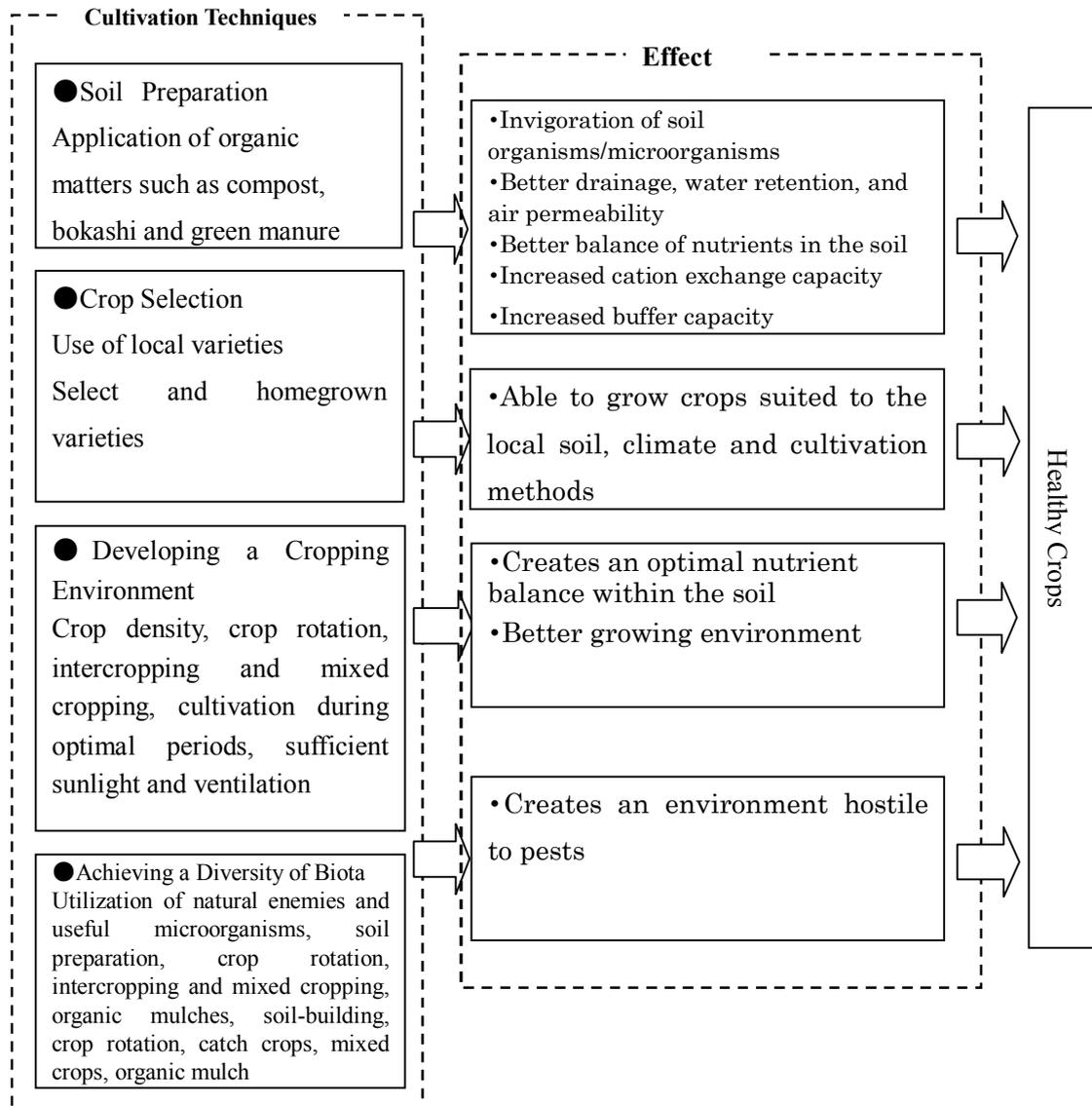
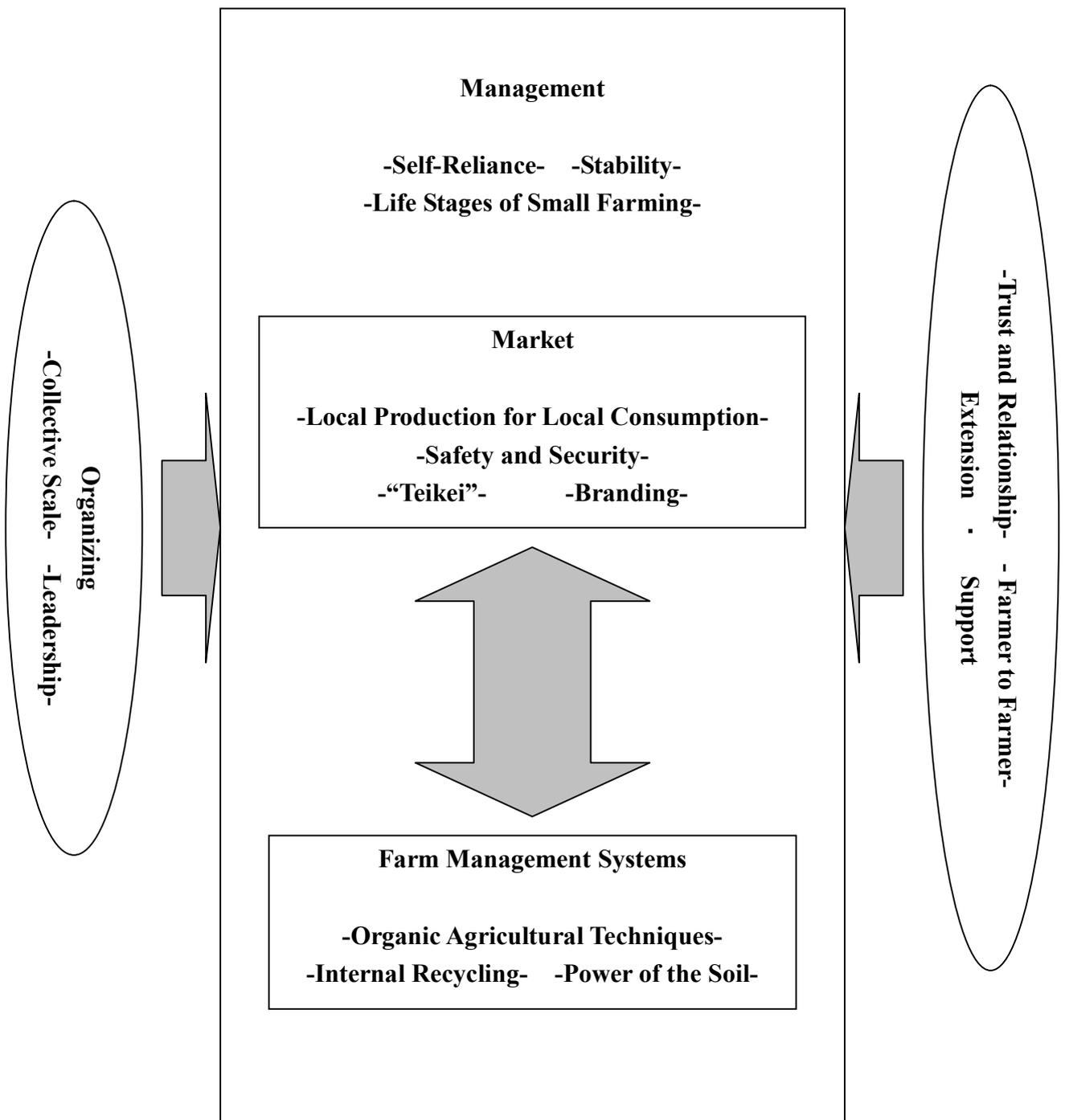


Producing Healthy Crops through Organic Agriculture



[4] 1.3.1 Overview of Support for Small-scale Farmers through Organic Agriculture

Schematic Diagram of Support for Small-scale Farmers Through Organic Agriculture



Important Keywords in Looking at Small Farm Management

1. Life Stages of the Farmer household

- ✓ **There is no boarder between farming and livelihood for small farms**
- ✓ **Farming sustains the life of each family member**
- ✓ **Long-term plans that incorporate generation change and succession**

2. Small Farm Expenses

- ✓ **Family labor is hard to see, but try to express in monetary terms**
- ✓ **Utilizing surrounding resources that come at no cost is the key**

3. Internal Recycling

- ✓ **Reduce dependency on external resources, establish a circulatory system for self-reliance and stability**
- ✓ **This relates to everything including funds, manpower, and organic materials**

4. Risks

- ✓ **Small farms do not have the reserve stocks for handling great risks**
- ✓ **Risks for small farms can manifest themselves as unseasonable weather, changes in the market, illness in the family, and the introduction of new technology**

5. Constraining Factors and Productivity

- ✓ **Productivity can be seen in different ways: efficiency, land productivity, labor productivity, work productivity, etc**
- ✓ **It is important for small farms to improve productivity relevant to the most critical constraint**

Points for Supporting Small Farm Collectives

1. Organizing: Its Advantages and Difficulties

	Effects/ Merits of Group Formation	Difficulties/Drawbacks of Group Formation
Collectivization of Overall Management	If assets can be enlarged, their power can be utilized for large scale investments.	Decision-making regarding responsibilities and allocations is difficult, and there are few successful examples.
Partial Collectivization of Production	Fertilizer and other material inputs can be purchased at a lower price when purchased jointly.	Decision-making regarding the use and maintenance of jointly purchased and jointly utilized large machinery, such as tractors, is difficult.
Collectivization of Sales	Transportation methods and negotiation power are strengthened through group formation, enabling agricultural products to be sold at larger markets, etc.	The larger the organization, the greater the management capacity and operational technology required; organizations unable to meet these conditions will be fall into functional failure.

2. Support Points

(1) Number of Group Member

- Guide groups to ensure appropriate size
- A group wishing to preserve face-to-face communication within the group should maintain its number no more than 15 persons
- If a group numbers more than 15 persons, intentional moves to definitively install rules, role-sharing, and information exchanges should be made

(2) Leadership

- Leadership is necessary, even when the group is small
- For a group of 15 persons or more, operations ought to be deliberately handled by the leadership
- No leader is perfect from the start; bolster the continual nurturing of leaders

(3) Potential Problems

- A group may fail to function if it encounters problems that it cannot solve on its own
- Assist to eliminate the larger problems first; organizational ability will grow along with experience in problem-solving

Nutrient Calculation for Small-Scale Integrated Farming

A. Nutrient Calculation of Livestock Waste

1. × 2. × 3. × 4. = Total Nitrogen Content of Livestock Waste (A)

1. Amount of waste eliminated per animal per day ← [Diagram of waste quantity differentiated by livestock]
2. Number of livestock animals
3. Ratios of nitrogen contained in livestock waste ← [Table of nutrients in livestock waste]
4. Number of days

B. Calculating Crop Nutrient Requirement and Determining Crop Area

1. × (100% - 2.) / (A) = Potential Crop Area

1. Quantity of Nitrogen Required for Each Hectare of Field Crops
2. Proportion of Nitrogen Supplied by the Soil

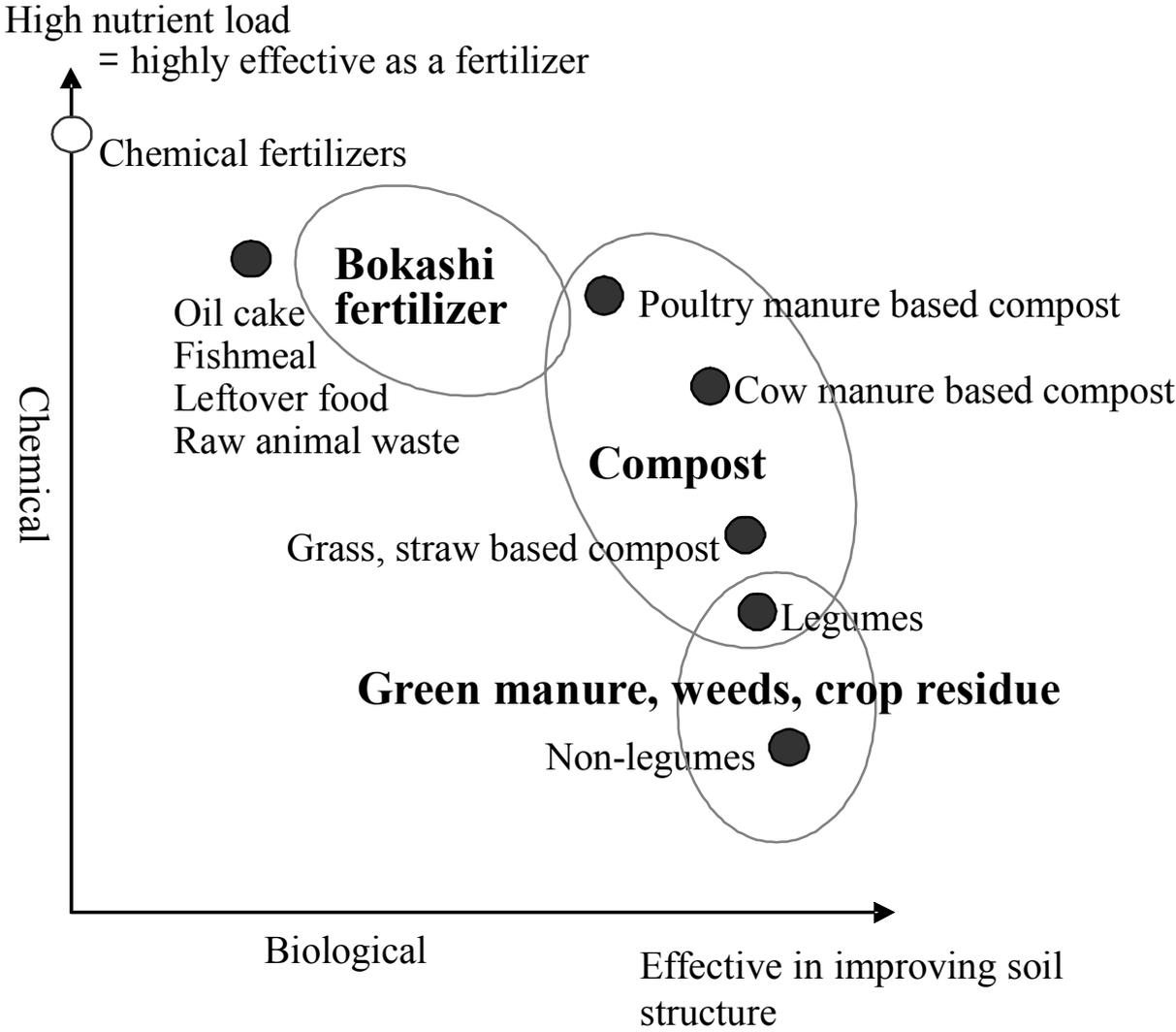
*As a gauge, deficient soil can be said to require 20%, while rich soil would require 50%

↑The state of the soil, that is, whether it is deficient or rich, can be determined by looking at the growth of grass in the fields or the quantity of crops produced in the last season

C. Revising Crop Area and Livestock Heads Based on Evaluation of the Productivity Results

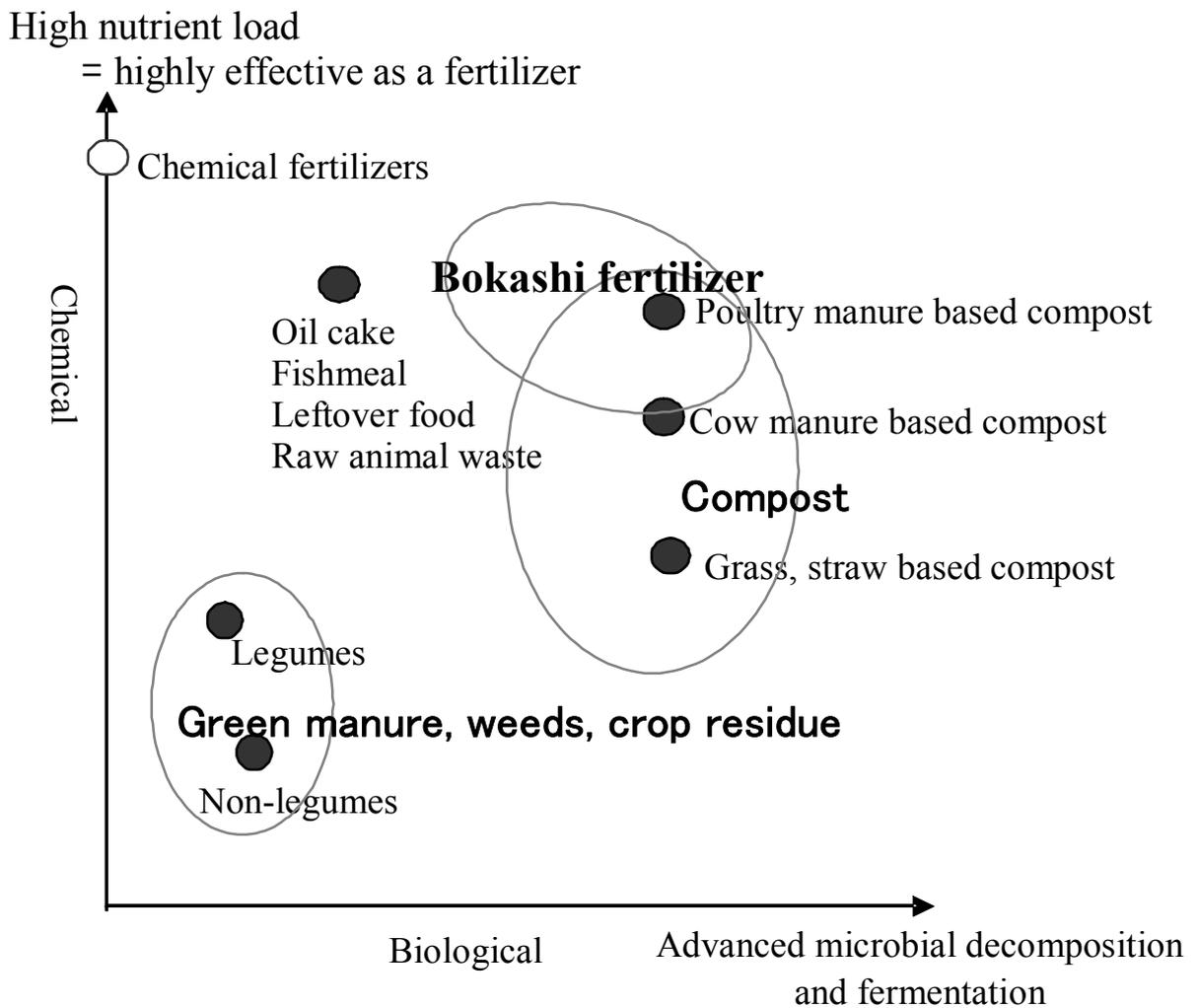
1. Evaluate results produced by the above estimations and revise assumed soil fertility. If growth appears good, then proceed with the above estimations; if growth is poor, then scale down nitrogen content numbers. If there appears to be an excess of nitrogen, then scale the numbers upwards.
2. Recalculate results based on the revised numbers, and adjust the numbers for next season's crop acreage and livestock heads accordingly.

The Chemical and Physical Effects of the Organic Inputs



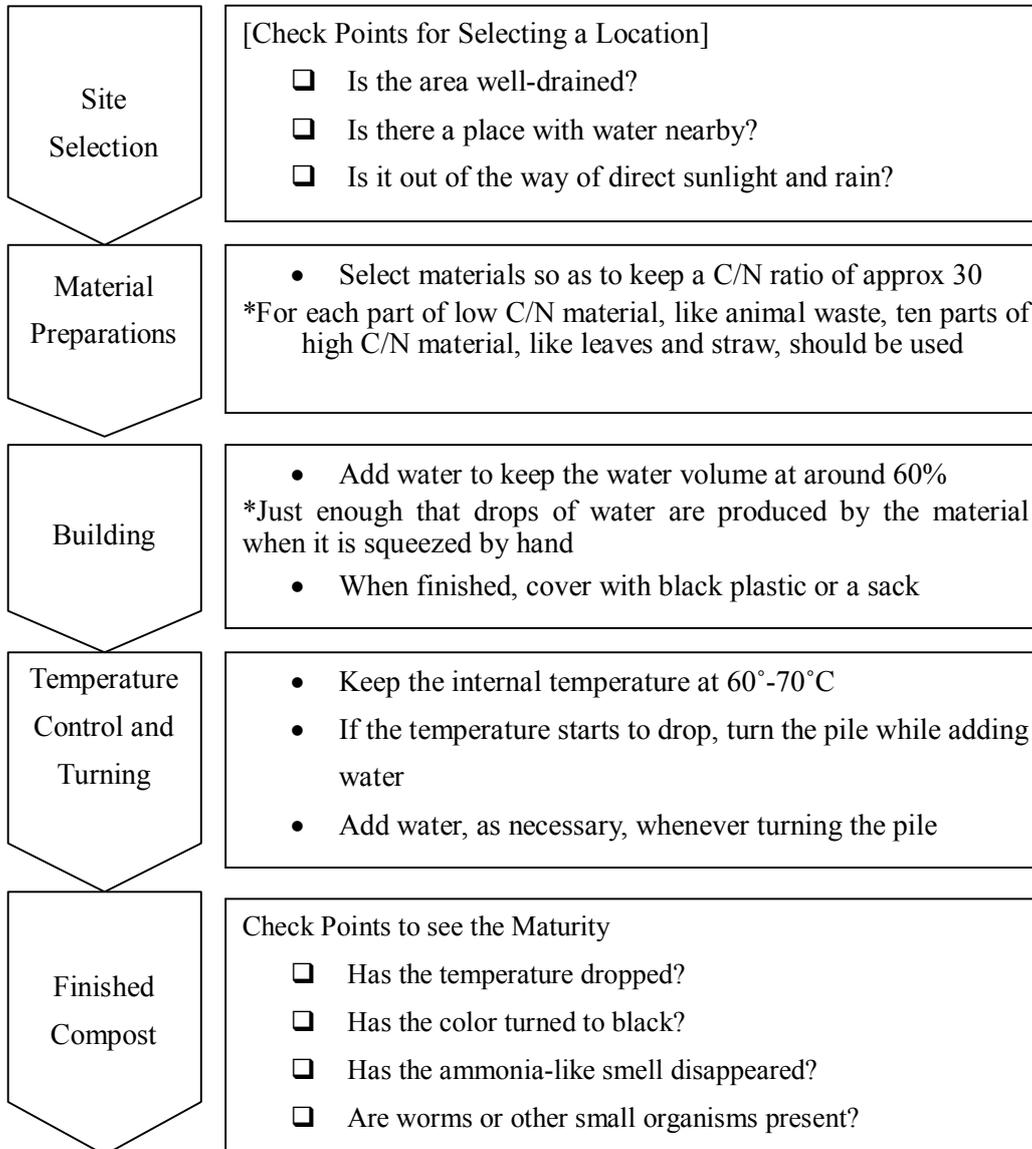


The Chemical and Biological Effects of Organic Inputs

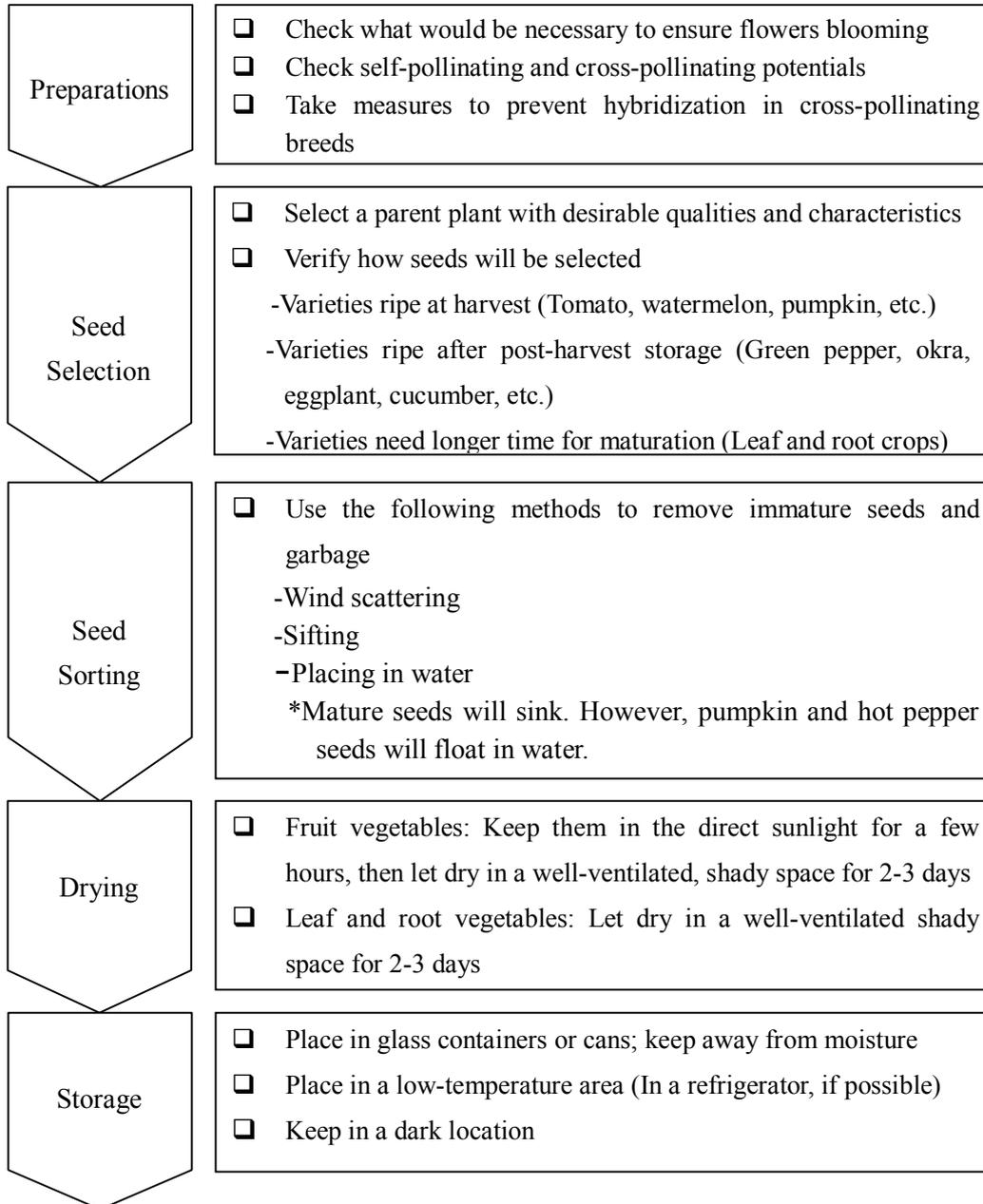


[9] 3.2.2 Organic Fertilizer (1)

Process Chart for Composting

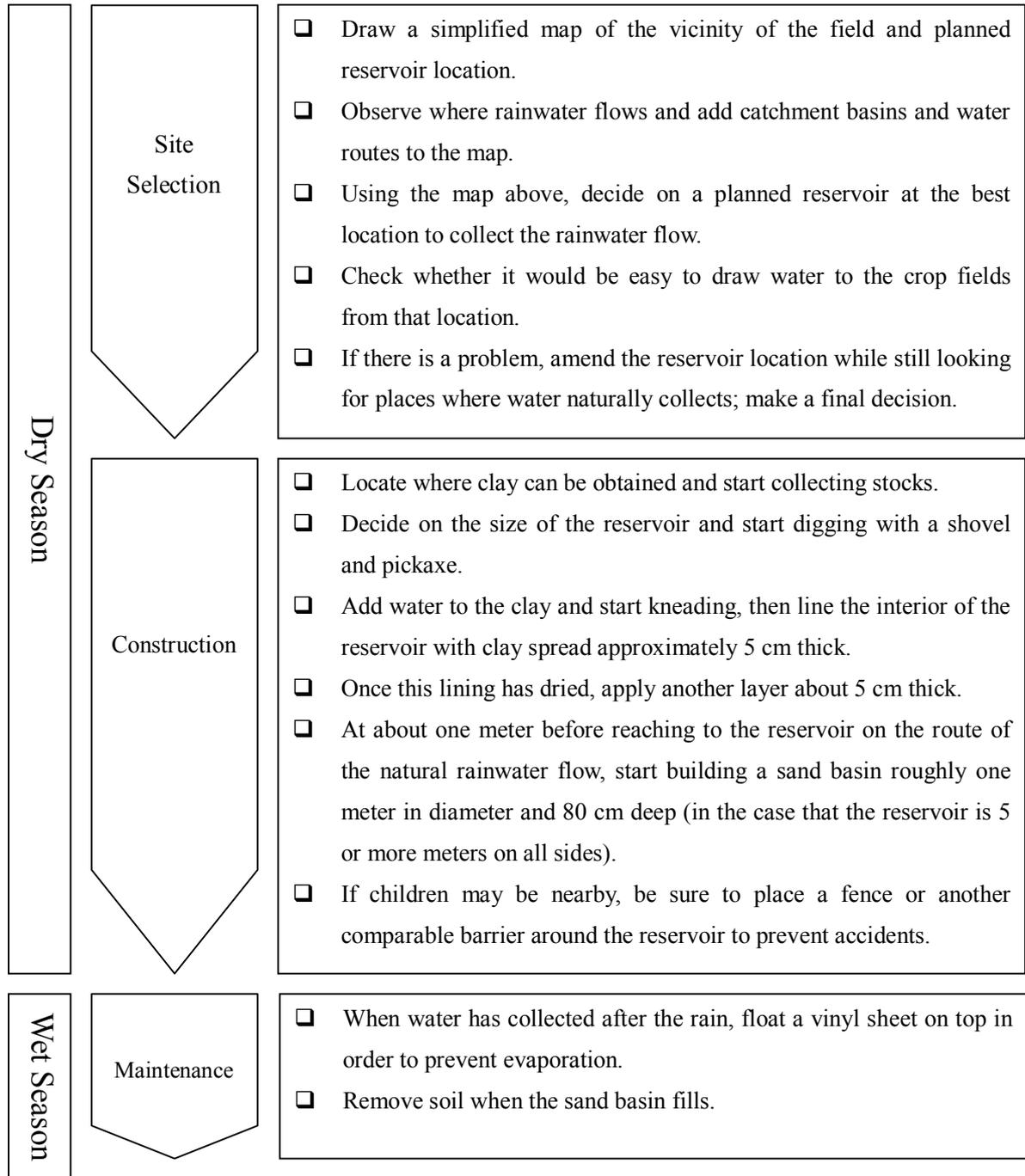


Process Chart for Home Seed Production



[12] 3.4.1 Soil Preparation and Water Management

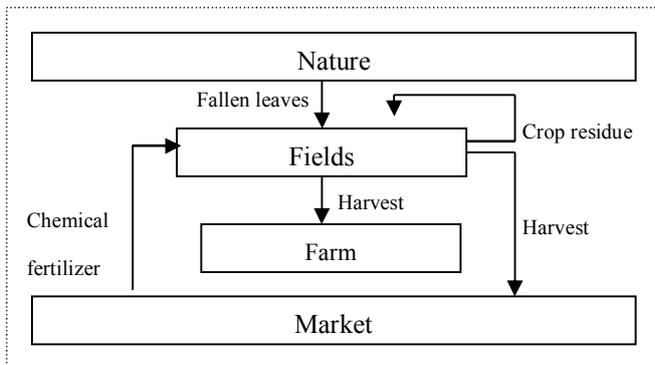
Process Chart for Reservoir-Building



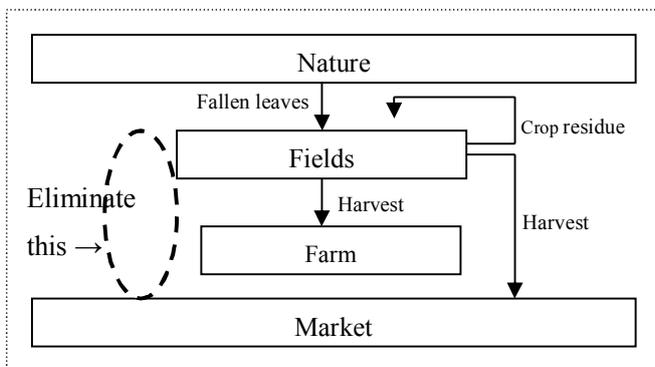
[15] 3.6.1 Technological Combination Design

Steps to Improve Farm Management Systems

1. Illustrate in a diagram the farm management system of the supporting farm.



2. Decide on the Organic Agriculture objectives for the supporting farm and reflect these in the farm management systems diagram. (e.g., reduce cultivation costs = Stop using chemical fertilizer)

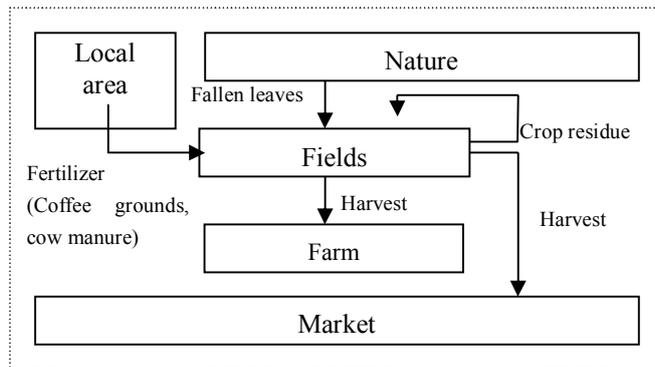


3. Look into ways of putting the illustrated farm management system into practice.

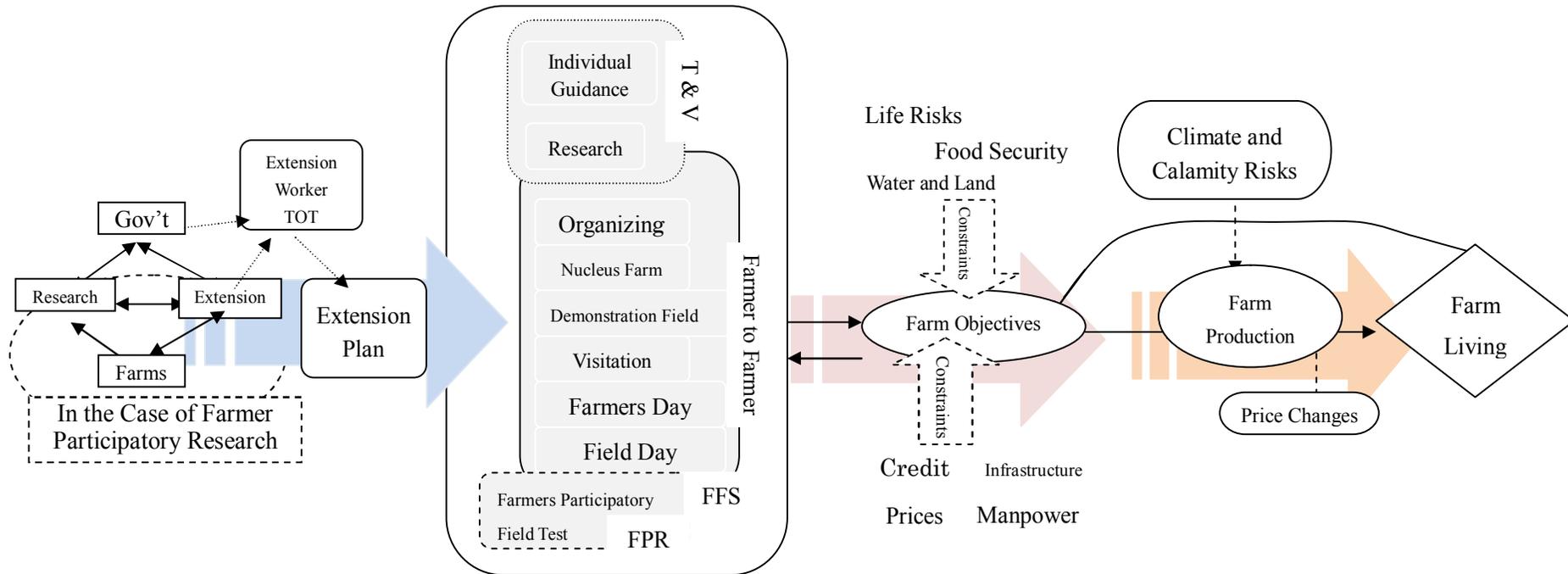
- Calculate the necessary quantity of organic matter and livestock.
- Confirm current conditions (such as the amount of organic matter at hand)

Measures to be Taken	Items to be Investigated
Introduce livestock	<ul style="list-style-type: none"> Purchase Cost Means and expenses for procuring feed
Utilize available organic matter in the area	<ul style="list-style-type: none"> Determine whether usable organic matter exists Determine how it is to be used (compost, direct input, etc.)

4. Decide on the final farm management system to be realized. (e.g., utilize local usable organic matter, such as coffee grounds and cow manure, as compost)



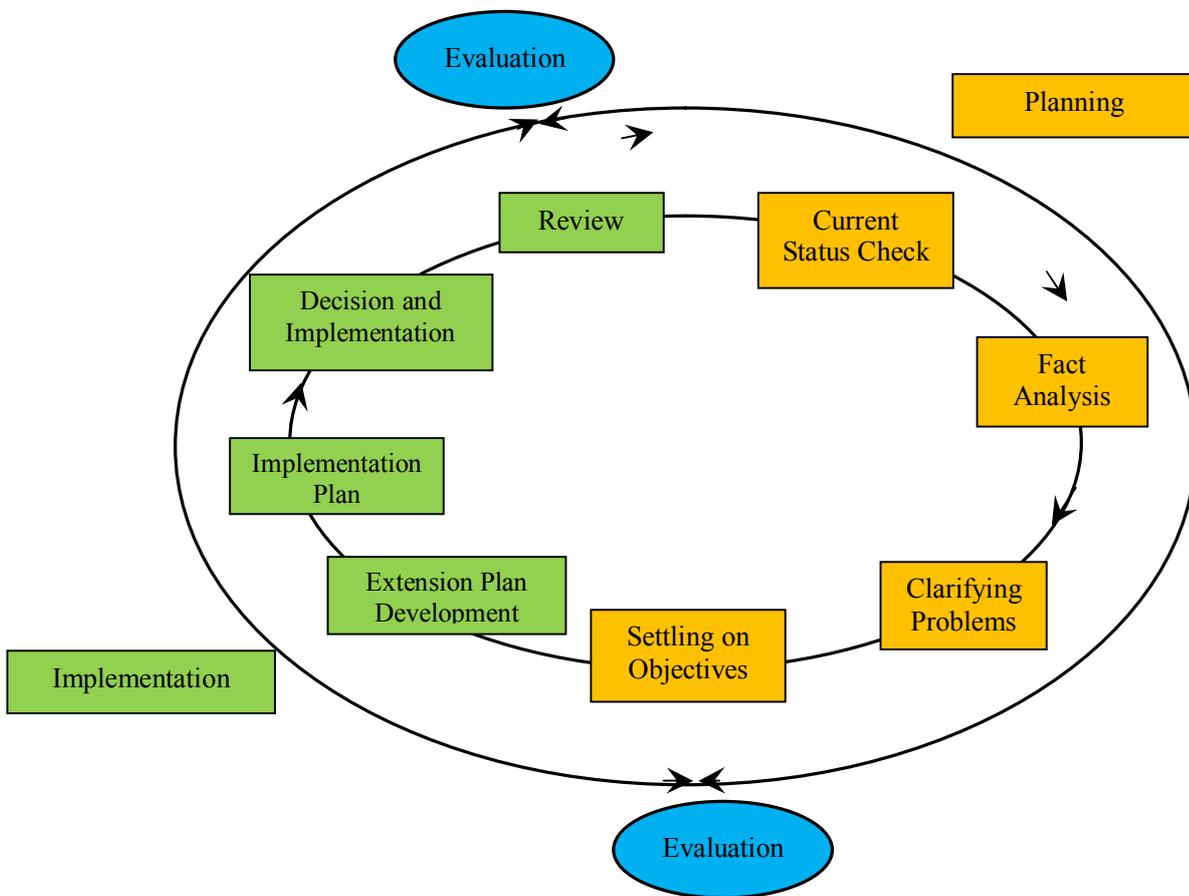
[17] 4.2.1 Impact Model for Extension Activities



Technical Development	Transfer of Knowledge and Skill	Decision of the Farm	Final Evaluation
Government, Research, Extension, Farm Networks	Forms of Communication Spread of Information Technical Facilitation	Access to and Recognition of Technology Adoption, Improvement, and Practical Use of Technology Self-Directed Innovation and Development	Steady Supply of Safe Products to Consumers Contributions to Environmental Preservation Improvements in Land Productivity and Income Spread of Technology to Other Farmers
Input	Activities	Effects/Output	Impact

[18] 4.3.1 The Foundation for Farm Management Planning:
Formulation of a Vision - 1

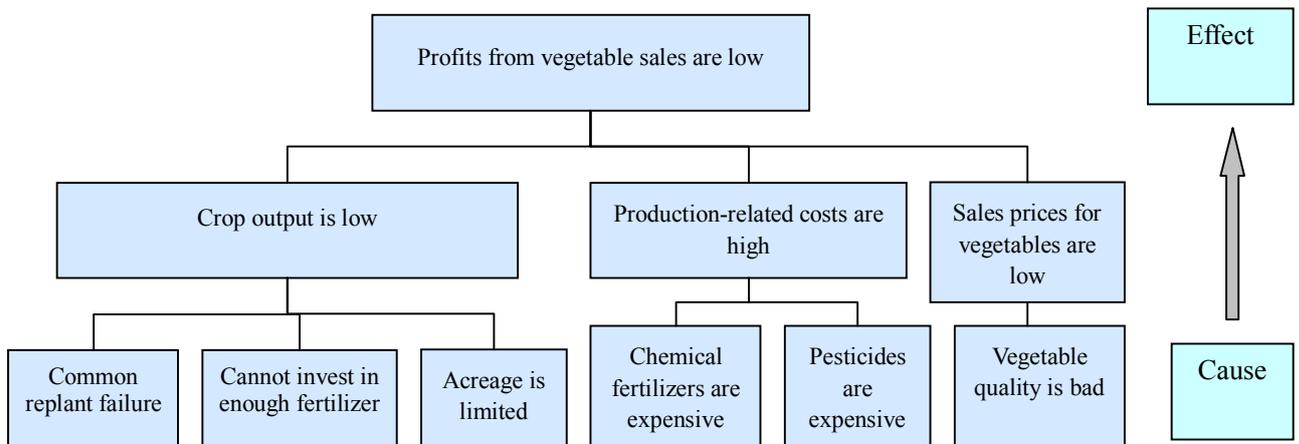
Project Cycle



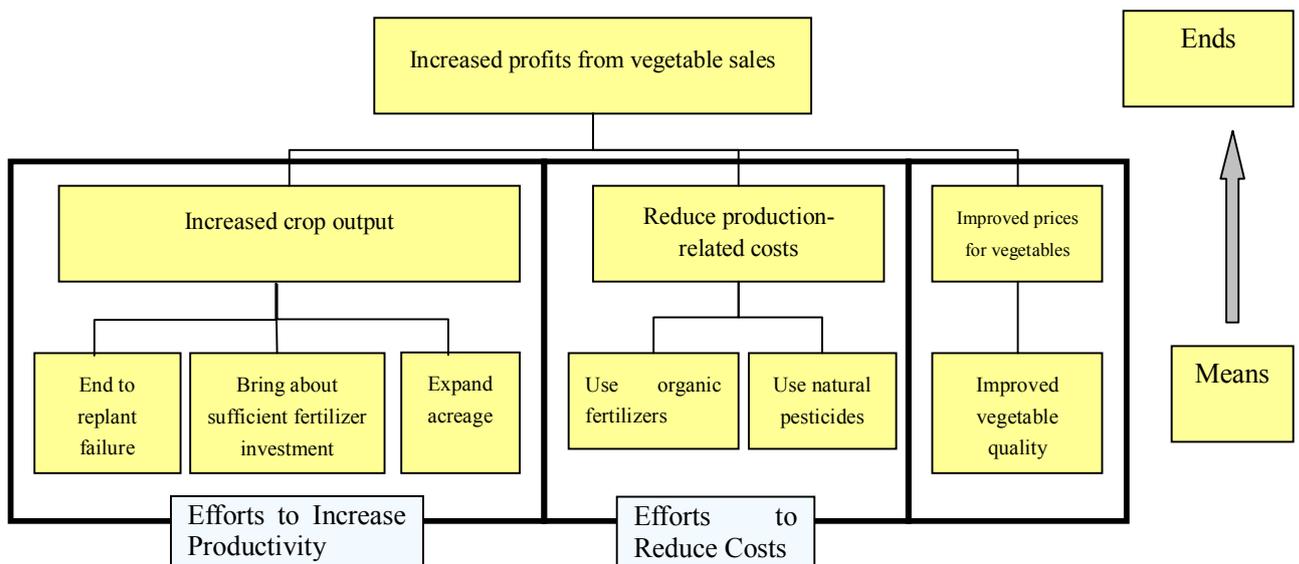
[18] 4.3.1 The Foundation for Farm Management Planning:
Formulation of a Vision - 2

The Process for Formulation of a Vision:
Analysis of Problems and Objectives

1. Problems Analysis → Problem Tree



2. Objectives Analysis → Objective Tree → Selection of a Project



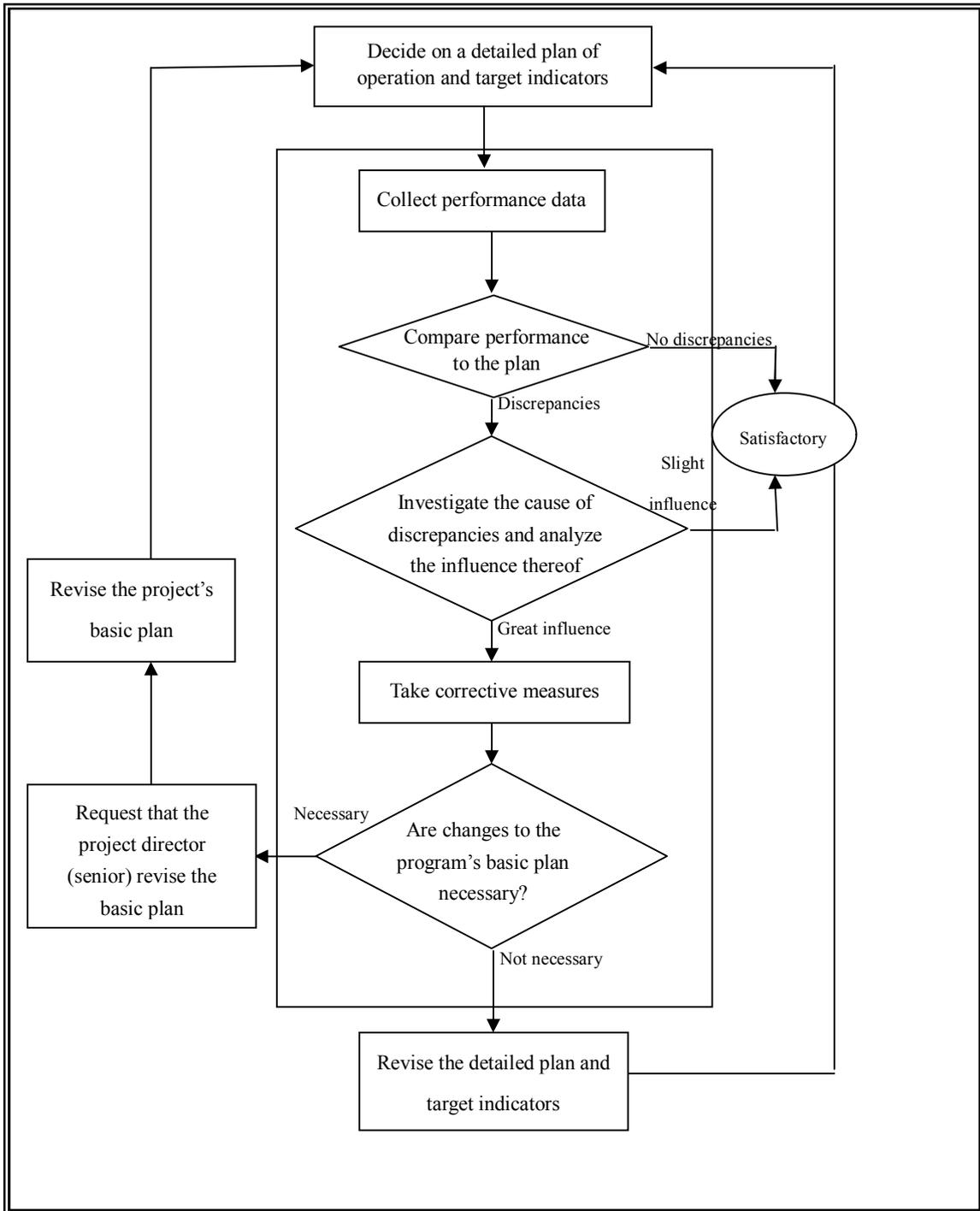
[19] 4.3.1 Formulation of a Plan of Operations

PDM (Logical Framework) Form

Project Title:		Date:	
Target Area:		Target Beneficiary (Group):	
Project Period:		Implementing Organization:	
Narrative Summary:	Objectively Verifiable Indicators	Means of Verification	Important Assumptions
Overall Goal			Important Assumptions for Sustaining (Effective Development of) the Overall Goal
Project Purpose:			Important Assumptions for Achieving the Overall Goal
Outputs			Important Assumptions for Achieving the Project Purpose
Activities	Inputs	Important Assumptions for Achieving the Outputs	
		Pre-Conditions	

[20] 4.5.1 Monitoring and Evaluation - 1

Monitoring Flowchart



[20] 4.5.1 Monitoring and Evaluation - 2

The Five Evaluation Criteria and Assessment Flow

1. Five Evaluation Criteria

Evaluation Criteria	Questions
Relevance	Is the project consistent with the target region's and farmer's needs? Is there a need for this project in light of the responsible (government or non-government) organization's mandate and strategy?
Effectiveness¹	Have originally anticipated outputs been achieved? If so, was this arguably due to the effective implementation of the project?
Efficiency	Was the output commensurate with the amount of resources put in? Was the project activities carried out in an effective way?
Impact	Did the project produce the originally anticipated impact? Were there any indirect or incidental results of the project implementation?
Sustainability	Is it possible for activities initiated over the course of the project to be continued without any trouble thereafter? Will it be possible to continue to achieve the same output and effects after the project ends?

2. Evaluation Flowchart

