

ANNEX III

RESULTS OF PCM WORKSHOP

**The Feasibility Study  
on  
Integrated Agricultural and Rural Development  
in  
Highland Area in the Republic of Indonesia**

**ANNEX III RESULTS OF PCM WORKSHOP**

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## CHAPTER 1 INTORODUCTION

The Project Cycle Management (PCM) method has been applied to the project planning process with a view to formulating the project based on participatory approach. In accordance with the concept of participatory planning of PCM, the village PCM workshop was held at each model area inviting farmers living there. In the workshop, three steps of analysis, i.e. “participation analysis”, “problem analysis” and “objective analysis” were made together with farmers.

All important information from the village PCM workshop was examined in the next step of “alternative analysis” for identification of project approaches. In the final step, the Project Design Matrix (PDM) was prepared for each model area. The analyses in the latter two steps were carried out in cooperation with the counterpart team.

This Annex presents all the important results of the PCM related studies which were carried out in the First Stage Study period in Indonesia from the end of September to the beginning of December 1999. In Chapter 2, the objectives and methodology of the PCM workshop are described. In Chapter 3, the results of PCM workshops are explained including the problem trees and objective trees analyzed in the model areas. PDM, which shows the frame of the Project in each model area, is also presented in Chapter 3.

## **CHAPTER 2 OBJECTIVES AND METHODOLOGY**

### **2.1 Objectives**

The objectives of the PCM workshop were as follows:

- a) To confirm farmers' needs and/or potential to the agricultural development,
- b) To have common understanding between the project planner (Study Team and counterpart team) and farmer beneficiaries on the present problems/ constraints to the agricultural development, and appropriate approaches for the solution of such problems/constraints, and
- c) To prepare PDM based on the results of analyses in the workshop.

### **2.2 Methodology**

#### **2.2.1 Program of PCM Workshop**

In each location of the model area, three days were spent for the village PCM workshop. The basic program of the workshop was as follows (see Figure III-1 for the detailed program):

- First day; participation analysis
- Second day; problem analysis
- Third day; objective analysis

About two hours of time were spent for each analysis. For the problem analysis, however, the time exceeded more than two hours in many model areas. A place of the workshop was the village office in most model areas.

Identification of the project approaches and preparation of PDM were carried out together with the counterpart team in the meeting room of the Provincial Agricultural Service Office, West Java Province. These works were made in the small scale seminars opened for two times. The first one was held at the end of October 1999, and the second one was held in the mid-November (see Figure III-1).

#### **2.2.2 Participants of Village PCM Workshop**

In advance of the village PCM workshop in each model area, through the district agricultural service office, each village office was requested to select 15 participants who were the representatives of owner farmers, tenant farmers, owner-cum-tenant farmers, labor farmers and woman farmers. However, the actual composition of the participants was not always balanced as shown in the

table below.

**Composition of Participants to Village PCM Workshop**

Model Area	Owner Farmer (person)	Tenant Farmer (person)	Owner + Tenant (person)	Labor Farmer (person)	(Female) (person)	Total Participants (person)
1. Mekarjaya	9	4	2	0	(0)	15
2. Langensari	6	4	5	0	(2)	15
3. Tugumukti	8	3	2	2	(0)	15
4. Gekbrong	1	8	4	2	(0)	15
5. Cisarupan	6	3	2	0	(0)	11
6. Tanjungkarya	9	2	5	0	(1)	16
7. Mekarmukti	13	0	2	0	(1)	15
8. Cisantana	8	0	3	0	(0)	11
Total	60	24	25	4	(4)	113

In addition, relevant officers from the village office, district and subdistrict agricultural service offices were requested to attend the workshop as observers, expecting their understanding of the PCM method (a list of participants and observers of the village PCM workshop is presented in Table III-1).

### 2.2.3 Moderator and Co-moderator

The Rural Society/Farmers' Organization expert of the Study Team took charge of moderator of the PCM workshop. Both a counterpart of the expert and an assistant (cum-interpreter) who was temporally employed for the operation of the workshop took charge of co-moderator.

## CHAPTER 3 RESULTS OF PCM WORKSHOP

### 3.1 Participation Analysis

In the participation analysis, people, groups, organizations related to the agricultural production activities were analyzed. Although there were some differences between the model areas, the result can be summarized as follows (details of each model area are presented in Figure III-2):

**Summary of Participation Analysis Result**

Related to crop production	Farmers, Farmers Groups, Farm Water Users Association, Labor Farmers
Related to marketing of products:	Village middlemen, Middlemen from Outside, Village Car Owners, Bandung Market, Jakarta Market
Related to farm input supply	Village Mini-shop (KIOS), Sub-district Level Retailers, Vegetable Seeds Retailers in Bandung and Lembang, Village Seed Growers, KUD, Village Tractor Owners, Village Buffalo Owners, Compost Fertilizer Sellers
Agricultural supporting services	PPL, PHP, LSM, KUD, Banks at District and Sub-district levels, Extension Office (BPP), District Agricultural Service Office, District Livestock Service Office, District Public Works Service Office

After the above analysis, characteristics and problems of agriculture in each model area were analyzed as an introduction part of the problem analysis. The results are presented in Figure III-3.

### 3.2 Problem Analysis

The core problem and its direct causes analyzed in each model area are presented in the table below (the problem trees from the eight model areas are given in Figures from III-4 to III-11).

**Core Problem and Its Direct Causes Analyzed in Each Model Area**

Model Area	Core Problem	Direct Causes			
		1	2	3	4
1. Mekarjaya	Lack of capital	Low agriculture income	Difficulty in loaning		
2. Langensari	Lack of capital	Low agriculture income	Difficulty in loaning		
3. Tugumukti	Low agriculture income	Low price of products	Low crop production	Unemployment of farm labors in dry season	
4. Gekbrong	Lack of capital	Low agriculture income	Difficulty in loaning		
5. Cisarupan	Low agriculture income	Low price of products	High price of farm inputs	Low crop production	No agro-processing activities
6. Tanjungkarya	Lack of capital	Low agriculture income	Difficulty in loaning		
7. Mekarmukti	Lack of capital	Low agriculture income	Difficulty in loaning		
8. Cisantana	Low agriculture income	Low crop production	Low price of products		



Further causes of the direct causes (or causes of the direct causes) in the above table were similar in the eight model areas. For easy understanding of problems in the model areas, these causes are classified into (i) production infrastructure, (ii) production technology, (iii) production inputs, (iv) outputs marketing, (v) agricultural supporting services, and (vi) others as described below (in each parenthesis, problems derived from corresponding cause are presented).

a) Production infrastructure

- Inadequacy or insufficiency of irrigation facility (difficult dry season cropping, low crop production, difficult control of cropping season, etc.)
- Poor condition of village road (little availability of middlemen, difficult sale of products, etc.)

b) Production technology

- Lack of vegetable production technology (high damage of pest/ disease, low crop production, low quality of products, etc.)
- Lack of soil management technology (high damage of pest/ disease, low crop production, etc.)

c) Production inputs

- Expensive farm inputs (small application/utilization of farm inputs, inappropriate plant management, etc.)
- Expensive and difficult to obtain improved seeds (low crop production, low quality of products, etc.)
- Expensive and difficult to obtain compost fertilizer (small input of compost fertilizer, soil deterioration, etc.)
- Lack of production tools and machinery (inappropriate chemical spraying, difficult pump irrigation, etc.)

d) Outputs marketing

- Low price and large fluctuation of vegetable price (low agriculture income, instability of agriculture income, etc.)
- Low quality of vegetable products (low price for sale, etc.)

e) Agricultural supporting service

- Difficult to obtain loan (insufficient application/ utilization of farm inputs, etc.)
- Insufficient availability of extension service (lack of vegetable production technology, weak farmers' organization, etc.)

f) Others

- Shortage of land (high cropping intensity, injury by continuous cropping,

- increase application of agro-chemical, etc.)
- Many non-certificate land (difficult loaning, etc.)
- Shortage of farm labor (inappropriate crop management, increased production cost, etc.)
- Lack of farmers' organizational capability (difficult loaning, difficult joint purchase of farm inputs, difficult joint sale of products, etc.)

### 3.3 Objective Analysis and Identification of Project Approaches

In the workshop of each model area, the objective tree was prepared. Based on the objective tree, the project approaches were then identified for each model area. The identified project approaches are summarized in the table below (the results of examination made on the project approaches are presented in Figures from III-12 to III-19).

**Project Approaches Identified on Objective Trees**

Approach	①	②	③	④	⑤	⑥	⑦	⑧
1. Irrigation facility improvement/ development	YES	YES	YES	YES	YES	YES	YES	YES
2. Village road improvement	YES			YES				YES
3. Vegetable production technology improvement	YES	YES	YES	YES	YES	YES	YES	YES
4. Vegetable products quality improvement	YES	YES	YES	YES	YES	YES	YES	YES
5. Farmers' organization activation	YES	YES	YES	YES	YES	YES	YES	YES
6. Agricultural supporting service improvement	YES	YES	YES	YES	YES	YES	YES	YES
7. Land certification program promotion	YES	YES		YES		YES	YES	
8. Farm road improvement						YES		
9. Agro-processing industry development					YES			

- |             |               |             |
|-------------|---------------|-------------|
| ①Mekarjaya  | ④Gekbrong     | ⑦Mekarmukti |
| ②Langensari | ⑤Cisurupan    | ⑧Cisantana  |
| ③Tugumukti  | ⑥Tanjungkarya |             |

### 3.4 Selection of Project Approaches

Based on the concept that the agriculture and rural society should be developed in an integrated manner, the selection of the project approaches was carried out. In the selection, issues examined were as follows:

- a) As a result of an examination made on project components in each approach, the "irrigation facility improvement/development approach" and the "vegetable production technology improvement approach" were combined into the "vegetable production system improvement approach". This combined approach was then selected.

- b) The “marketing road improvement approach”, the “vegetable products quality improvement approach” and the “farm road improvement approach” were combined into the “vegetable products marketing system improvement approach”. This combined approach was also selected.
- c) The “land certification program promotion approach” was not selected considering its probability of achieving objectives and a size of target group. In the land certification program, landowners are usually requested to spend a much cost and time (which mean low probability of achieving objectives). In addition, this approach doesn’t support tenant farmers, but owner farmers (small size of target group).
- d) The “agro-processing industry development approach” was not selected considering that this approach would be necessary after the achievement of “farmers’ organization activation” (low probability of achieving objectives).
- e) The “farmers’ organization activation approach” was selected so as to cover the component expected in the “agricultural supporting service improvement approach”. Under this approach, the project itself will assist the farmers and the farmers’ organizations in the model areas.

The selected three approaches consisting of (i) vegetable production technology improvement, (ii) vegetable products marketing system improvement, and (iii) farmers’ organization activation are proposed to be implemented in all the model areas, although the project “inputs” under these approaches would be different among the model areas. The selected approaches in each model area are then summarized as follows.

**Approaches Selected for Model Areas**

Approach	①	②	③	④	⑤	⑥	⑦	⑧
1. Vegetable production technology improvement	YES	YES	YES	YES	YES	YES	YES	YES
2. Vegetable products marketing system improvement	YES	YES	YES	YES	YES	YES	YES	YES
3. Farmers’ organization activation	YES	YES	YES	YES	YES	YES	YES	YES

①Mekarjaya  
 ②Langensari  
 ③Tugumukti

④Gekbrong  
 ⑤Cisurupan  
 ⑥Tanjungkarya

⑦Mekarmukti  
 ⑧Cisantana

### 3.5 Preparation of PDM

PDM was prepared for each model area based on the objective tree and the results of the above examination made on the project approaches. In the preparation, the “project summary” was first prepared in collaboration with the counterpart team. Second, other parts of PDM including the “inputs” were analyzed by the Study Team. The final results of PDM presented in the Interim Report are

presented in Tables from III-2 to III-9. The project summary given in PDM can be described as follows.

- a) Project Purpose: Farmers' income is increased and living standard is improved through stabilization of vegetable production.
- b) Overall Goal: Development model of the model area is expanded over highland area of West Java Province.
- c) Outputs: The following three outputs;
  - Vegetable production system is improved.
  - Marketing system of vegetable products is improved.
  - Farmers' organizations are activated in agricultural development.
- d) Activities:

Although the "activities" differ with the model areas, those in the typical PDM are as follows:

For the output of "vegetable production system is improved";

- To develop irrigation facility including domestic water supply,
- To establish linkage with relevant research institutes, and
- To operate farmers field school along with demo-plots.

For the output of "marketing system of vegetable products is improved";

- To improve collection and delivery facilities for vegetable products,
- To improve village marketing road, and
- To train farmers on crop planning based on market needs involving private sector.

For the output of "farmers' organizations are activated in agricultural development";

- To train farmers/ farmer groups in forming Farmers Cooperative, Farm Water Users Association, and Rural Water Supply Users Association.
- To train farmers' organizations on i) operation and management of rural facility, ii) joint purchase of farm inputs and tools, iii) joint collection and delivery of vegetable products, iv) post-harvest handling and packaging, v) credit handling and management, vi) organization management.

Tables

**Table III-1 (1/4) List of Participants and Observers in Village PCM Workshop**

No.	Name	Sex	Age	Dusun	Operated Land (ha)	Remarks
<b>MEKARJAYA</b>						
Participants						
1	Endang Dayu	Male	48	Dusun II	2.50	
2	Mama R	Male	41	Dusun II	0.71	
3	Ale	Male	34	Dusun III	1.00	
4	Juju	Male	36	Dusun III	1.00	
5	Yoyo	Male	28	Dusun III	1.00	
6	Ajang Sutiarna	Male	39	Dusun III	1.00	
7	Endang Rukmaya	Male	56	Dusun II	1.00	
8	Yoyo	Male	60	Dusun III	1.00	
9	Lili	Male	52	Dusun I	1.43	
10	Uus Susanto	Male	32	Dusun III	4.00	
11	Otong Surahman	Male	46	Dusun I	0.43	
12	Anang Rochendi	Male	45	Dusun I	1.43	
13	Dadang	Male	38	Dusun I	0.91	
14	Toto	Male	39	Dusun III	1.29	
15	Yaya Sahyana	Male	51	Dusun I	1.50	
Observers						
1	Deden M Taftazany	Male				PPS,Diperta Kab. DT II Bandung
2	Edi Yusuf	Male				PPL,Kec. Arjasari
3	Ali Amjahya	Male				Sekdes,Desa Mekarjaya
4	Mahmud S	Male				Kades, Desa Mekarjaya
<b>LANGENSARI</b>						
Participants						
1	Wawan Hermawan	Male	32	Nyampay	0.14	
2	Amas Supriadi	Male	54	Nyampay	0.14	
3	Imas Halimah	Female	43	Nyampay	0.21	
4	Euis Yati	Female	34	Nyampay	0.43	
5	Uar Hadiat	Male	47	Nyampay	0.79	
6	Suhaya	Male	50	Nyampay	0.14	
7	Enung Ruhimat	Male	26	Nyampay	0.29	
8	Caca Sutisna	Male	27	Nyampay	0.29	
9	Emus	Male	82	Nyampay	0.43	
10	Supriatna	Male	40	Nyampay	0.14	
11	Marna	Male	57	Nyampay	0.43	
12	Abdul Somad	Male	40	Nyampay	0.14	
13	Anang Hidayat	Male	57	Nyampay	0.24	
14	Dolrani DL	Male	70	Nyampay	0.29	
15	Uce Somantri	Male	51	Nyampay	0.57	
Observers						
1	Sudyatman	Male				PPL, Kec. Lenbang
2	Ukas	Male				Kades, Kp Langensari
3	Imas	Female				Istri Kades, Kp Langensari
<b>TUGUMUKTI</b>						
Participants						
1	H. Ismail. H.	Male	30	Tugu II	2.00	
2	H. Sjahid A	Male	39	Tugu IV	7.00	
3	H. Sulaeman	Male	50	Tugu II	0.28	
4	Rukman	Male	40	Tugu II	0.14	
5	H. Ismattuloh	Male	30	Tugu I	2.00	
6	H. Soleh	Male	30	Tugu IV	4.00	
7	Uta Rustaya	Male	48	Tugu II	0.75	
8	Uci	Male	65	Tugu II	0.50	
9	Nandi Aji	Male	40	Tugu II	0.00	
10	Kokom	Male	44	Tugu IV	0.14	
11	Unda	Male	40	Tugu IV	0.06	
12	Didi	Male	40	Tugu V	0.00	
13	Atim	Male	55	Tugu V	1.00	
14	Sopyani	Male	49	Tugu VI	0.21	
15	Hamdi	Male	67	Tugu VI	0.70	

**Table III-1 (2/4) List of Participants and Observers in Village PCM Workshop**

No.	Name	Sex	Age	Dusun	Operated Land (ha)	Remarks
<b>GEKBRONG</b>						
Participants						
1	Jueng Sobani	Male	64	Tabrik	0.56	
2	Suparman	Male	40	Tabrik	0.80	
3	Abeh Kosasih	Male	46	Babakan	1.00	
4	Didi	Male	49	Loji	0.40	
5	H. Ishaq	Male	65	Kenket	0.40	
6	Aep Saepudin	Male	30	Loji	0.80	
7	Oim	Male	38	Kebon Karet	1.00	
8	Oling	Male	50	Babakan	1.00	
9	Bubun	Male	39	Loji	0.52	
10	Mansur	Male	45	Kebon Karet	0.12	
11	Solih	Male	52	Loji	1.00	
12	Ali Nurjaman	Male	30	Kebon Karet	0.48	
13	Umar	Male	37	Loji	0.16	
14	Jajang	Male	30	Loji	0.00	
15	Irin	Male	30	Loji	0.00	
Observers						
1	Dadang H	Male				Chief of sub Section Water Management&Climate Observer, Food Crrop Office Cianjur
2	Lili Mulyadin	Male				Sub Section of Social, Kecamatan Warung Kondang
3	Entus Kusdinar	Male				PPL, Kec. Warung Kondang
4	Adang Supriatna	Male				PPL, Gekbrong
5	M Hasan Kurdi	Male				Head of Sub Office, Sub of Agriculture Office Kec. Warung Kondang
6	M Oneng	Male				Head of Gekbrong Village
7	E Melamas	Male				LKMD, Gekbrong
<b>CISURUPAN</b>						
Participants						
1	Jajang	Male	31	Kp. Cisero	1.00	
2	Apip	Male	26	Kp. Sari Pulo	0.14	
3	Aban Ruchyana	Male	55	Kp. Pasar Wetan	1.50	
4	Ica Andriana	Male	35	Kp. Sari Pulo	0.29	
5	Eron Suwarwa	Male	56	Kp. Sari Pulo	0.14	
6	Oman Rukmana	Male	36	Kp. Sari Pulo	0.11	
7	Arif	Male	35	Kp. Kidul	0.14	
8	Ujer	Male	55	Kp. Sari Pulo	0.14	
9	Maman	Male	50	Kp. Sari Pulo	0.43	
10	M. Soeparman	Male	58	Kp. Pasar Tengah	0.29	
11	Ohib	Male	30	Kp. Sari Pulo	0.43	
Observers						
1	Wahyu Marno	Male				Dit BRPL-Subdit TLA
2	Herry	Male				Dit BRPL-Subdit LPT
3	Endang Karun	Male				Head of Agricultural
4	Juju Rukman	Male				PHP
5	Iis Indrayani	Male				Kasubsi Dit GA
6	Beni Yoga G	Male				Staff Rehaliasi
7	Achmad Sulaeman	Male				Kasi Rehaliasi
8	Suhermat	Male				Dinas Pertanian Prop DTI Jabar
<b>TANJUNGPAN</b>						
Participants						
1	Pendi	Male	47	Kp. Cidadali	0.57	
2	M.O. Bunyamin	Male	55	Kp. Pakuhaji	2.14	
3	Wahidin	Male	50	Kp. Engkol	2.00	
4	M. Dana K	Male	60	Kp. Pangkalan	1.71	
5	Idan	Male	50	Kp. Pakuhaji	3.00	
6	Jajang	Male	30	Kp. Tanjung	2.14	
7	Adin	Male	60	Kp. Rantun	2.14	

**Table III-1 (3/4) List of Participants and Observers in Village PCM Workshop**

No.	Name	Sex	Age	Dusun	Operated Land (ha)	Remarks
8	Suhanda	Male	45	Kp. Pakuhaji	1.71	
9	Aid	Male	50	Kp. Sidodadi	2.00	
10	Misbah	Male	40	Kp. Bojongsirna	2.14	
11	Suratman	Male	50	Kp. Awiligar	2.14	
12	Emud	Male	57	Kp. Pasarmuncang	0.86	
13	Inan	Male	50	Kp. Cidadali	2.14	
14	Sajid	Male	65	Kp Awiligar	1.43	
15	Iding S	Male	60	Kp. Tanjung Simuru	6.00	
16	Tati Rohyati	Female	26	Kp. Tanjung Simuru	2.14	
<b>Observers</b>						
1	N. Sunendar	Male				PPS, Dinas Pertanian, Kab. Garut
2	Endang N	Female				KCD, Pertanian Semarang
3	Rusganda	Male				Head of Tanjung karya Village
4	A. Mulyadi	Male				Secretary of Tanjung karya Village
5	Suhanda	Male				Head of Tanjung karya Village
6	Wahidin	Male				Head of Tanjung karya Village
7	Harun	Male				Head of Public Prosperity
8	Adin	Male				Head of Development
<b>MEKARMUKTI</b>						
<b>Participants</b>						
1	E. Toyib	Male	47	Citunggul	0.86	
2	Juhari S	Male	30	Ciliang	0.71	
3	Ojim	Male	40	Citunggul	0.21	
4	Kusna	Male	60	Citunggul	1.01	
5	Taryat	Male	28	Ciliang	0.21	
6	Jana	Male	55	Ciliang	0.71	
7	Asari	Male	58	Ciliang	0.71	
8	Hatijah	Female	43	Ciliang	0.57	
9	Ojo Tasja	Male	53	Citunggul	1.14	
10	Tatang	Male	35	Ciliang	1.00	
11	Salnam	Male	45	Citunggul	0.36	
12	Madhani	Male	52	Ciliang	1.50	
13	Saim	Male	72	Ciliang	2.86	
14	M. Soleh	Male	60	Citunggul	2.14	
15	Karna	Male	73	Ciliang	0.29	
<b>Observers</b>						
1	Amir	Male				KCD. Buahdua
2	Dedeng	Male				Researcher plant disease, Buah dua
3	Maman Suparman	Male				Agricultural official Sumedang
4	S. sugiatna	Male				Secretary of Village
5	Suryana	Male				Mekarmukti
6	A. Sukria	Male				Defense Institute of Villager
7	Omo	Male				Jugul
8	Oman Rutanan	Male				Head of Mekarmukti Village
<b>CISANTANA</b>						
<b>Participants</b>						
1	Kalim	Male	59	Cisantana	0.56	
2	Sumarno	Male	57	Cisantana	0.21	
3	Suhenda	Male	60	Cisantana	0.36	
4	Saleh	Male	59	Cisantana	0.43	
5	Darso	Male	42	Cisantana	0.24	
6	Tarlan	Male	57	Cisantana	0.18	
7	Ganda Suralaksana	Male	77	Cisantana	0.43	
8	Darsipin	Male	65	Cisantana	0.29	
9	Haruman	Male	29	Malar Aman	0.29	
10	U. Sukirman	Male	53	Dusun Dano	1.00	
11	Warsono	Male	40	Sukamanah	0.29	
<b>Observers</b>						
1	Ir. Triastami	Male				PCH Kasi Lahan, Dinas Pertanian Kuningan



**Table III-1 (4/4) List of Participants and Observers in Village PCM Workshop**

No.	Name	Sex	Age	Dusun	Operated Land (ha)	Remarks
2	Tatang Sutardi	Male				Kasubsi TOA, Dinas Pertanian, Kuningan
3	Emon	Male				KCD Cigugur
4	Rustaman	Male				Kepala BPP Cigugur
5	Dadin	Male				PPL Cisantana, Cigugur
6	Affandi	Male				Head of Cisantana Village
<b>PCM WORKSHOP FOR PDM PREPARATION</b>						
<b>(October 28, 1999)</b>						
Participants						
1	Ir. Suhermat	Male				Counterpart of Dinas Pertanian from West Java
2	Tatang Sutardi	Male				Counterpart of Dinas Pertanian from Kuningan
3	Maman Suparman	Male				Counterpart of Dinas Pertanian from Sumedang
4	Beni YG	Male				Counterpart of Dinas Pertanian from Garut
5	Deden M	Male				Counterpart of Dinas Pertanian from West Java
6	Achmad	Male				Counterpart of Dinas Pertanian from Garut
7	Tangkas Pandjaitan	Male				Staff, Directorate of Land Rehabilitation and Development
8	Ir. H. Aan Suhandi	Male				MOA Counterpart
9	Dadeng SA	Male				Counterpart from West Java
10	Kurniadhi Didi	Male				Counterpart from West Java
11	Suyatman	Male				Counterpart from West Java
12	H. Kuronuma	Male				JICA Study Team, Team Leader
13	N. Sanbe	Male				JICA Study Team, Rural Infrastructure
14	H. Ishikawa	Male				JICA Study Team, Agronomist
15	T. Saito	Male				JICA Study Team, Agro-processing/Marketing
16	Y. Mizuguchi	Male				JICA Study Team, Environment

**Table III-2 Integrated Agricultural and Rural Development Project in Mekarjaya (PDM)**

Target Group : Farmers in Mekarjaya Model Area (including tenant farmers)

Project Term : 5 years

Project Summary	Verifiable Indicators	Means of Verification	Important Assumptions
<b>Overall Goal</b> Development model of the model area is expanded over highland area of West Java Province.	- Increased number of similar schemes	- District and Sub-district Agricultural Service Offices	- Ministry of Agriculture continuously adopts the horticultural dev. policy.
<b>Project Purpose</b> Farmers' income is increased and living standard is improved through stabilization of vegetable production.	- Increase rate of farm income (to be adjusted using GDP deflator)	- Farm surveys to be made in project monitoring works	- Economic situations of Indonesia do not aggravate seriously.
<b>Outputs</b> 1. Vegetable production system is improved. 1-1 Irrigation water is supplied. 1-2 Research information on vegetable crop cultivation technology is available. 1-3 Farmers' vegetable production technology is improved.  2. Marketing system of vegetable products is improved. 2-1 Farmers' collection and delivery activities are improved. 2-2 Village transportation system is improved. 2-3 Crop planning is formulated by farmers based on market needs.  3. Farmers' organizations are activated in agricultural dev. 3-1 Farmers/farmer groups are reorganized. 3-2 Capacity of farmers' organizations is improved in O&M of rural facilities, marketing of vegetables, farm inputs & credit supply, and organizational management.	- Vegetable cropping intensity - Unit yields of vegetable crops  - Amount of farm inputs  - Amount and value of jointly delivered vegetables - Number of in-coming middlemen - Changes in cropping intensity  - Date of registration and number of members - Planned and actual cropping patterns - Number of credit users and loan amount - Handling amount and value of farm inputs - Operation of Farmers' Cooperative - Operation of Farm Water Users Association	- Record of Farm Water Users Association - Farm surveys  - Farm surveys  - Record of Farmers' Cooperative - Information from Farmers' Cooperative - Record of WUA/Farm surveys  - Registration records of Coop. and WUA - Record of WUA and farm surveys - Record of Farmers' Cooperative - Record of Farmers' Cooperative - Balance sheet of Farmers' Cooperative - Balance sheet of Farm Water Users Association	- Existing marketing and transportation system for vegetables do not aggravate seriously. - Relevant research institutes continue their research works.
<b>Activities</b> 1-1 To develop irrigation facility. 1-2 To establish linkage with relevant research institutes. 1-3 To operate farmers field school along with demo-plots.  2-1 To improve collection and delivery facilities for vegetable products. 2-2 To improve village marketing road. 2-3 To train farmers on crop planning based on market needs involving private sector.  3-1 To train farmers/farmer groups in forming Farmers' Cooperative, Farm Water Users Association, and Rural Water Supply Users Association. 3-2 To train farmers' organizations on: 3.2.1 operation and management of rural facility, 3.2.2 joint purchase of farm inputs and tools, 3.2.3 joint collection and delivery of vegetable products, 3.2.4 post-harvest handling and packaging, 3.2.5 credit handling and management, and 3.2.6 organization management.	<b>Inputs for this Model Area</b> 1. Manpower - Village Coordinators : 324M/M (Rp.648 mil.)  2. Facility - Irrigation facility: 100 ha (Rp.658 mil.) - Village marketing road: 3.3 km (Rp.511 mil.) - Collection/delivery facility: 10 units (Rp.100 mil.)  3. Training of farmers/farmer groups/farmers' organizations: (Rp.242 mil.)  4. Training of Village Coordinators: (Rp. 16 mil.)  5. Administration cost: (Rp.218 mil.)  Total Cost: Rp.2,393 million	<b>(Inputs for All Model Areas)</b> 1. Manpower - External experts: 540 M/M (Rp.25,290 mil.)  2. Facility - Adaptive Trial Farm Improvement: 2 ha (Rp.320 mil.)  3. Machine/Equipment - Car: 2 units - Computer: 5 units - Photo copy machine: 1 unit - Motorcycle for Village Coordinator: 25 units (Rp.425mil.)  4. Training of Task Team: (Rp.471 mil.)  5. Administration cost: (Rp.2,650 mil.)  Total Cost: Rp.29,156 million	- Cooperation of relevant research institutes is provided. - Cooperation of relevant agencies at provincial, district and sub-district levels is provided. - Cooperation of private sector is provided.  <b>Pre-conditions</b> - Farmers in the model area participate in the Project. - Ministry of Agriculture and West Java Province Agricultural Service Office continue their support to the Project.

**Table III-3 Integrated Agricultural and Rural Development Project in Langensari (PDM)**

Target Group : Farmers in Langensari Model Area (including tenant farmers)

Project Term : 5 years

Project Summary	Verifiable Indicators	Means of Verification	Important Assumptions
<b>Overall Goal</b> Development model of the model area is expanded over highland area of West Java Province.	- Increased number of similar schemes	- District and Sub-district Agricultural Service Offices	- Ministry of Agriculture continuously adopts the horticultural dev. policy.
<b>Project Purpose</b> Farmers' income is increased and living standard is improved through stabilization of vegetable production.	- Increase rate of farm income (to be adjusted using GDP deflator)	- Farm surveys to be made in project monitoring works	- Economic situations of Indonesia do not aggravate seriously.
<b>Outputs</b> 1. Vegetable production system is improved. 1-1 Irrigation water is supplied together with domestic water. 1-2 Research information on vegetable crop cultivation technology is available. 1-3 Farmers' vegetable production technology is improved.  2. Marketing system of vegetable products is improved. 2-1 Farmers' collection and delivery activities are improved. 2-2 Village transportation system is improved. 2-3 Crop planning is formulated by farmers based on market needs.  3. Farmers' organizations are activated in agricultural dev. 3-1 Farmers/farmer groups are reorganized. 3-2 Capacity of farmers' organizations is improved in O&M of rural facilities, marketing of vegetables, farm inputs & credit supply, and organizational management.	- Vegetable cropping intensity - Unit yields of vegetable crops  - Amount of farm inputs  - Amount and value of jointly delivered vegetables - Number of in-coming middlemen - Changes in cropping intensity  - Date of registration and number of members - Planned and actual cropping patterns - Number of credit users and loan amount - Handling amount and value of farm inputs - Operation of Farmers' Cooperative - Operation of Farm Water Users Association - Operation of Rural Water Supply Users Associat.	- Record of Farm Water Users Association - Farm surveys  - Farm surveys  - Record of Farmers' Cooperative - Information from Farmers' Cooperative - Record of WUA/Farm surveys  - Registration records of Coop. and WUA - Record of WUA and farm surveys - Record of Farmers' Cooperative - Record of Farmers' Cooperative - Balance sheet of Farmers' Cooperative - Balance sheet of Farm Water Users Association - Balance sheet of Rural Water Supply Users Ass.	- Existing marketing and transportation system for vegetables do not aggravate seriously. - Relevant research institutes continue their research works.
<b>Activities</b> 1-1 To develop irrigation facility including rural water supply. 1-2 To establish linkage with relevant research institutes. 1-3 To operate farmers field school along with demo-plots.  2-1 To improve collection and delivery facilities for vegetable products. 2-2 To improve village marketing road. 2-3 To train farmers on crop planning based on market needs involving private sector.  3-1 To train farmers/farmer groups in forming Farmers' Cooperative, Farm Water Users Association, and Rural Water Supply Users Association. 3-2 To train farmers' organizations on: 3.2.1 operation and management of rural facility, 3.2.2 joint purchase of farm inputs and tools, 3.2.3 joint collection and delivery of vegetable products, 3.2.4 post-harvest handling and packaging, 3.2.5 credit handling and management, and 3.2.6 organization management.	<b>Inputs for this Model Area</b> 1. Manpower - Village Coordinators : 162M/M (Rp.324 mil.)  2. Facility - Irrigation facility: 72 ha (Rp.513 mil.) - Village marketing road: 1.2 km (Rp.211 mil.) - Collection/delivery facility: 7 units (Rp. 70 mil.) - Rural water supply system: 600 households (Rp.240 mil.)  3. Training of farmers/farmer groups/farmers' organizations: (Rp.169 mil.)  4. Training of Village Coordinators: (Rp. 12 mil.)  5. Administration cost: (Rp.154 mil.)  Total Cost: Rp.1,693 million	<b>(Inputs for All Model Areas)</b> 1. Manpower - External experts: 540 M/M (Rp.25,290 mil.)  2. Facility - Adaptive Trial Farm Improvement: 2 ha (Rp.320 mil.)  3. Machine/Equipment - Car: 2 units - Computer: 5 units - Photo copy machine: 1 unit - Motorcycle for Village Coordinator: 25 units (Rp.425mil.)  4. Training of Task Team: (Rp.471 mil.)  5. Administration cost: (Rp.2,650 mil.)  Total Cost: Rp.29,156 million	- Cooperation of relevant research institutes is provided. - Cooperation of relevant agencies at provincial, district and sub-district levels is provided. - Cooperation of private sector is provided.  <b>Pre-conditions</b> - Farmers in the model area participate in the Project. - Ministry of Agriculture and West Java Province Agricultural Service Office continue their support to the Project.

**Table III-4 Integrated Agricultural and Rural Development Project in Tugumukti (PDM)**

Target Group : Farmers in Tugumukti Model Area (including tenant farmers)

Project Term : 5 years

Project Summary	Verifiable Indicators	Means of Verification	Important Assumptions
<b>Overall Goal</b> Development model of the model area is expanded over highland area of West Java Province.	- Increased number of similar schemes	- District and Sub-district Agricultural Service Offices	- Ministry of Agriculture continuously adopts the horticultural dev. policy.
<b>Project Purpose</b> Farmers' income is increased and living standard is improved through stabilization of vegetable production.	- Increase rate of farm income (to be adjusted using GDP deflator)	- Farm surveys to be made in project monitoring works	- Economic situations of Indonesia do not aggravate seriously.
<b>Outputs</b> 1. Vegetable production system is improved. 1-1 Irrigation water is supplied. 1-2 Research information on vegetable crop cultivation technology is available. 1-3 Farmers' vegetable production technology is improved.  2. Marketing system of vegetable products is improved. 2-1 Farmers' collection and delivery activities are improved. 2-2 Crop planning is formulated by farmers based on market needs.  3. Farmers' organizations are activated in agricultural dev. 3-1 Farmers/farmer groups are reorganized. 3-2 Capacity of farmers' organizations is improved in O&M of rural facilities, marketing of vegetables, farm inputs & credit supply, and organizational management.	- Vegetable cropping intensity - Unit yields of vegetable crops  - Amount of farm inputs  - Amount and value of jointly delivered vegetables - Changes in cropping intensity  - Date of registration and number of members - Planned and actual cropping patterns - Number of credit users and loan amount - Handling amount and value of farm inputs - Operation of Farmers' Cooperative - Operation of Farm Water Users Association	- Record of Farm Water Users Association - Farm surveys  - Farm surveys  - Record of Farmers' Cooperative - Record of WUA/Farm surveys  - Registration records of Coop. and WUA - Record of WUA and farm surveys - Record of Farmers' Cooperative - Record of Farmers' Cooperative - Balance sheet of Farmers' Cooperative - Balance sheet of Farm Water Users Association	- Existing marketing and transportation system for vegetables do not aggravate seriously. - Relevant research institutes continue their research works.
<b>Activities</b> 1-1 To develop irrigation facility. 1-2 To establish linkage with relevant research institutes. 1-3 To operate farmers field school along with demo-plots.  2-1 To improve collection and delivery facilities for vegetable products. 2-2 To train farmers on crop planning based on market needs involving private sector.  3-1 To train farmers/farmer groups in forming Farmers' Cooperative, Farm Water Users Association, and Rural Water Supply Users Association. 3-2 To train farmers' organizations on: 3.2.1 operation and management of rural facility, 3.2.2 joint purchase of farm inputs and tools, 3.2.3 joint collection and delivery of vegetable products, 3.2.4 post-harvest handling and packaging, 3.2.5 credit handling and management, and 3.2.6 organization management.	<b>Inputs for this Model Area</b> 1. Manpower - Village Coordinators : 108M/M (Rp.216 mil.)  2. Facility - Irrigation facility: 50 ha (Rp.362 mil.) - Collection/delivery facility: 5 units (Rp. 50 mil.)  3. Training of farmers/farmer groups/farmers' organizations: (Rp.116 mil.)  4. Training of Village Coordinators: (Rp. 11 mil.)  5. Administration cost: (Rp. 76 mil.)  Total Cost: Rp.831 million	<b>(Inputs for All Model Areas)</b> 1. Manpower - External experts: 540 M/M (Rp.25,290 mil.)  2. Facility - Adaptive Trial Farm Improvement: 2 ha (Rp.320 mil.)  3. Machine/Equipment - Car: 2 units - Computer: 5 units - Photo copy machine: 1 unit - Motorcycle for Village Coordinator: 25 units (Rp.425mil.)  4. Training of Task Team: (Rp.471 mil.)  5. Administration cost: (Rp.2,650 mil.)  Total Cost: Rp.29,156 million	- Cooperation of relevant research institutes is provided. - Cooperation of relevant agencies at provincial, district and sub-district levels is provided. - Cooperation of private sector is provided.  <b>Pre-conditions</b> - Farmers in the model area participate in the Project. - Ministry of Agriculture and West Java Province Agricultural Service Office continue their support to the Project.

**Table III-5 Integrated Agricultural and Rural Development Project in Gekbrong (PDM)**

Target Group : Farmers in Gekbrong Model Area (including tenant farmers)

Project Term : 5 years

Project Summary	Verifiable Indicators	Means of Verification	Important Assumptions
<p><b>Overall Goal</b> Development model of the model area is expanded over highland area of West Java Province.</p>	<ul style="list-style-type: none"> <li>- Increased number of similar schemes</li> </ul>	<ul style="list-style-type: none"> <li>- District and Sub-district Agricultural Service Offices</li> </ul>	<ul style="list-style-type: none"> <li>- Ministry of Agriculture continuously adopts the horticultural dev. policy.</li> </ul>
<p><b>Project Purpose</b> Farmers' income is increased and living standard is improved through stabilization of vegetable production.</p>	<ul style="list-style-type: none"> <li>- Increase rate of farm income (to be adjusted using GDP deflator)</li> </ul>	<ul style="list-style-type: none"> <li>- Farm surveys to be made in project monitoring works</li> </ul>	<ul style="list-style-type: none"> <li>- Economic situations of Indonesia do not aggravate seriously.</li> </ul>
<p><b>Outputs</b></p> <p>1. Vegetable production system is improved. 1-1 Irrigation water is supplied together with domestic water. 1-2 Research information on vegetable crop cultivation technology is available. 1-3 Farmers' vegetable production technology is improved.</p> <p>2. Marketing system of vegetable products is improved. 2-1 Farmers' collection and delivery activities are improved. 2-2 Village transportation system is improved. 2-3 Crop planning is formulated by farmers based on market needs.</p> <p>3. Farmers' organizations are activated in agricultural dev. 3-1 Farmers/farmer groups are reorganized. 3-2 Capacity of farmers' organizations is improved in O&amp;M of rural facilities, marketing of vegetables, farm inputs &amp; credit supply, and organizational management.</p>	<ul style="list-style-type: none"> <li>- Vegetable cropping intensity</li> <li>- Unit yields of vegetable crops</li> <li>- Amount of farm inputs</li> <li>- Amount and value of jointly delivered vegetables</li> <li>- Number of in-coming middlemen</li> <li>- Changes in cropping intensity</li> <li>- Date of registration and number of members</li> <li>- Planned and actual cropping patterns</li> <li>- Number of credit users and loan amount</li> <li>- Handling amount and value of farm inputs</li> <li>- Operation of Farmers' Cooperative</li> <li>- Operation of Farm Water Users Association</li> <li>- Operation of Rural Water Supply Users Associat.</li> </ul>	<ul style="list-style-type: none"> <li>- Record of Farm Water Users Association</li> <li>- Farm surveys</li> <li>- Farm surveys</li> <li>- Record of Farmers' Cooperative</li> <li>- Information from Farmers' Cooperative</li> <li>- Record of WUA/Farm surveys</li> <li>- Registration records of Coop. and WUA</li> <li>- Record of WUA and farm surveys</li> <li>- Record of Farmers' Cooperative</li> <li>- Record of Farmers' Cooperative</li> <li>- Balance sheet of Farmers' Cooperative</li> <li>- Balance sheet of Farm Water Users Association</li> <li>- Balance sheet of Rural Water Supply Users Ass.</li> </ul>	<ul style="list-style-type: none"> <li>- Existing marketing and transportation system for vegetables do not aggravate seriously.</li> <li>- Relevant research institutes continue their research works.</li> </ul>
<p><b>Activities</b></p> <p>1-1 To develop irrigation facility including rural water supply. 1-2 To establish linkage with relevant research institutes. 1-3 To operate farmers field school along with demo-plots.</p> <p>2-1 To improve collection and delivery facilities for vegetable products. 2-2 To improve village marketing road. 2-3 To train farmers on crop planning based on market needs involving private sector.</p> <p>3-1 To train farmers/farmer groups in forming Farmers' Cooperative, Farm Water Users Association, and Rural Water Supply Users Association. 3-2 To train farmers' organizations on: 3.2.1 operation and management of rural facility, 3.2.2 joint purchase of farm inputs and tools, 3.2.3 joint collection and delivery of vegetable products, 3.2.4 post-harvest handling and packaging, 3.2.5 credit handling and management, and 3.2.6 organization management.</p>	<p><b>Inputs for this Model Area</b></p> <p>1. Manpower - Village Coordinators : 108M/M (Rp.216 mil.)</p> <p>2. Facility - Irrigation facility: 50 ha (Rp.401 mil.) - Village marketing road: 1.75 km (Rp.271 mil.) - Collection/delivery facility: 5 units (Rp. 50 mil.) - Rural water supply system: 200 households (Rp.120 mil.)</p> <p>3. Training of farmers/farmer groups/farmers' organizations: (Rp.117 mil.)</p> <p>4. Training of Village Coordinators: (Rp. 11 mil.)</p> <p>5. Administration cost: (Rp.119 mil.)</p> <p>Total Cost: Rp.1,305 million</p>	<p><b>(Inputs for All Model Areas)</b></p> <p>1. Manpower - External experts: 540 M/M (Rp.25,290 mil.)</p> <p>2. Facility - Adaptive Trial Farm Improvement: 2 ha (Rp.320 mil.)</p> <p>3. Machine/Equipment - Car: 2 units - Computer: 5 units - Photo copy machine: 1 unit - Motorcycle for Village Coordinator: 25 units (Rp.425mil.)</p> <p>4. Training of Task Team: (Rp.471 mil.)</p> <p>5. Administration cost: (Rp.2,650 mil.)</p> <p>Total Cost: Rp.29,156 million</p>	<ul style="list-style-type: none"> <li>- Cooperation of relevant research institutes is provided.</li> <li>- Cooperation of relevant agencies at provincial, district and sub-district levels is provided.</li> <li>- Cooperation of private sector is provided.</li> </ul> <p><b>Pre-conditions</b></p> <ul style="list-style-type: none"> <li>- Farmers in the model area participate in the Project.</li> <li>- Ministry of Agriculture and West Java Province Agricultural Service Office continue their support to the Project.</li> </ul>

**Table III-6 Integrated Agricultural and Rural Development Project in Cisurupan (PDM)**

Target Group : Farmers in Cisurupan Model Area (including tenant farmers)

Project Term : 5 years

<b>Project Summary</b>	<b>Verifiable Indicators</b>	<b>Means of Verification</b>	<b>Important Assumptions</b>
<b>Overall Goal</b> Development model of the model area is expanded over highland area of West Java Province.	- Increased number of similar schemes	- District and Sub-district Agricultural Service Offices	- Ministry of Agriculture continuously adopts the horticultural dev. policy.
<b>Project Purpose</b> Farmers' income is increased and living standard is improved through stabilization of vegetable production.	- Increase rate of farm income (to be adjusted using GDP deflator)	- Farm surveys to be made in project monitoring works	- Economic situations of Indonesia do not aggravate seriously.
<b>Outputs</b> 1. Vegetable production system is improved. 1-1 Irrigation water is supplied together with domestic water. 1-2 Research information on vegetable crop cultivation technology is available. 1-3 Farmers' vegetable production technology is improved.  2. Marketing system of vegetable products is improved. 2-1 Farmers' collection and delivery activities are improved. 2-2 Crop planning is formulated by farmers based on market needs.  3. Farmers' organizations are activated in agricultural dev. 3-1 Farmers/farmer groups are reorganized. 3-2 Capacity of farmers' organizations is improved in O&M of rural facilities, marketing of vegetables, farm inputs & credit supply, and organizational management.	- Vegetable cropping intensity - Unit yields of vegetable crops  - Amount of farm inputs  - Amount and value of jointly delivered vegetables - Changes in cropping intensity  - Date of registration and number of members - Planned and actual cropping patterns - Number of credit users and loan amount - Handling amount and value of farm inputs - Operation of Farmers' Cooperative - Operation of Farm Water Users Association - Operation of Rural Water Supply Users Associat.	- Record of Farm Water Users Association - Farm surveys  - Farm surveys  - Record of Farmers' Cooperative - Record of WUA/Farm surveys  - Registration records of Coop. and WUA - Record of WUA and farm surveys - Record of Farmers' Cooperative - Record of Farmers' Cooperative - Balance sheet of Farmers' Cooperative - Balance sheet of Farm Water Users Association - Balance sheet of Rural Water Supply Users Ass.	- Existing marketing and transportation system for vegetables do not aggravate seriously. - Relevant research institutes continue their research works.
<b>Activities</b> 1-1 To develop irrigation facility including rural water supply. 1-2 To establish linkage with relevant research institutes. 1-3 To operate farmers field school along with demo-plots.  2-1 To improve collection and delivery facilities for vegetable products. 2-2 To train farmers on crop planning based on market needs involving private sector.  3-1 To train farmers/farmer groups in forming Farmers' Cooperative, Farm Water Users Association, and Rural Water Supply Users Association. 3-2 To train farmers' organizations on: 3.2.1 operation and management of rural facility, 3.2.2 joint purchase of farm inputs and tools, 3.2.3 joint collection and delivery of vegetable products, 3.2.4 post-harvest handling and packaging, 3.2.5 credit handling and management, and 3.2.6 organization management.	<b>Inputs for this Model Area</b> 1. Manpower - Village Coordinators : 108M/M (Rp.216 mil.)  2. Facility - Irrigation facility: 40 ha (Rp.178 mil.) - Collection/delivery facility: 4 units (Rp. 40 mil.) - Rural water supply system: 350 households (Rp.245 mil.)  3. Training of farmers/farmer groups/farmers' organizations: (Rp.149 mil.)  4. Training of Village Coordinators: (Rp. 11 mil.)  5. Administration cost: (Rp. 84 mil.)  Total Cost: Rp.923 million	<b>(Inputs for All Model Areas)</b> 1. Manpower - External experts: 540 M/M (Rp.25,290 mil.)  2. Facility - Adaptive Trial Farm Improvement: 2 ha (Rp.320 mil.)  3. Machine/Equipment - Car: 2 units - Computer: 5 units - Photo copy machine: 1 unit - Motorcycle for Village Coordinator: 25 units (Rp.425mil.)  4. Training of Task Team: (Rp.471 mil.)  5. Administration cost: (Rp.2,650 mil.)  Total Cost: Rp.29,156 million	- Cooperation of relevant research institutes is provided. - Cooperation of relevant agencies at provincial, district and sub-district levels is provided. - Cooperation of provate sector is provided.  <b>Pre-conditions</b> - Farmers in the model area participate in the Project. - Ministry of Agriculture and West Java Province Agricultural Service Office continue their support to the Project.

**Table III-7 Integrated Agricultural and Rural Development Project in Tangungkarya (PDM)**

Target Group : Farmers in Tangungkarya Model Area (including tenant farmers)

Project Term : 5 years

<b>Project Summary</b>	<b>Verifiable Indicators</b>	<b>Means of Verification</b>	<b>Important Assumptions</b>
<b>Overall Goal</b> Development model of the model area is expanded over highland area of West Java Province.	- Increased number of similar schemes	- District and Sub-district Agricultural Service Offices	- Ministry of Agriculture continuously adopts the horticultural dev. policy.
<b>Project Purpose</b> Farmers' income is increased and living standard is improved through stabilization of vegetable production.	- Increase rate of farm income (to be adjusted using GDP deflator)	- Farm surveys to be made in project monitoring works	- Economic situations of Indonesia do not aggravate seriously.
<b>Outputs</b> 1. Vegetable production system is improved. 1-1 Irrigation water is supplied. 1-2 Research information on vegetable crop cultivation technology is available. 1-3 Farmers' vegetable production technology is improved.  2. Marketing system of vegetable products is improved. 2-1 Farmers' collection and delivery activities are improved. 2-2 Crop planning is formulated by farmers based on market needs.  3. Farmers' organizations are activated in agricultural dev. 3-1 Farmers/farmer groups are reorganized. 3-2 Capacity of farmers' organizations is improved in O&M of rural facilities, marketing of vegetables, farm inputs & credit supply, and organizational management.	- Vegetable cropping intensity - Unit yields of vegetable crops  - Amount of farm inputs  - Amount and value of jointly delivered vegetables - Changes in cropping intensity  - Date of registration and number of members - Planned and actual cropping patterns - Number of credit users and loan amount - Handling amount and value of farm inputs - Operation of Farmers' Cooperative - Operation of Farm Water Users Association	- Record of Farm Water Users Association - Farm surveys  - Farm surveys  - Record of Farmers' Cooperative - Record of WUA/Farm surveys  - Registration records of Coop. and WUA - Record of WUA and farm surveys - Record of Farmers' Cooperative - Record of Farmers' Cooperative - Balance sheet of Farmers' Cooperative - Balance sheet of Farm Water Users Association	- Existing marketing and transportation system for vegetables do not aggravate seriously. - Relevant research institutes continue their research works.
<b>Activities</b> 1-1 To develop irrigation facility. 1-2 To establish linkage with relevant research institutes. 1-3 To operate farmers field school along with demo-plots.  2-1 To improve collection and delivery facilities for vegetable products. 2-2 To train farmers on crop planning based on market needs involving private sector.  3-1 To train farmers/farmer groups in forming Farmers' Cooperative, Farm Water Users Association, and Rural Water Supply Users Association. 3-2 To train farmers' organizations on: 3.2.1 operation and management of rural facility, 3.2.2 joint purchase of farm inputs and tools, 3.2.3 joint collection and delivery of vegetable products, 3.2.4 post-harvest handling and packaging, 3.2.5 credit handling and management, and 3.2.6 organization management.	<b>Inputs for this Model Area</b> 1. Manpower - Village Coordinators : 167M/M (Rp.324 mil.)  2. Facility - Irrigation facility: 80 ha (Rp.426 mil.) - Collection/delivery facility: 8 units (Rp. 80 mil.)  3. Training of farmers/farmer groups/farmers' organizations: (Rp.159 mil.)  4. Training of Village Coordinators: (Rp. 12 mil.)  5. Administration cost: (Rp.100 mil.)  Total Cost: Rp.1,101 million	<b>(Inputs for All Model Areas)</b> 1. Manpower - External experts: 540 M/M (Rp.25,290 mil.)  2. Facility - Adaptive Trial Farm Improvement: 2 ha (Rp.320 mil.)  3. Machine/Equipment - Car: 2 units - Computer: 5 units - Photo copy machine: 1 unit - Motorcycle for Village Coordinator: 25 units (Rp.425mil.)  4. Training of Task Team: (Rp.471 mil.)  5. Administration cost: (Rp.2,650 mil.)  Total Cost: Rp.29,156 million	- Cooperation of relevant research institutes is provided. - Cooperation of relevant agencies at provincial, district and sub-district levels is provided. - Cooperation of private sector is provided.  <b>Pre-conditions</b> - Farmers in the model area participate in the Project. - Ministry of Agriculture and West Java Province Agricultural Service Office continue their support to the Project.

**Table III-8 Integrated Agricultural and Rural Development Project in Mekarmukti (PDM)**

Target Group : Farmers in Mekarmukti Model Area (including tenant farmers)

Project Term : 5 years

Project Summary	Verifiable Indicators	Means of Verification	Important Assumptions
<b>Overall Goal</b> Development model of the model area is expanded over highland area of West Java Province.	- Increased number of similar schemes	- District and Sub-district Agricultural Service Offices	- Ministry of Agriculture continuously adopts the horticultural dev. policy.
<b>Project Purpose</b> Farmers' income is increased and living standard is improved through stabilization of vegetable production.	- Increase rate of farm income (to be adjusted using GDP deflator)	- Farm surveys to be made in project monitoring works	- Economic situations of Indonesia do not aggravate seriously.
<b>Outputs</b> 1. Vegetable production system is improved. 1-1 Irrigation water is supplied. 1-2 Research information on vegetable crop cultivation technology is available. 1-3 Farmers' vegetable production technology is improved.  2. Marketing system of vegetable products is improved. 2-1 Farmers' collection and delivery activities are improved. 2-2 Crop planning is formulated by farmers based on market needs.  3. Farmers' organizations are activated in agricultural dev. 3-1 Farmers/farmer groups are reorganized. 3-2 Capacity of farmers' organizations is improved in O&M of rural facilities, marketing of vegetables, farm inputs & credit supply, and organizational management.	- Vegetable cropping intensity - Unit yields of vegetable crops  - Amount of farm inputs  - Amount and value of jointly delivered vegetables - Changes in cropping intensity  - Date of registration and number of members - Planned and actual cropping patterns - Number of credit users and loan amount - Handling amount and value of farm inputs - Operation of Farmers' Cooperative - Operation of Farm Water Users Association	- Record of Farm Water Users Association - Farm surveys  - Farm surveys  - Record of Farmers' Cooperative - Record of WUA/Farm surveys  - Registration records of Coop. and WUA - Record of WUA and farm surveys - Record of Farmers' Cooperative - Record of Farmers' Cooperative - Balance sheet of Farmers' Cooperative - Balance sheet of Farm Water Users Association	- Existing marketing and transportation system for vegetables do not aggravate seriously. - Relevant research institutes continue their research works.
<b>Activities</b> 1-1 To develop irrigation facility. 1-2 To establish linkage with relevant research institutes. 1-3 To operate farmers field school along with demo-plots.  2-1 To improve collection and delivery facilities for vegetable products. 2-2 To train farmers on crop planning based on market needs involving private sector.  3-1 To train farmers/farmer groups in forming Farmers' Cooperative, Farm Water Users Association, and Rural Water Supply Users Association. 3-2 To train farmers' organizations on: 3.2.1 operation and management of rural facility, 3.2.2 joint purchase of farm inputs and tools, 3.2.3 joint collection and delivery of vegetable products, 3.2.4 post-harvest handling and packaging, 3.2.5 credit handling and management, and 3.2.6 organization management.	<b>Inputs for this Model Area</b> 1. Manpower - Village Coordinators : 216M/M (Rp.432 mil.)  2. Facility - Irrigation facility: 80 ha (Rp.872 mil.) - Collection/delivery facility: 8 units (Rp. 80 mil.)  3. Training of farmers/farmer groups/ farmers' organizations: (Rp.201 mil.)  4. Training of Village Coordinators: (Rp. 13 mil.)  5. Administration cost: (Rp.160 mil.)  Total Cost: Rp.1,758 million	<b>(Inputs for All Model Areas)</b> 1. Manpower - External experts: 540 M/M (Rp.25,290 mil.)  2. Facility - Adaptive Trial Farm Improvement: 2 ha (Rp.320 mil.)  3. Machine/Equipment - Car: 2 units - Computer: 5 units - Photo copy machine: 1 unit - Motorcycle for Village Coordinator: 25 units (Rp.425mil.)  4. Training of Task Team: (Rp.471 mil.)  5. Administration cost: (Rp.2,650 mil.)  Total Cost: Rp.29,156 million	- Cooperation of relevant research institutes is provided. - Cooperation of relevant agencies at provincial, district and sub-district levels is provided. - Cooperation of private sector is provided.  <b>Pre-conditions</b> - Farmers in the model area participate in the Project. - Ministry of Agriculture and West Java Province Agricultural Service Office continue their support to the Project.



**Table III-9 Integrated Agricultural and Rural Development Project in Cisantana (PDM)**

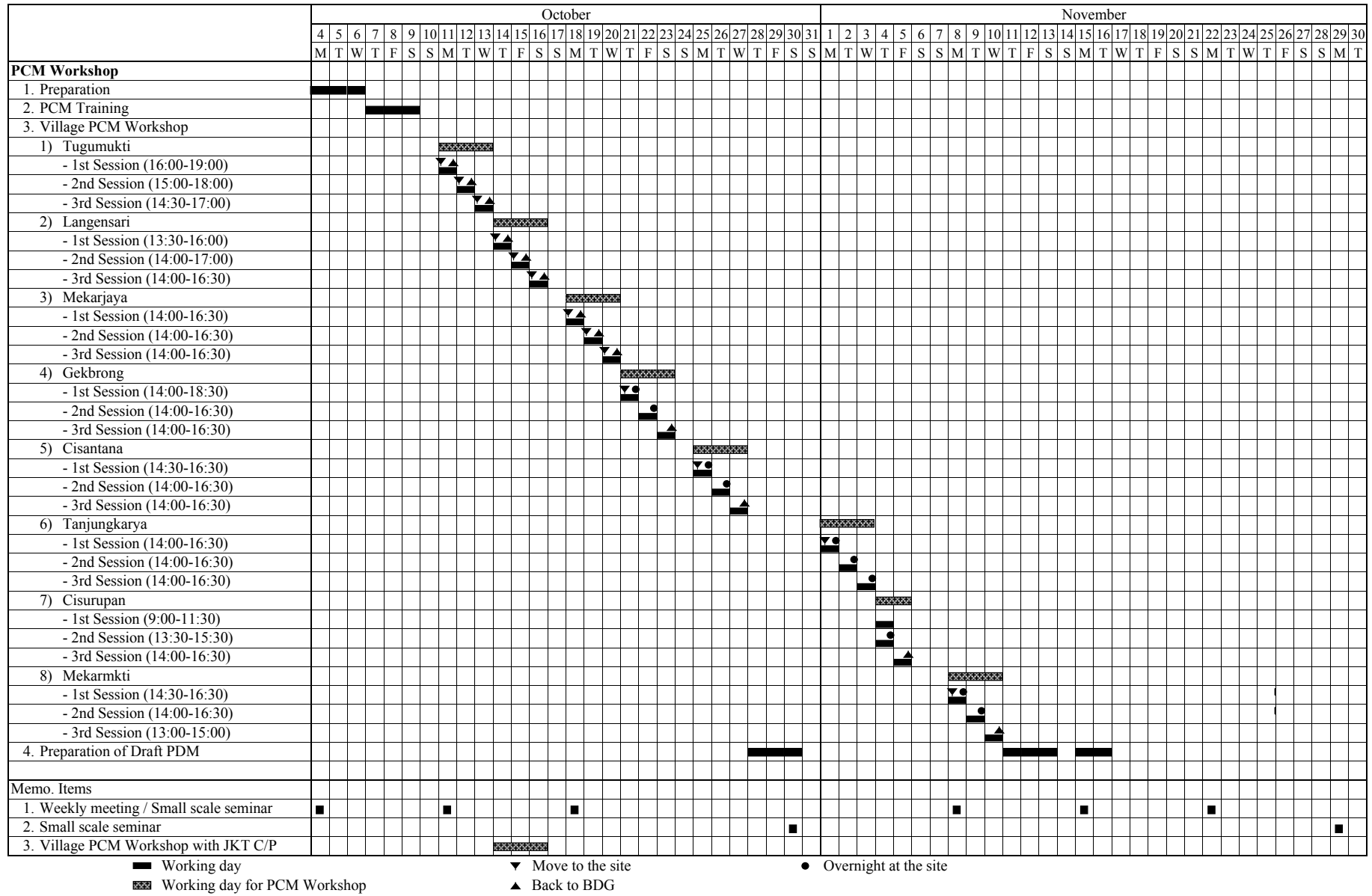
Target Group : Farmers in Cisantana Model Area (including tenant farmers)

Project Term : 5 years

Project Summary	Verifiable Indicators	Means of Verification	Important Assumptions
<p><b>Overall Goal</b> Development model of the model area is expanded over highland area of West Java Province.</p>	<ul style="list-style-type: none"> <li>- Increased number of similar schemes</li> </ul>	<ul style="list-style-type: none"> <li>- District and Sub-district Agricultural Service Offices</li> </ul>	<ul style="list-style-type: none"> <li>- Ministry of Agriculture continuously adopts the horticultural dev. policy.</li> </ul>
<p><b>Project Purpose</b> Farmers' income is increased and living standard is improved through stabilization of vegetable production.</p>	<ul style="list-style-type: none"> <li>- Increase rate of farm income (to be adjusted using GDP deflator)</li> </ul>	<ul style="list-style-type: none"> <li>- Farm surveys to be made in project monitoring works</li> </ul>	<ul style="list-style-type: none"> <li>- Economic situations of Indonesia do not aggravate seriously.</li> </ul>
<p><b>Outputs</b></p> <p>1. Vegetable production system is improved. 1-1 Irrigation water is supplied together with domestic water. 1-2 Research information on vegetable crop cultivation technology is available. 1-3 Farmers' vegetable production technology is improved.</p> <p>2. Marketing system of vegetable products is improved. 2-1 Farmers' collection and delivery activities are improved. 2-2 Village transportation system is improved. 2-3 Crop planning is formulated by farmers based on market needs.</p> <p>3. Farmers' organizations are activated in agricultural dev. 3-1 Farmers/farmer groups are reorganized. 3-2 Capacity of farmers' organizations is improved in O&amp;M of rural facilities, marketing of vegetables, farm inputs &amp; credit supply, and organizational management.</p>	<ul style="list-style-type: none"> <li>- Vegetable cropping intensity</li> <li>- Unit yields of vegetable crops</li> <li>- Amount of farm inputs</li> <li>- Amount and value of jointly delivered vegetables</li> <li>- Number of in-coming middlemen</li> <li>- Changes in cropping intensity</li> <li>- Date of registration and number of members</li> <li>- Planned and actual cropping patterns</li> <li>- Number of credit users and loan amount</li> <li>- Handling amount and value of farm inputs</li> <li>- Operation of Farmers' Cooperative</li> <li>- Operation of Farm Water Users Association</li> <li>- Operation of Rural Water Supply Users Associat.</li> </ul>	<ul style="list-style-type: none"> <li>- Record of Farm Water Users Association</li> <li>- Farm surveys</li> <li>- Farm surveys</li> <li>- Record of Farmers' Cooperative</li> <li>- Information from Farmers' Cooperative</li> <li>- Record of WUA/Farm surveys</li> <li>- Registration records of Coop. and WUA</li> <li>- Record of WUA and farm surveys</li> <li>- Record of Farmers' Cooperative</li> <li>- Record of Farmers' Cooperative</li> <li>- Balance sheet of Farmers' Cooperative</li> <li>- Balance sheet of Farm Water Users Association</li> <li>- Balance sheet of Rural Water Supply Users Ass.</li> </ul>	<ul style="list-style-type: none"> <li>- Existing marketing and transportation system for vegetables do not aggravate seriously.</li> <li>- Relevant research institutes continue their research works.</li> </ul>
<p><b>Activities</b></p> <p>1-1 To develop irrigation facility including rural water supply. 1-2 To establish linkage with relevant research institutes. 1-3 To operate farmers field school along with demo-plots.</p> <p>2-1 To improve collection and delivery facilities for vegetable products. 2-2 To improve village marketing road. 2-3 To train farmers on crop planning based on market needs involving private sector.</p> <p>3-1 To train farmers/farmer groups in forming Farmers' Cooperative, Farm Water Users Association, and Rural Water Supply Users Association. 3-2 To train farmers' organizations on: 3.2.1 operation and management of rural facility, 3.2.2 joint purchase of farm inputs and tools, 3.2.3 joint collection and delivery of vegetable products, 3.2.4 post-harvest handling and packaging, 3.2.5 credit handling and management, and 3.2.6 organization management.</p>	<p><b>Inputs for this Model Area</b></p> <p>1. Manpower - Village Coordinators : 324M/M (Rp.648 mil.)</p> <p>2. Facility - Irrigation facility: 120 ha (Rp.937 mil.) - Village marketing road: 3 km (Rp.450 mil.) - Collection/delivery facility: 12 units (Rp. 120 mil.) - Rural water supply system: 500 households (Rp.250 mil.)</p> <p>3. Training of farmers/farmer groups/farmers' organizations: (Rp.254 mil.)</p> <p>4. Training of Village Coordinators: (Rp. 16 mil.)</p> <p>5. Administration cost: (Rp.268 mil.)</p> <p>Total Cost: Rp.2,943 million</p>	<p><b>(Inputs for All Model Areas)</b></p> <p>1. Manpower - External experts: 540 M/M (Rp.25,290 mil.)</p> <p>2. Facility - Adaptive Trial Farm Improvement: 2 ha (Rp.320 mil.)</p> <p>3. Machine/Equipment - Car: 2 units - Computer: 5 units - Photo copy machine: 1 unit - Motorcycle for Village Coordinator: 25 units (Rp.425mil.)</p> <p>4. Training of Task Team: (Rp.471 mil.)</p> <p>5. Administration cost: (Rp.2,650 mil.)</p> <p>Total Cost: Rp.29,156 million</p>	<ul style="list-style-type: none"> <li>- Cooperation of relevant research institutes is provided.</li> <li>- Cooperation of relevant agencies at provincial, district and sub-district levels is provided.</li> <li>- Cooperation of private sector is provided.</li> </ul> <p><b>Pre-conditions</b></p> <ul style="list-style-type: none"> <li>- Farmers in the model area participate in the Project.</li> <li>- Ministry of Agriculture and West Java Province Agricultural Service Office continue their support to the Project.</li> </ul>

## Figures

**Figure III-1 Program of PCM Workshop**



**Figure III-2 (1/4) Participation Analysis  
- People, Groups, Organizations Related to Agricultural Production Activities -**

Producers	Marketing Related Persons/Groups	Farm Input Suppliers	Supporting Groups
<b>(1) Mekarjaya</b>			
Farmers	Village Middlemen	Farmer Seed Growers in village	PPL
Farmer Group	Indukcaringin Market	KIOS in village and Arjasari	PHP
P3A (Water Users Association)	Rent-a-carin village		KUD in Arjasari
			Kab. Public Works for road maintain.
			Kab. Public Works for Irrigation
<b>(2) Langensari</b>			
Farmers	Local Middlemen	KIOS in Village	PPL
Farmer Groups	Middlemen from Outside Village	KUD in Lembang	PHP
P3A (Water Users Association)		TPK (Sub-KUD) in Village	SLPHT (Farmers School)
		Saving Group	Kab. Public Works for Irrigation
		Pump Seller in Lembang	
		Banks for Credit	
<b>(3) Tugumukti</b>			
Farmers	Farmers	Farmers	Farmers
Farmer Group, Mekarjaya	Farmer Group, Mekarrahayu	KUD, Sarwamukti	PHP
KUD, Sarwamukti	KUD, Sarwamukti	KIOS, Tugumukti	PPL
	Village Middlemen		Youth Group
	Village PKK		

**Figure III-2 (2/4) Participation Analysis  
- People, Groups, Organizations Related to Agricultural Production Activities -**

Producers	Marketing Related Persons/Groups	Farm Input Suppliers	Supporting Groups
<b>(4) Gekbrong</b>			
Farmers	Middlemen	KIOS in Village	PPL
Farmer Group, Mekarjaya	Farmer Group, Gekbrong	Farm Inputs Shop in Village	PHP
		Farmers Cooperative	Kab. Livestock for artificial insemi.
		Seed Grower in Purwakarta	Kab. Public Works for Irrigation
		Chicken Feed Supplier in Cianjur	Banks in Cianjur for Credit
		Tractor Dealer in Cianjur	
<b>(5) Cisurupan</b>			
Farmers	Middlemen in Village	KIOS in Village	PPL
Farmer Group, Sumber Rejeki (30 members)			PHP
Farmer Group, Sughmukti (24 members)			BUMN for Credit (Gov. Office in BDG)
Farm Group, Palurupan (25 members)			LSM for Credit (NGO's Coop)
Farmer Group, Tirtakencana (15 members)			BPP
Farmer Group, Mukti (10 members)			KUD in Kec.
			BRI/BKPD in Kec.

**Figure III-2 (3/4) Participation Analysis  
- People, Groups, Organizations Related to Agricultural Production Activities -**

Producers	Marketing Related Persons/Groups	Farm Input Suppliers	Supporting Groups
<b>(6) Tanjungkarya</b>			
Farmers	Middlemen in village	Fertilizer Shop in Samarang	PPL
Farmer Groups, - Rahayu I - Rahayu II - Rahayu III - Muktipankalan - Nyalindung - Cidadali - Sankanhurip - Pakohaji	Rent-a-car in village	Seed Shop in Samarang	PHP
KUD, Samarang		Potato Seed Supplier in Samarang	
P3A (Water User Association)			
Women's Farmer Group			
<b>(7) Mekarmukti</b>			
Farmers	Middlemen for Banana	Traders for Farm Inputs	PPL/BPP
Farmer Group, Mekarjaya	Middlemen for Paddy	KIOS in village	PHP
Labor Farmers	Middlemen for Vegetables	KUD in Sangkanhurip (0.5 km from villa)	LSM (NGO's Credit Supplier)
Contact Farmers	Rice Mill Unit in village	Rent-a-Tractor in village	KUD/BRI for Credit Supply
Women's Farmer Groups	Rent-a-car in village	Rent-a-Buffalo in village	Kab. Public Works for Irrigation Dev.
P3A (Water User Association)		Seed Suppliers	Village Government

**Figure III-2 (4/4) Participation Analysis  
- People, Groups, Organizations Related to Agricultural Production Activities -**

Producers	Marketing Related Persons/Groups	Farm Input Suppliers	Supporting Groups
<p>(8) Cisantana</p> <div style="border: 1px solid black; padding: 2px; margin-bottom: 5px;">Farmers</div> <div style="border: 1px solid black; padding: 2px; margin-bottom: 5px;">Farmer Groups, - Tunggulmetu - Iruk</div> <div style="border: 1px solid black; padding: 2px;">KUD, Sarwamukti</div>	<div style="border: 1px solid black; padding: 2px; margin-bottom: 5px;">Middlemen in village</div> <div style="border: 1px solid black; padding: 2px;">Middlemen from Outside village</div>	<div style="border: 1px solid black; padding: 2px; margin-bottom: 5px;">KIOS in village</div> <div style="border: 1px solid black; padding: 2px; margin-bottom: 5px;">KUD</div> <div style="border: 1px solid black; padding: 2px; margin-bottom: 5px;">Seed Growers</div> <div style="border: 1px solid black; padding: 2px;">Compost Fertilizer Suppliers</div>	<div style="border: 1px solid black; padding: 2px; margin-bottom: 5px;">PPL/BPP</div> <div style="border: 1px solid black; padding: 2px; margin-bottom: 5px;">Kab. Agriculture</div> <div style="border: 1px solid black; padding: 2px; margin-bottom: 5px;">Kab. Land Conservation</div> <div style="border: 1px solid black; padding: 2px; margin-bottom: 5px;">Kab. Public Works for Irrigation</div> <div style="border: 1px solid black; padding: 2px;">Kab. Public Works for Road Improve.</div>

**Figure III-3 (1/3) Participation Analysis  
- Characteristics and Problems of Agriculture -**

Characteristics		Problems	
<b>(1) Mekarjaya</b>			
Farmers grow vegetables in highland	Labor is short in farming	Climate is foggy in all crop season	Improved vegetable seeds are not easily available
Irrigation water is insufficient in dry season	Farmers are difficult to control pest/disease	Farmers are difficult to get Compost fertilizer	Water is short in dry season
Farmers use expensive fertilizer		Farmers insufficiently apply agro-chemicals	Road conditions are very poor
		Farmers insufficiently apply fertilizers	Vegetables are always attached by pest/disease
		Farm labor charge is very expensive	
<b>(2) Langensari</b>			
Farmers use expensive farm inputs	Crop production is low both vegetables and paddy	Farmers don't have capital for investment	Vegetables are always attached by pest/disease
Farmers cultivate many kinds of crops	Farmers lose production due to pest/disease	Shortage of land for crop cultivation	Farmers don't have technology for vege. seed production
Farmers are difficult to control pest/disease		Farmers use expensive farm inputs	Farmers are lacking in technology for vegetable production
		Farmers use low quality agro-chemicals	Labor is short for crop production
		Farmers use low quality fertilizers	
<b>(3) Tugumukti</b>			
Farmers are vegetable producers	Vegetable produced are exported	Farmers don't apply proper amount of fertilizer	Farmers use expensive vegetable seeds
Farmers use chemical fertilizers	Farmers receive technical service from PPL	Farmers use expensive fertilizers	Farmers can't produce vegetable seeds
Farmers use compost fertilizer	Vegetables are cultivated on fertile soil	Vegetables produced are low quality	Farmers use expensive pesticide
Farmers use pesticide	Farmers are lacking in cultivation technology	Only 20% of vegetables produced are exported	Labor is short for vegetable cultivation



**Figure III-3 (2/3) Participation Analysis  
- Characteristics and Problems of Agriculture -**

Characteristics		Problems	
		PPL insufficiently visits village	Compost fertilizer is difficultly available
		Farmers don't have capital for investment	Price of vegetables are low for market
<b>(4) Gekbrong</b>		Foggy climate brings a lot of pest/disease on vegetables	Vegetables prices are cheap in markets
Vegetables are always attacked by pest/disease	Farmers don't have sufficient farm tools (e.g. sprayers)	Farmers use expensive fertilizers	Marketing of vegetables is difficult
Cabbages are damaged by root disease	Soil erosion occurs in wet season	Farmers use expensive vegetable seeds	Farmers lose profit from vegetable production
Vegetables are damaged by virus	Water is not available for cultivation during	Farmers use expensive agro-chemicals	
Compost fertilizer is insufficiently available	Farmers don't have capital for investment	PPL insufficiently visits village	
Farmers are difficult to get credit			
<b>(5) Cisarupan</b>		There is no basic price policy for vegetables	There is no agro-processing activity
Farmers are good in potato cultivation	Climate and soil are suitable for orange production	Water shortage in dry season	Labor wage rate is small in village
High quality chili is produced	Amount of orange produced is small	Water flow is small in water source river in dry season	Vegetables are attached by Pest/disease
Farmers cultivate same crops in same season	Farmers apply small amount of fertilizers to vegetables	Farmers use expensive farm inputs	
Farmers don't have capital for investment	Farmers have insufficient technology in vegetable production		
<b>(6) Tanjungkarya</b>		Farmers don't have capital for investment	Shortage of water in dry season for crop cultivation
Farmers use expensive vegetable seeds	Farmers are short in technology for vegetable cultivation	Farmers are lacking in farming tools	Field transportation cost is expensive
Farmers don't apply proper amount of fertilizer	Vegetables are damaged by pest/disease	Farmers use expensive farm inputs	No farm roads are available
Labor is insufficient for crop cultivation			

**Figure III-3 (3/3) Participation Analysis  
- Characteristics and Problems of Agriculture -**

Characteristics		Problems	
<b>(7) Mekarmukti</b>		Farmers don't apply proper amount of fertilizer	No piped domestic water is available
Farmers don't have capital for investment	Farmers can't farming during dry season	Vegetables are damaged by pest/disease	Irrigation canal is broken
Marketing of vegetables is difficult	Farmers don't have farm tools (e.g. sprayer & water pump)	Paddy is damaged by pest/disease	Farm inputs are insufficiently available in KIOS
Marketing of palawija crops is difficult	Improved seeds are difficult to obtain in village (paddy & )	Agricultural extension service is insufficient in village	Compost fertilizer is lacking for vegetable cultivation
Water shortage during dry season for crop cultivation		Irrigation intake weir is broken	
<b>(8) Cisantana</b>		Farmers don't have capital for investment	Farmers have to buy vegetable seeds in Bandung
Farmers cultivate vegetables on poor soil	Vegetable production is good in village	Village road condition is poor	Farmers use expensive fertilizers
Village road condition is poor	Farmers are lacking in creativity	Farmers are difficult to get high price of vegetables	Farmers don't have sufficient number of hand sprayers
Farmers cultivate same crops in same crop season	Farmers follow traditional cultivation	Labor is expensive for farming	Vegetables are damaged by pest/disease
Labor is expensive for farming		Irrigation facility is damaged	Many farmers are losing interest in vegetable production
		Farmers don't supply sufficient amount of agro-chemicals	

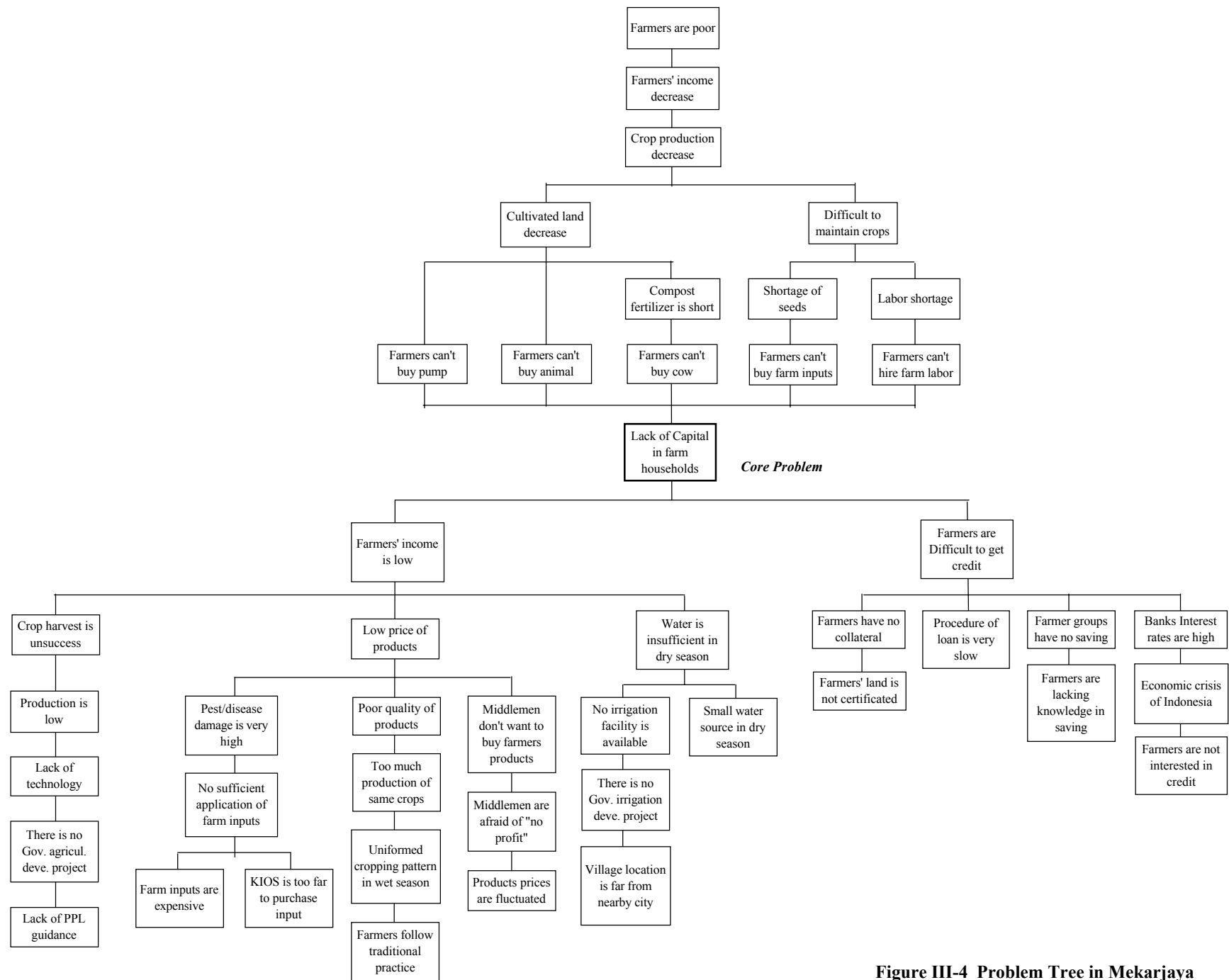


Figure III-4 Problem Tree in Mekarjaya

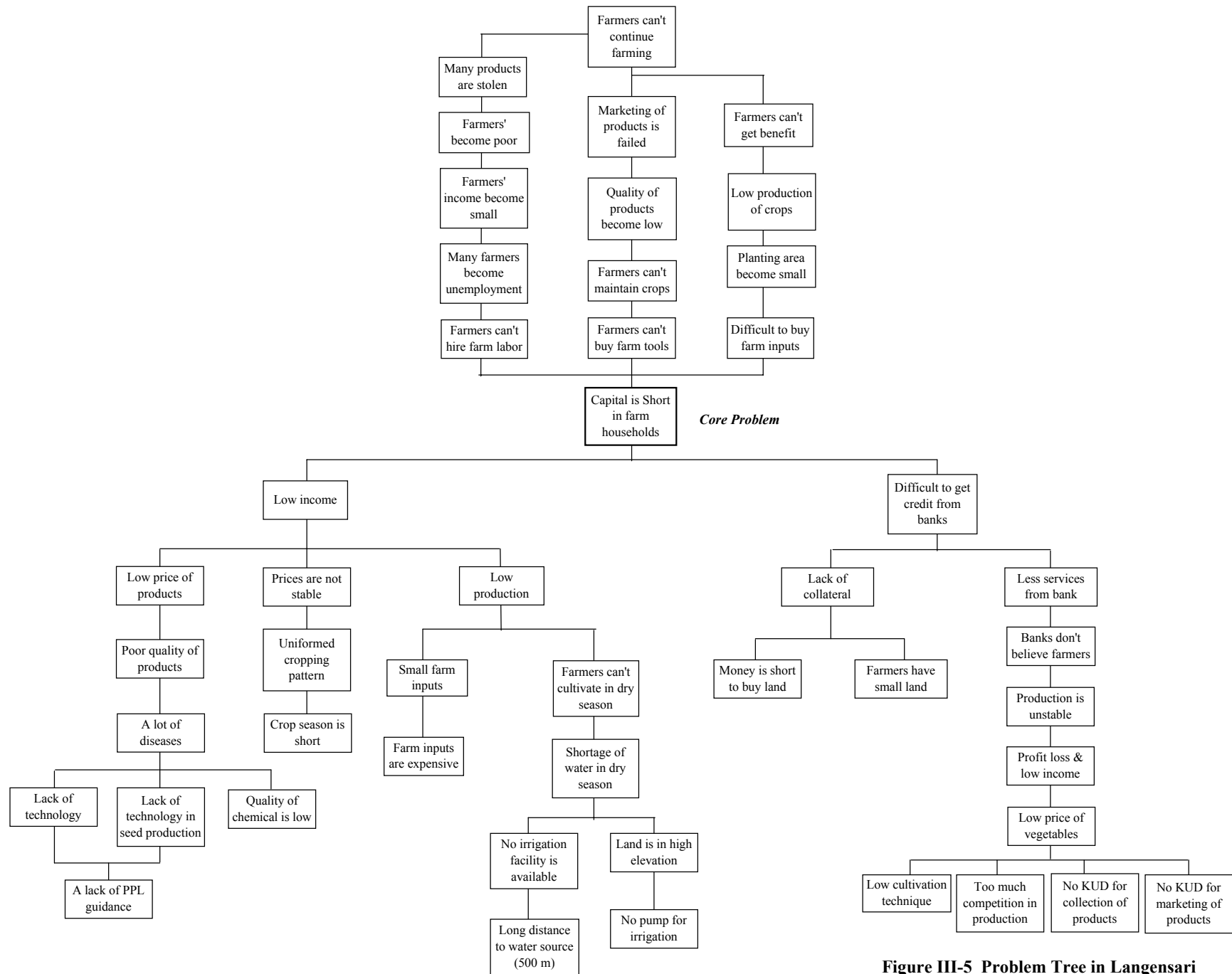


Figure III-5 Problem Tree in Langensari

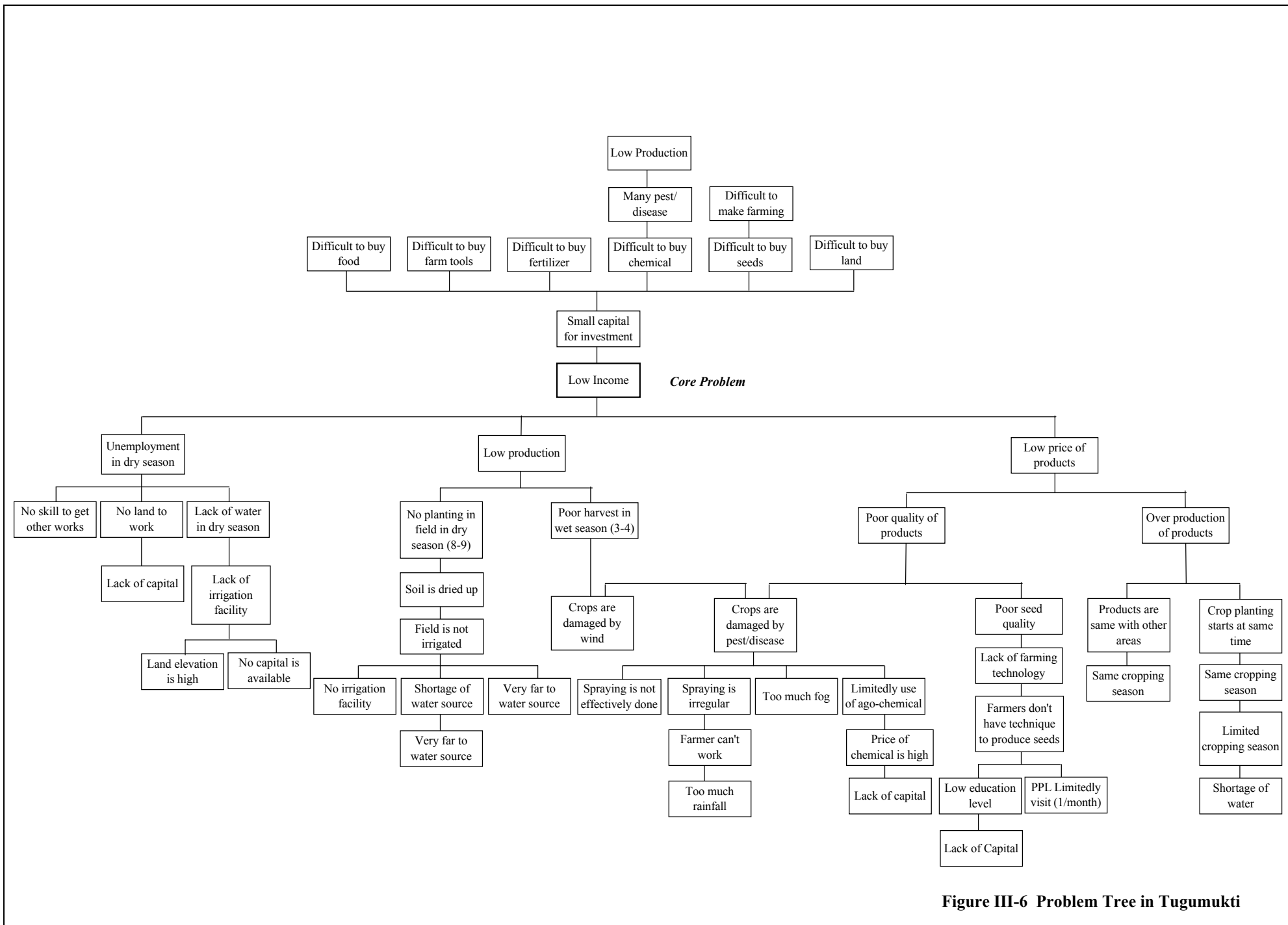


Figure III-6 Problem Tree in Tugumukti

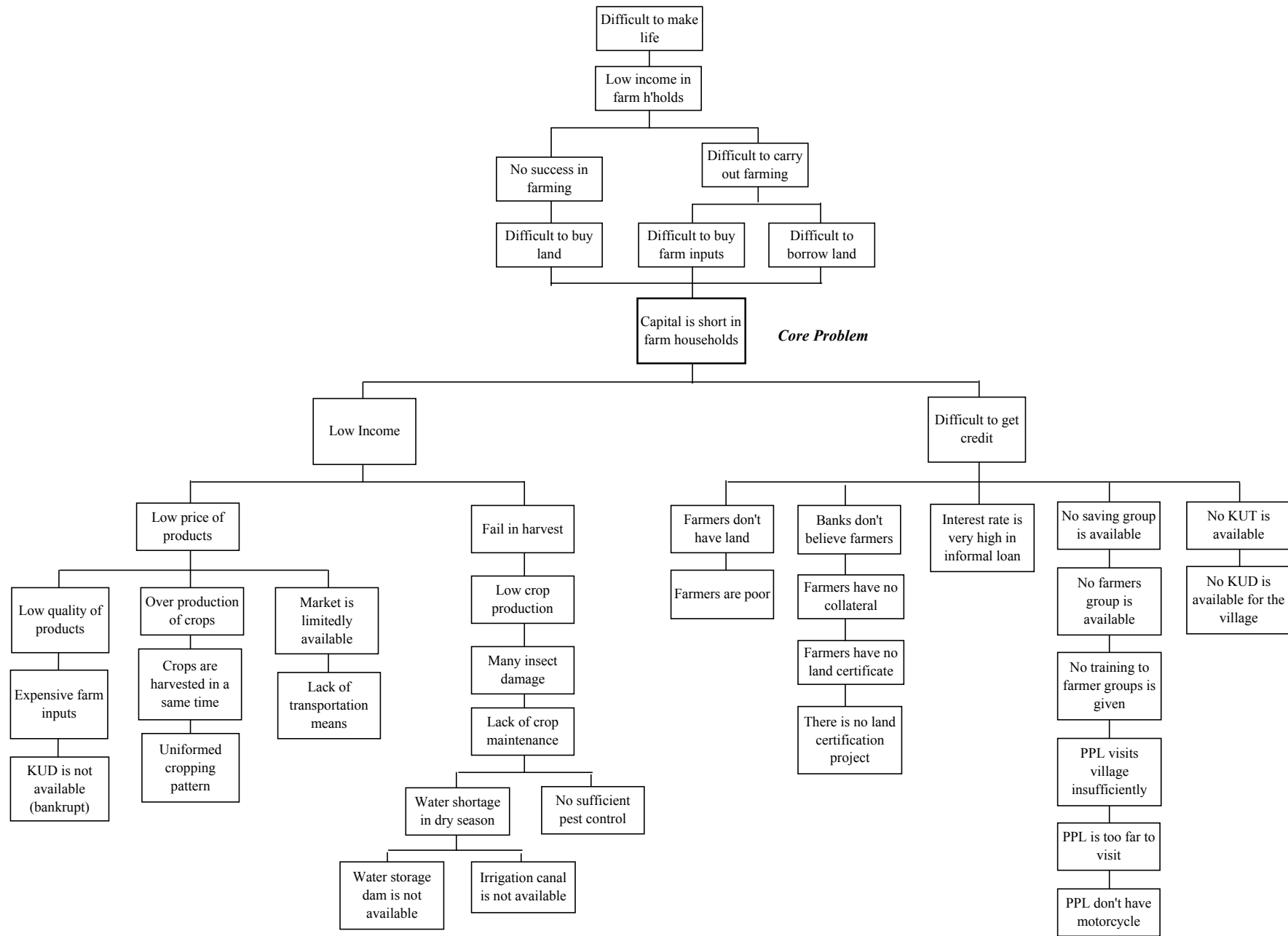
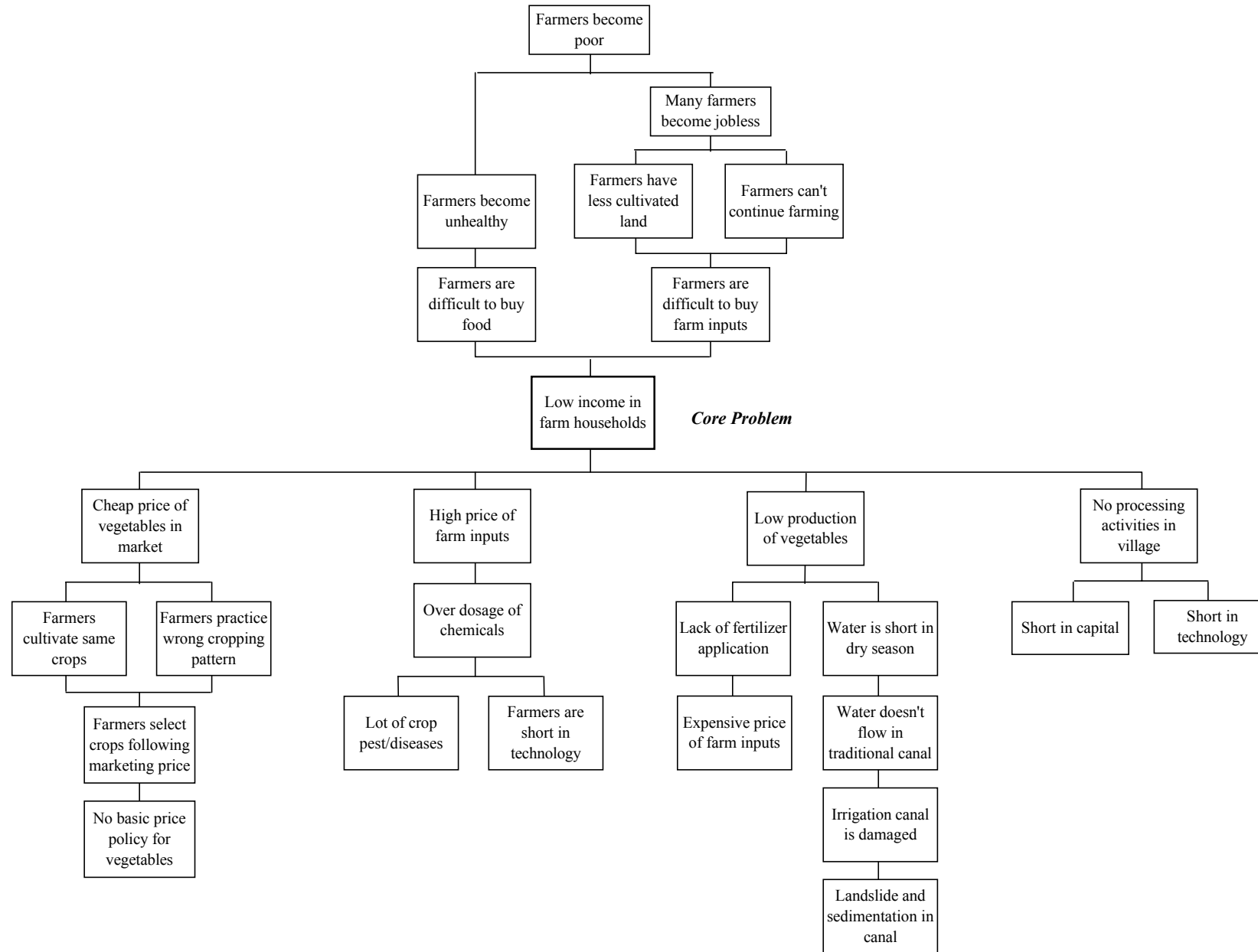


Figure III-7 Problem Tree in Gekbrong



**Figure III-8 Problem Tree in Cisurupan**

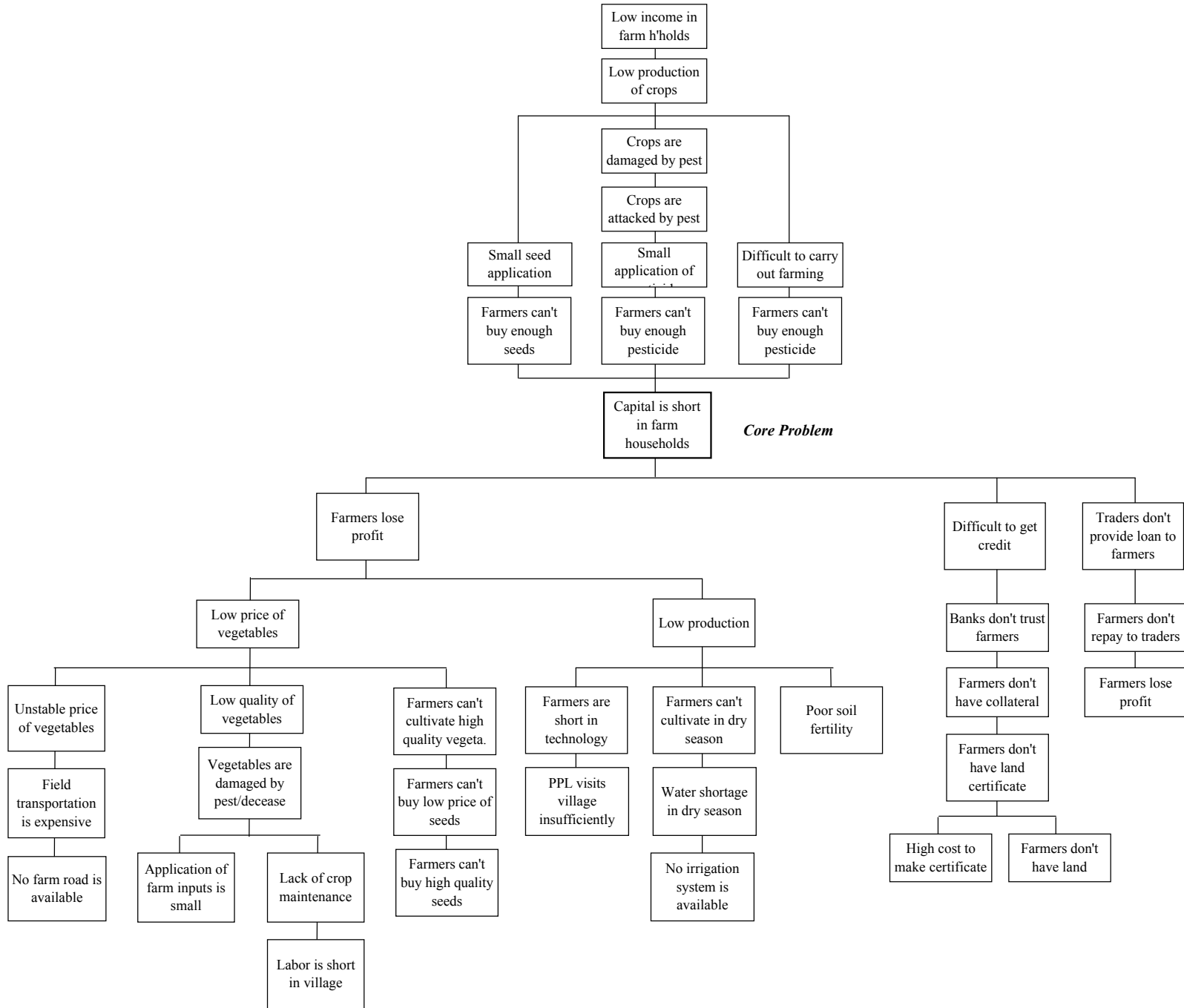


Figure III-9 Problem Tree in Tanjungkarya



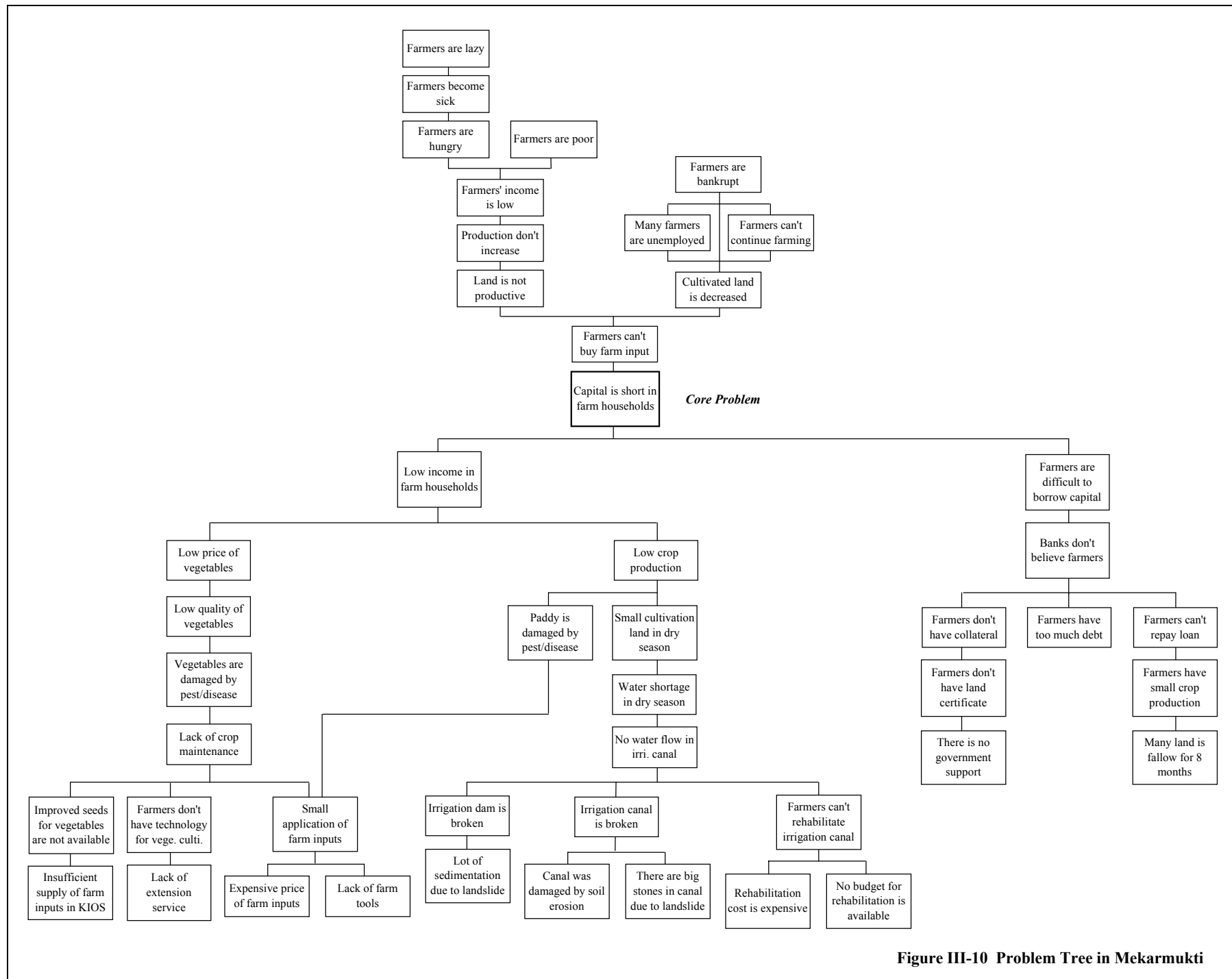


Figure III-10 Problem Tree in Mekarmukti

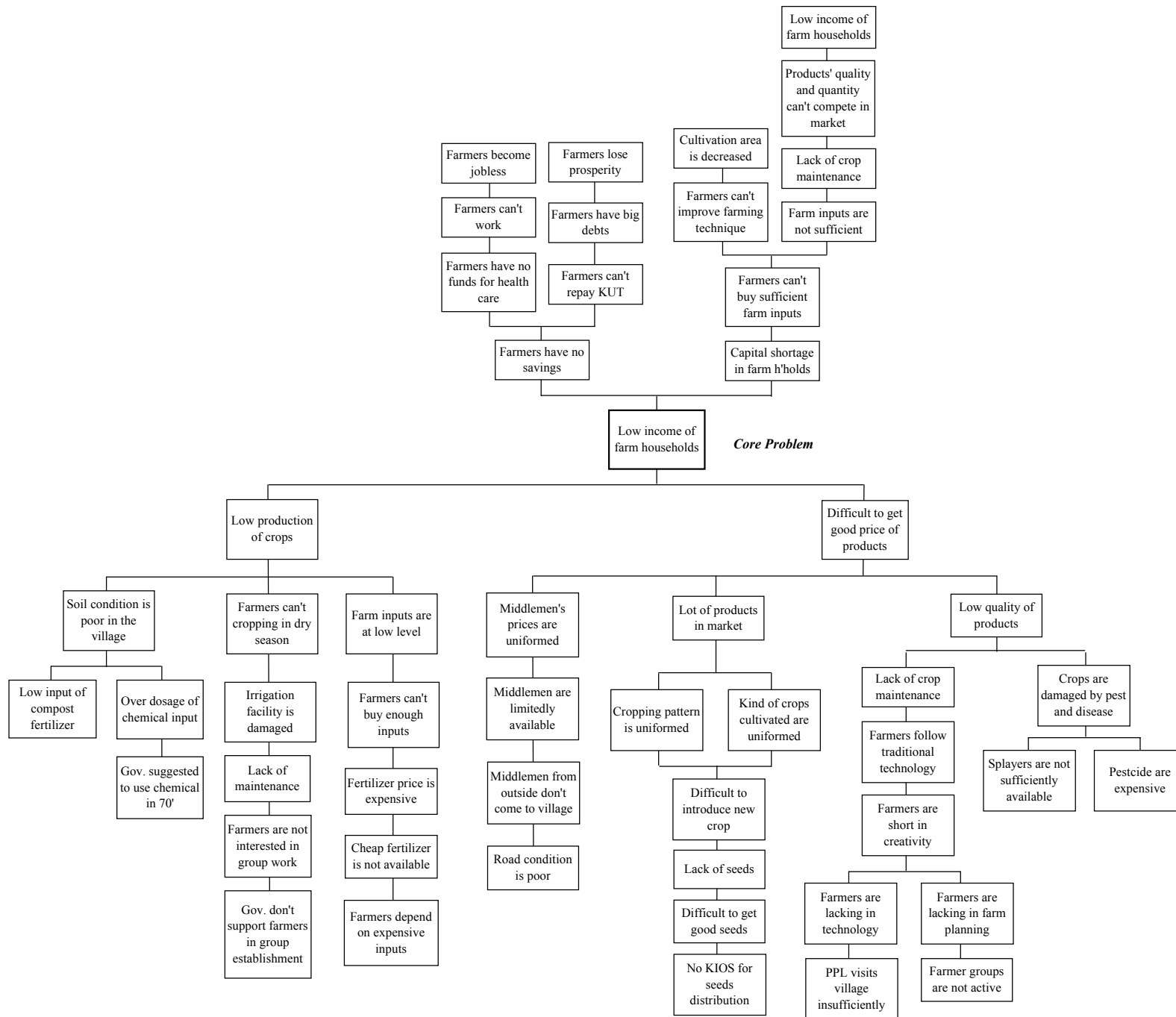


Figure III-11 Problem Tree in Cisantana

- (1) Irrigation facility improvement/development approach
- (2) Village road improvement approach
- (3) Vegetable production technology improvement
- (4) Vegetable products quality improvement approach
- (5) Farmers' organization activation approach
- (6) Agricultural supporting service improvement approach
- (7) Land certification program promotion approach

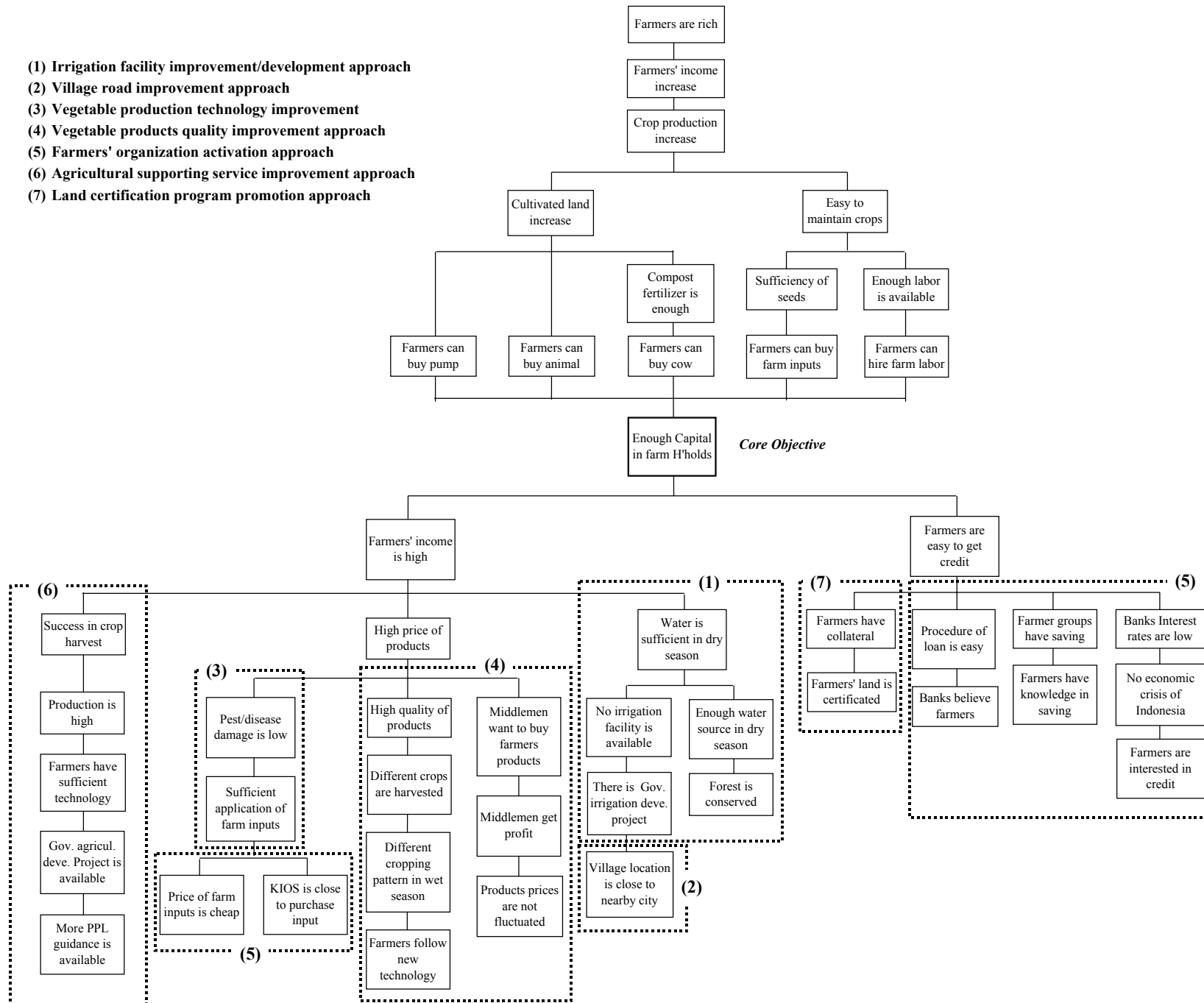
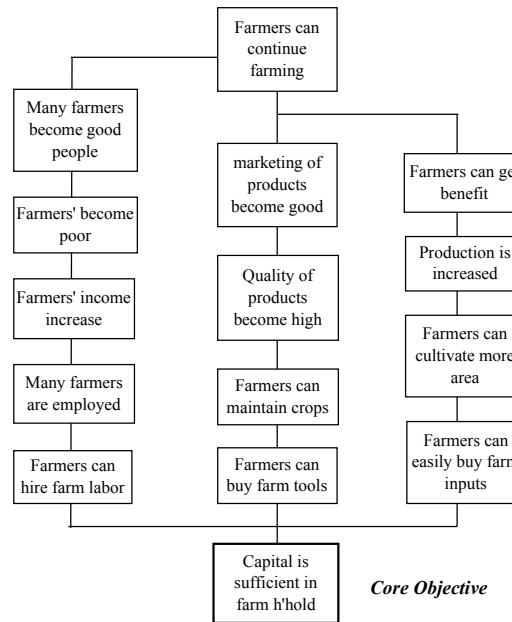
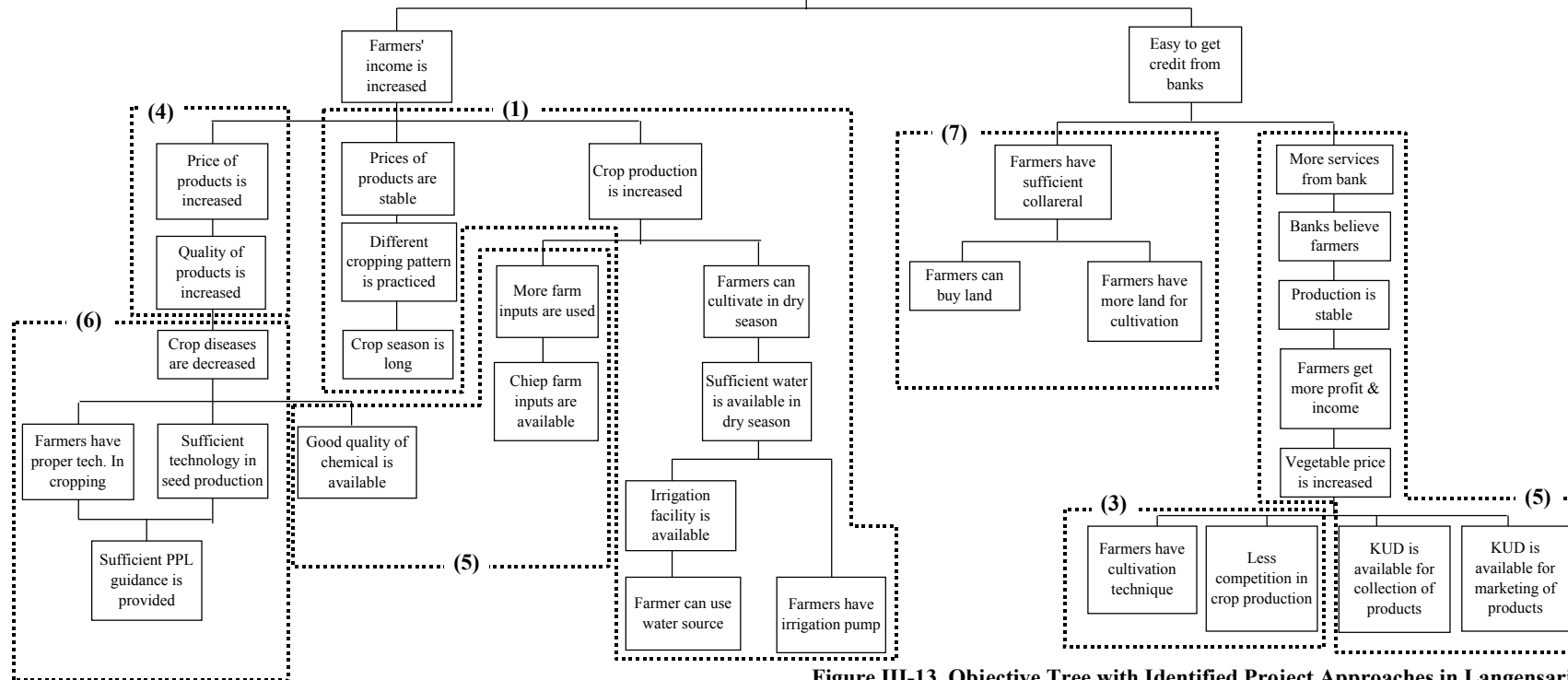


Figure III-12 Objective Tree with Identified Project Approaches in Mekarjaya

- (1) Irrigation facility improvement/development approach
- (3) Vegetable production technology improvement
- (4) Vegetable products quality improvement approach
- (5) Farmers' organization activation approach
- (6) Agricultural supporting service improvement approach
- (7) Land certification program promotion approach



*Core Objective*



**Figure III-13 Objective Tree with Identified Project Approaches in Langensari**

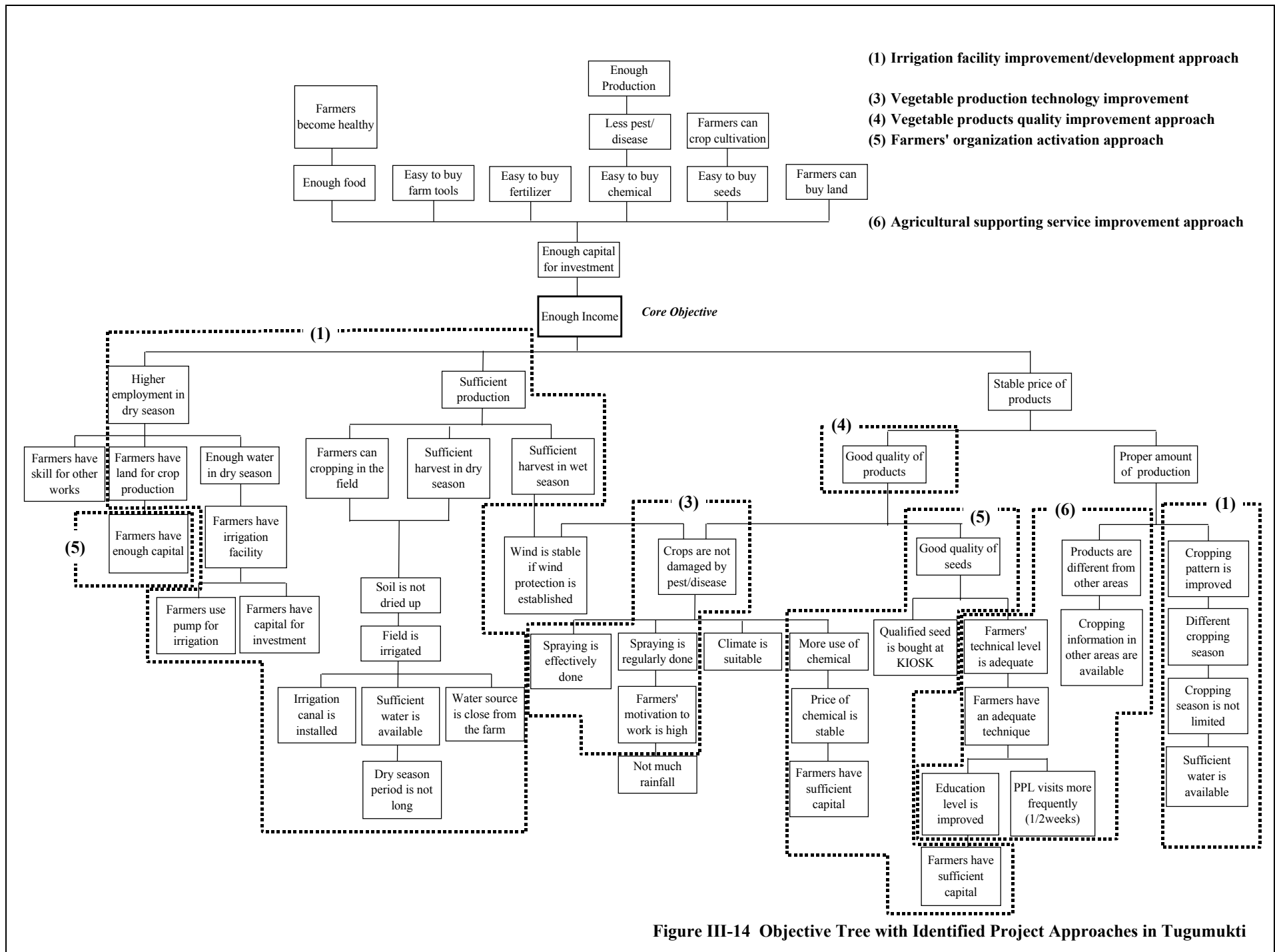


Figure III-14 Objective Tree with Identified Project Approaches in Tugumukti

- (1) Irrigation facility improvement/development approach
- (2) Village road improvement approach
- (3) Vegetable production technology improvement
- (4) Vegetable products quality improvement approach
- (5) Farmers' organization activation approach
- (6) Agricultural supporting service improvement approach
- (7) Land certification program promotion approach

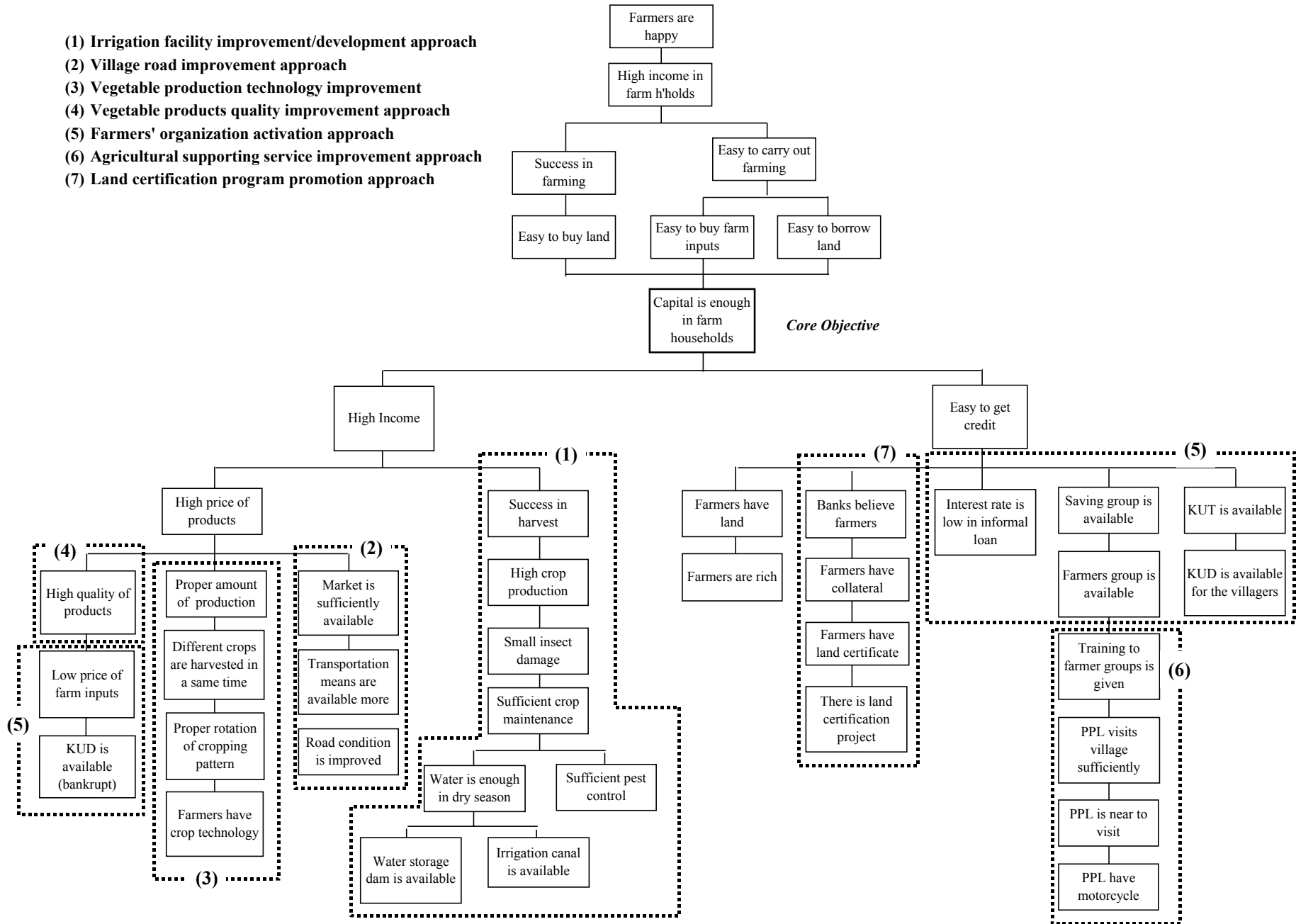


Figure III-15 Objective Tree with Identified Project Approaches in Gekbrong

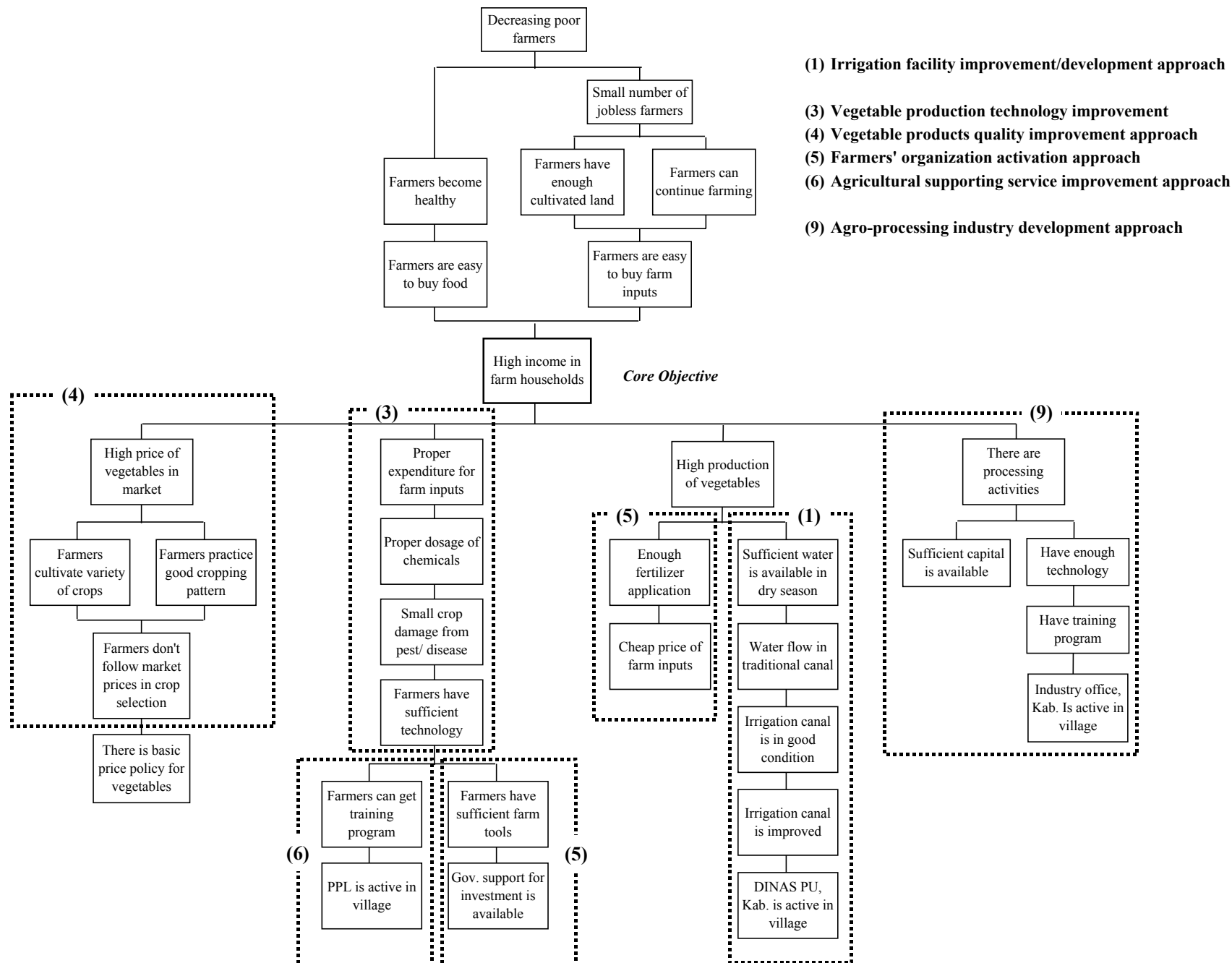


Figure III-16 Objective Tree with Identified Project Approaches in Cisurupan

- (1) Irrigation facility improvement/development approach
- (3) Vegetable production technology improvement
- (4) Vegetable products quality improvement approach
- (5) Farmers' organization activation approach
- (6) Agricultural supporting service improvement approach
- (7) Land certification program promotion approach
- (8) Farm road improvement approach

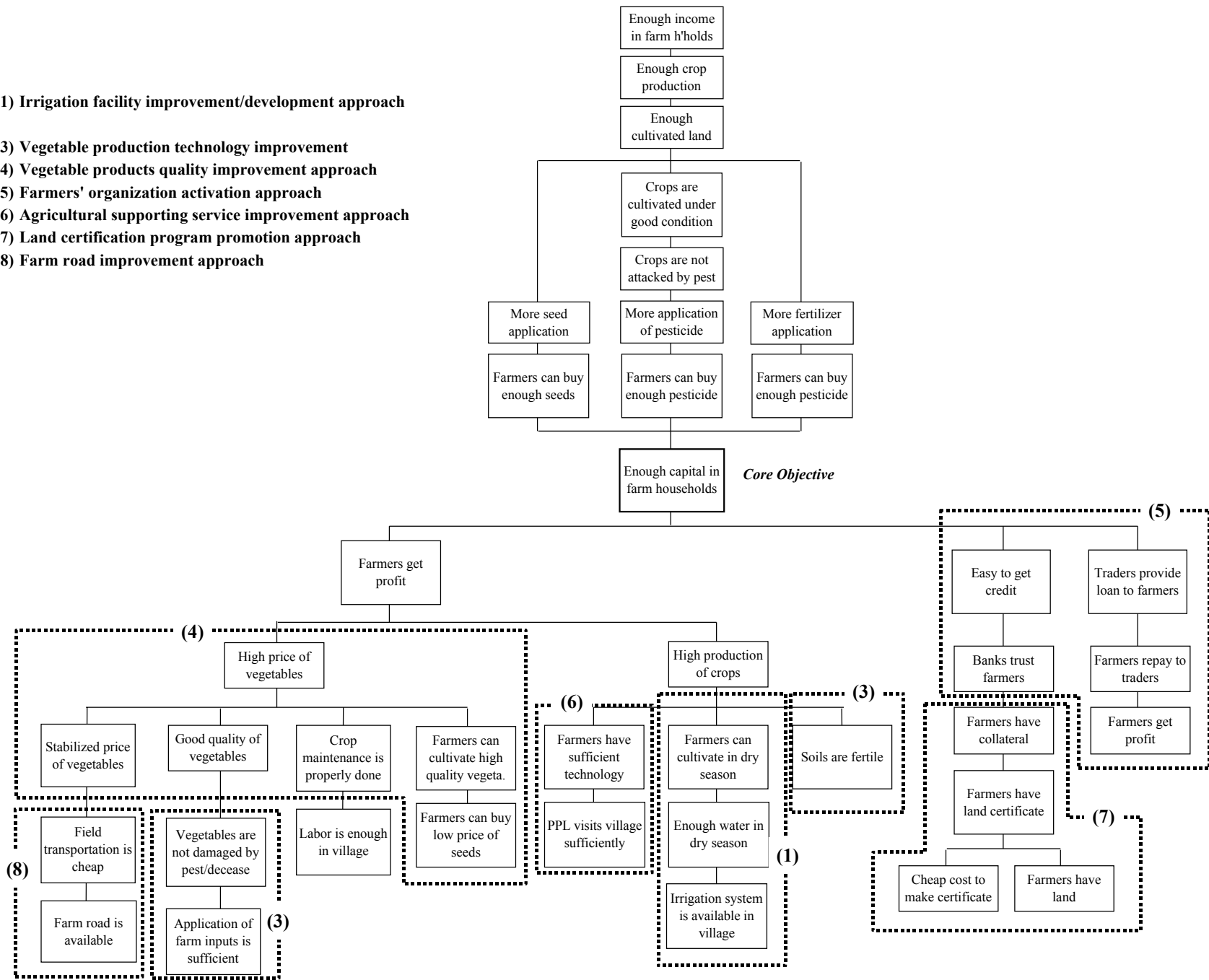


Figure III-17 Objective Tree with Identified Project Approaches in Tanjungkarya



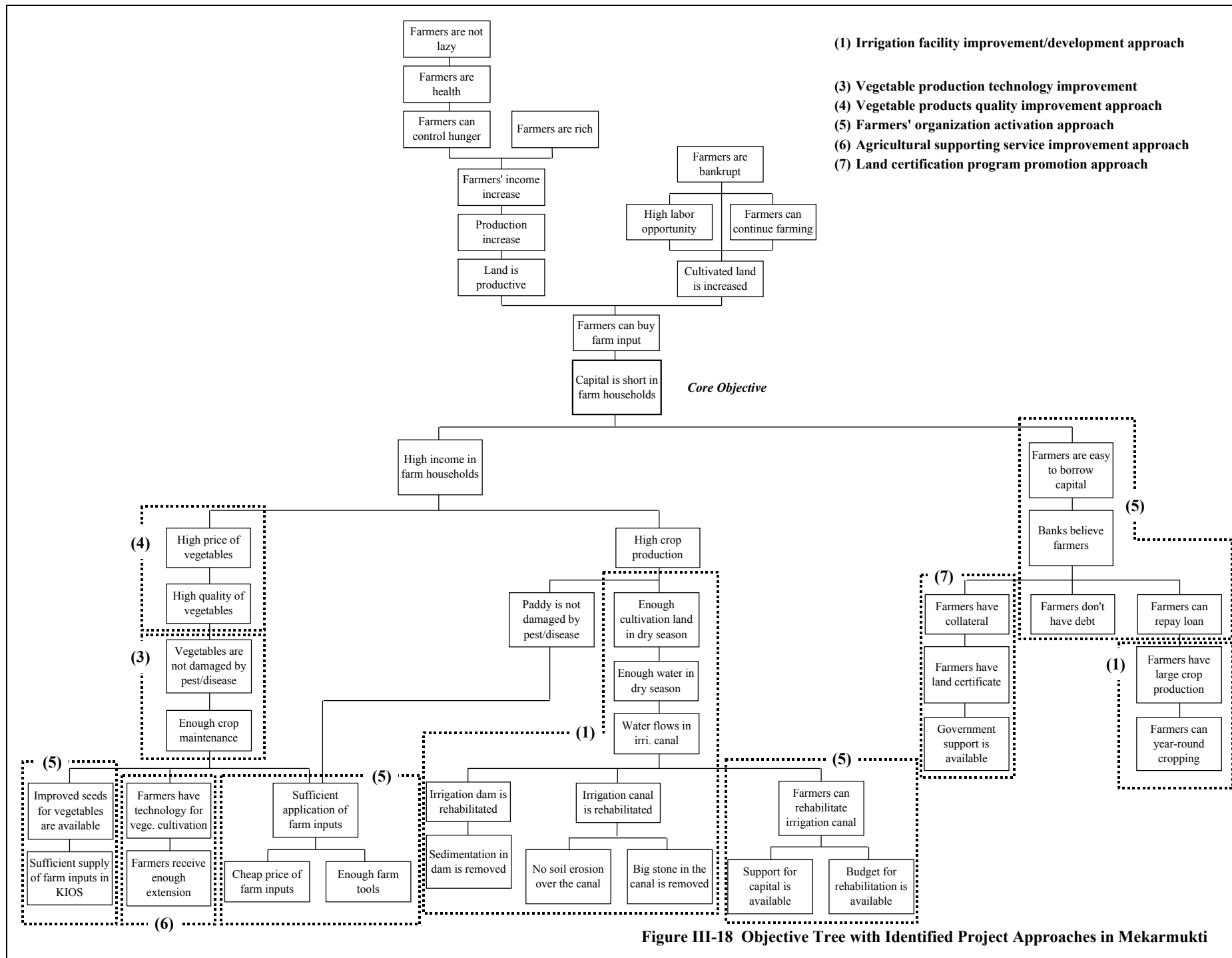


Figure III-18 Objective Tree with Identified Project Approaches in Mekarmukti

- (1) Irrigation facility improvement/development approach
- (2) Village road improvement approach
- (3) Vegetable production technology improvement
- (4) Vegetable products quality improvement approach
- (5) Farmers' organization activation approach
- (6) Agricultural supporting service improvement approach

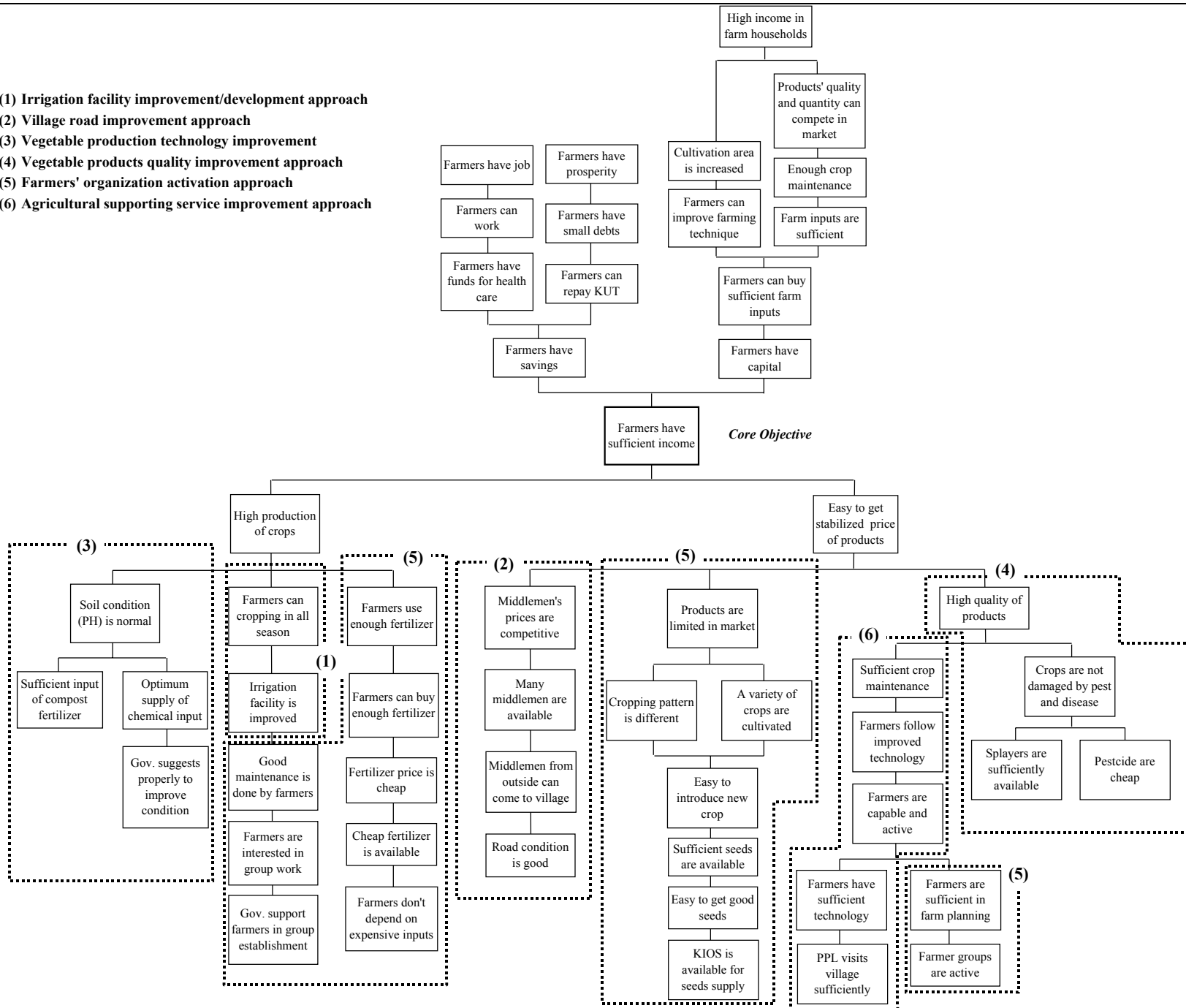


Figure III-19 Objective Tree with Identified Project Approaches in Cisantana