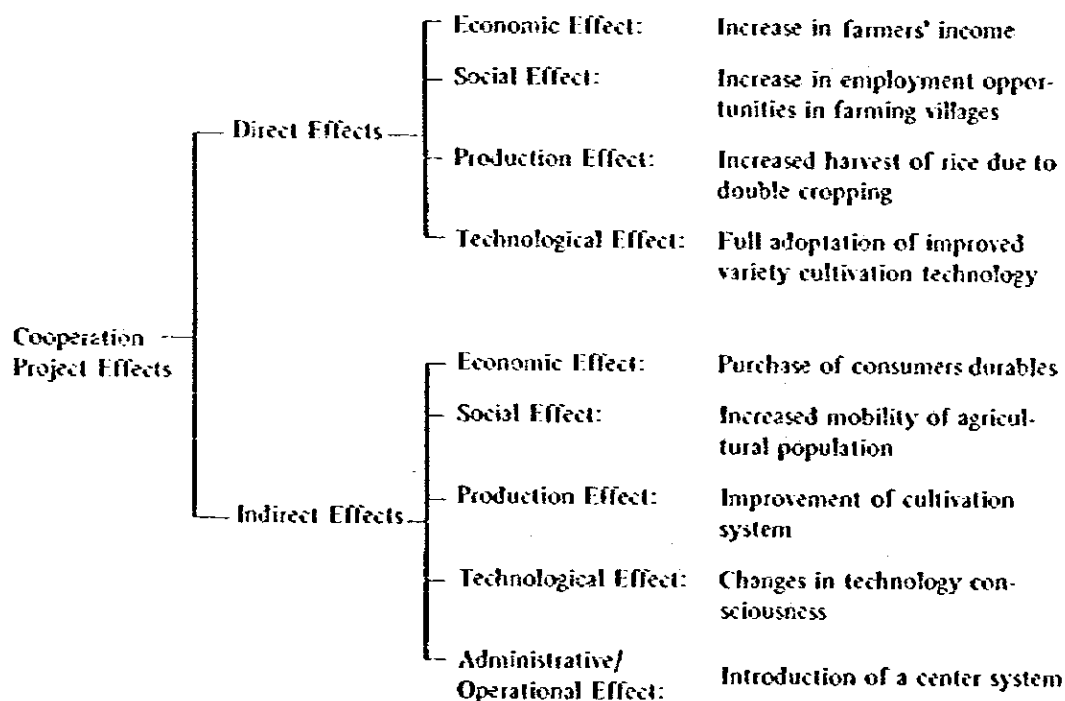
Systems analysis method, a priori method, and Delphi method are conceivable for the selection of effect items for evaluation. Systems analysis method is to attempt to accomplish such selection by the application of related-tree

method or Pert method, but is yet to be established as a method of selection. A priori method allows the evaluator to make an a priori selection. Under Delphi method questionnaire survey of experts of technical cooperation is repeated until priorities are determined. In other words, this method seeks for a common denominator of the opinions of such experts.

### An Example Set of Selected Effect Items

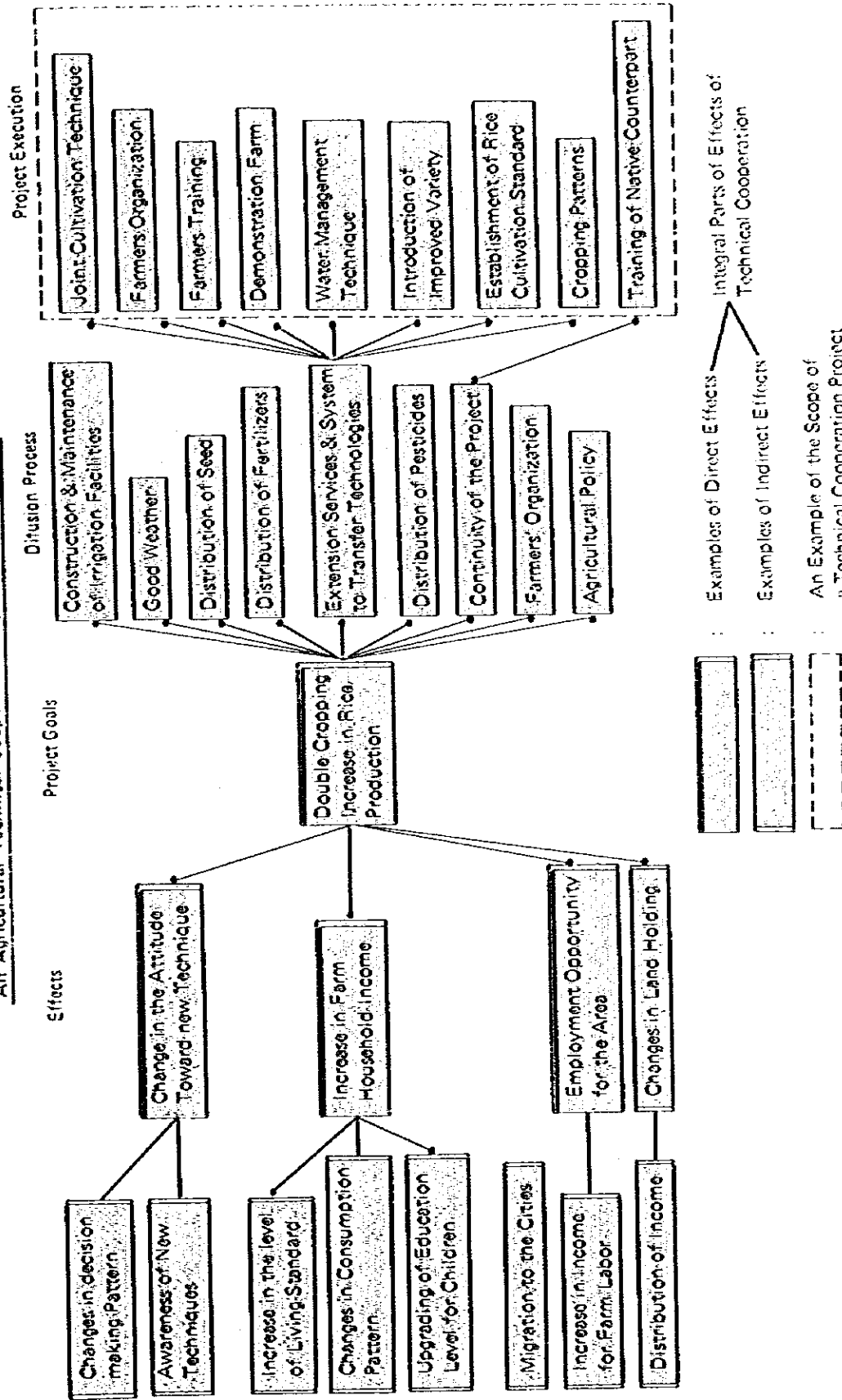
In addition to the questions of objectivity and appropriateness, data availability is also involved in the selection of effect items for evaluation. With this in mind, the least possible number of items should be selected. Offered below is an example list of 50 selected items of effect to be assessed.

#### An Example of Selected Effect Items



\* Technological effects will be explained in detail under the subject of the degree of technological extension.

# An Agricultural Technical Cooperation Project and its Effects



In the diagram above the entire relations among project's goals (= direct effects), indirect effects, project's objectives, other conditions required to achieve project's goals together with implementation of projects, and extension process are explained.

### Preparation of Evaluation Check List

The selection of effect items in itself does not guarantee that various data pertaining to and needed for the evaluation of each of the items can be collected. An evaluation check list offers a complete list of such necessary data. In order that effect evaluation can be accomplished efficiently, it is desirable that such a check list is completed on each item before an evaluation team is dispatched to the host country. An example of such a check list is given below.

### Examples of Evaluation Check List

#### (1) An Example of Check List on Farm Income Derived Mainly from Rice Crops

Check List Item	Quantity	Value
1. Gross Profit		
2. Expenses		
2-1 Fertilizer		
2-2 Agricultural chemicals		
2-3 Operational expenses		
i. Seedbed preparation		
ii. Seedbed spraying		
iii. Seedling transplantation		
iv. Weeding (number of times)		
v. Spraying		
vi. Harvesting		
vii. Drying, transportation		
viii. Rice milling		
2-4 Other expenses		
ix. Irrigation expenses		
x. Irrigation association fee		
xi. Miscellaneous		
3. Non-farming income		
4. Farming household income		



(2) Check List on Consumers Durables Procurement

Item purchased	Year of purchase	Place of purchase	Method of purchase	Quantity	Plan to purchase in near future
Transister radio receiver					
Cassette taperecorder/ radio set					
Bicycle					
Furniture					
Motorcycle					
Electric fan					
Television receiver set					
Automobile					
Truck					
Miscellaneous					

(3) Check List on the Improvement of Cultivation System

		Dry season			Intermediate season			Rainy season		
		Area owned	Tenancy area	Crop cultivated	Area cultivated	Area harvested	Crop volume	Area cultivated	Area harvested	Crop volume
Land										
Wet paddie	before improvement after improvement									
Dry farm upland	before improvement after improvement									
Hill land	before improvement after improvement									
House	before improvement after improvement									

#### (4) Consciousness change pertaining to introduction of technology

Object of Evaluation	Matters Evaluated	Rating				
Understanding of new technology	What is your attitude toward the spread of paddy-rice stinkbugs in anthesis?	5	4	3	2	1
Attitude toward problem solution	When a cultivation problem occurred, would you confer with an extension agent?	5	4	3	2	1
Attitude toward research and study	Agricultural broadcasting becomes available. What would you do?	5	4	3	2	1
Aggressiveness/passiveness	A new variety has been introduced. What would you do?	5	4	3	2	1
Leadership	When you attend a group meeting, what would you do?	5	4	3	2	1
Cooperation	What do you think of joint marketing of products?	5	4	3	2	1
Attitude toward education	How much education are you planning for your children?	5	4	3	2	1
Responsibility	What do you think of those who have not paid up their debts?	5	4	3	2	1
Attitude toward management improvement	How would you increase your farming income?	5	4	3	2	1

#### Points of Caution for the Preparation of Check Lists

When preparing check lists, it is desirable that:

- (1) The content of each effect item to be evaluated be clarified,
- (2) As simple questions as possible be posed on check lists,
- (3) As small number of and as simple check lists be prepared as possible,
- (4) The matter of data collection be looked into in advance, and
- (5) Coherence and uniformity be maintained between evaluation check lists.

Thus, a fundamental framework has now been established for the procedure of effect evaluation. An important task is yet to be performed of evaluating the degree of extension of each technological item through which causal relationship between a project and its effects can be determined. The procedure for the evaluation of the degree of extension will now be discussed.

#### Causal Relationship between a Project and Effects

How much each of the technological items (ways and means) offered by a given project has been absorbed by the farmers must be measured in order to establish a causal relationship between a given project and its effects. Thus, technological items need to be evaluated.

#### Diffusion and Full Adoption of Project Effects

The evaluation of the degree of diffusion (propagation or permeating) of technological items requires that the objects of evaluation be identified. In other words, the following matters must be established:

- (1) Geographical area subject to evaluation (diffusion area)
- (2) Farmers' group subject to the diffusion activities
- (3) Target rate of diffusion
- (4) Diffusion speed

#### Diffusion Evaluation Criteria

Just as criteria are needed for the evaluation of project effects, criteria are needed for the evaluation of the degree of diffusion of a given item of technology.

In this regard, the planned values of diffusion determined in the process of establishing objects of diffusion evaluation can be used as the criteria. The degree of extension is measured by comparing achieved values against the planned (target) value. (See the following example)

An Example of Prediction and Assessment of Degree of Extension

		Years after Project completion				
		First	Second	Third	Fourth	Fifth
Prediction	Object A (% to all farm households)	10	20	50	60	75
	Object B (No. of households)	500	1,000	2,500	3,000	3,750
Achieved	No. of household covered by extension*	500	750	2,500	3,300	4,000
	Extension level (%)	100	75	100	110	107

\* The number of farm households should be reconstructed from the sample survey.

Project Achievement

In order to be able to assess the degree of diffusion of technological items, it must be established what technological items were developed and delivered to the host country by project implementation. This can be established based on information gathered from:

- (1) Project implementation report
- (2) Periodical reports by dispatched expert(s)
- (3) Project evaluation report
- (4) Interview with dispatched experts
- (5) Interview with native counterparts

### Enumeration of Technological Items

Technological items must first be listed up. A list of rice cultivation technology items is presented as an example.

#### A List of Rice Cultivation Technology Items to be Assessed

- (1) Variety
- (2) Pretreatment, selection, and soaking of seeds
- (3) Nursing: mode, area, fertilizer, volume sowed, water management, extermination and prevention (spraying), number of days in seedbed
- (4) Plowing: tool, depth, initial manure, land preparation
- (5) Transplanting: density, depth, water administration
- (6) Paddie field management: additional fertilizer, water management, weeding, spraying, draining
- (7) Harvesting, threshing, treatment, drying
- (8) Storing: loss prevention
- (9) Shipping out, transportation
- (10) Marketing

#### Selection of Technological Items for Evaluation

The step to follow the preparation of an all-inclusive list of technological items subject to extension under project is to select from this list items which are to be evaluated. Important for this selection is the determination of the project's priority items and the analysis of the process of project implementation. Delphi method can be used also for this selection.

### Matters of Care in Selecting Technological Items for Evaluation

In this selection, care should be used so that the selected items are:

- (1) Those which are established as having been developed under the project,
- (2) Those whose extent of diffusion and propagation can be precisely established,
- (3) Those which cover as widely as possible the achievements of the project implementation, and
- (4) Those which received a high priority in the project implementation.

### A List of Selected Technological Items for Evaluation

A list of selected items of paddy-rice cultivation technology is shown by way of example.

**A List of Selected Items of Technology Paddy-Rice Cultivation Technology for Evaluation.**

- (1) Selection of variety
- (2) Use of viable seeds
- (3) Low density sowing on seedbed
- (4) Straight-line and shallow planting
- (5) Extermination of insects and prevention of diseases
- (6) Optimum amount of fertilizer at optimum timing
- (7) Weeding

- (8) Water management
- (9) Use of livestock power
- (10) Use of machines

**Preparation of a Check List for Evaluating Technological Items**

When technological items have been selected for evaluation, a check list must be prepared for determining the degree of extension of each such item. An example of such a check list is offered.

**A Check List for Evaluating the Extension of Fertilizer Technology**

- (1) Fertilizer used currently? Yes      No
- (2) If not, do you know the importance of fertilization? Yes      No
- (3) To what extent do you know? 5, 4, 3, 2, 1
- (4) Method of fertilization currently used:

Year	Season	Area Planted	Kind	Amount Used	Number of Times	Unit Price	Total Cost	Supplier
	Rainy							
	Dry							

(5) Source of information (pertaining to the method now used):

- i. Information obtained from whom?
- ii. When?      Where?      Year: \_\_\_\_\_ Place: \_\_\_\_\_
- iii. On what occasion?

iv. When did you use the method? Year: \_\_\_\_\_ Season: \_\_\_\_\_

v. If answer to iv. is later than the answer to ii., why?

vi. Reason for adopting the method?

vii. Did you use fertilizer prior to the year given  
under ii? Yes No

viii. If yes, from when? Year: \_\_\_\_\_

ix. How much of what fertilizer did you use?

<u>Year/Month</u>	<u>Kind</u>	<u>Amount Used</u>
_____	_____	_____
_____	_____	_____
_____	_____	_____

x. If the source of information given under i. was that  
which was not offered under a Japanese project, how  
did you get the information?

xi. Is the source of information given under i. your regular  
source of new information? Yes No

If not, who is your regular source of information?

Thus, technological items needed for the evaluation of degree of technological extension have been selected, and a check list for such evaluation has been prepared. With this check list and the check list for the evaluation of effect items explained previously, the process of effect evaluation moves onto the next step of collection of necessary factual data in the host country. Data collection must be accomplished inevitably under the restrictive conditions present in farm areas of developing nations.



## Data Collection Methods

Methods for data collection are:

- (1) Interviews
- (2) Questionnaire surveys
- (3) Facts finding surveys
- (4) Discussions
- (5) Collection of data from publications

## Sampling Design

Inasmuch as effect evaluation is to be accomplished covering a wide geographical territory in agricultural regions of developing nations, the number of farmers to be covered is also large. Because population survey would be impossible, evaluation will have to be based on a sample survey. However, sample design appropriate to advanced nations may not be appropriate to developing countries where the survey is to be conducted, and the design will have to be modified accordingly. Time and fund limitations will constitute additional constraints on the survey.

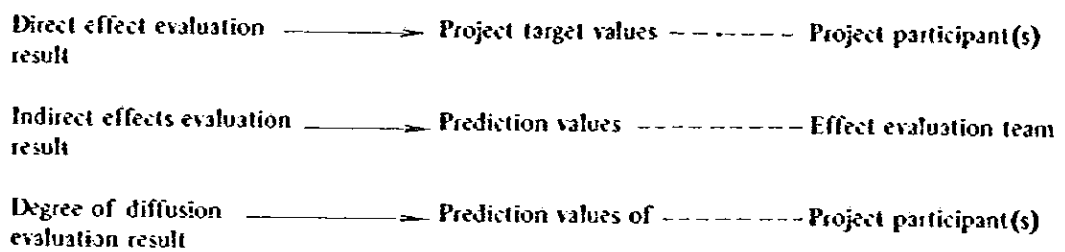
The completion of the survey in the host country will result in the collection of data necessary for evaluating the effect of a given project, and the remaining task is to judge the evaluated values.

## Judgement Criteria

The basic framework of effects evaluation proposed by this Report is to compare the evaluated (achieved) values against prediction (target) values. No

comparison between similar projects is intended, however, because the condition of implementation would vary from one project to another and prediction values can differ even among similar projects. Effects evaluation criteria must, therefore, be determined for each project. The following relationships can be asserted.

Evaluation Results and Criteria



Rating

An important question is how to express the result of comparison between the measured values and target values. In view that criteria are given in terms of target values, this Report proposes to use the following five-step rating system.

Compared to target value, measured value was	Expression of assessment result*	Rating
Much greater	A very substantial effect	One
Greater	A fairly substantial effect	Two
About the same	Effect as expected	Three
Smaller	Effect less than expected	Four
Much smaller	A very low effect	Five

\* "Effect" can be substituted for with "indirect effect" or with "degree of diffusion".

## Overall Judgement

Implementation effects of agricultural cooperation projects are evaluated fundamentally by judging individual items in the first place and, then, by an overall evaluation covering both direct and indirect effects, as follows:

An Overall Evaluation Table

	Itemized Evaluation				Partial Evaluation			Overall Evaluation		
	(1) Target value	(2) Achieved value	(3) (2)/(1)	(4) Evaluation	(5) Weight	(6) (4) x (5)	(7) Category* Evaluation	(8) Weight**	(9) (7) x (8)	Overall Evaluation
<b>Direct Effects:</b>										
Item 1										
Item 2										
Item 3										
Item 4										
.....										
.....										
<b>Indirect Effects:</b>										
Item 1										
.....										
.....										
<b>Technological Items:</b>										
Item 1										
.....										
.....										

- \* Evaluation by category: direct effects, indirect effects, extension effects
- \*\* No definite weighting method has been developed.

