Federal Democratic Republic of Ethiopia
Southern Nations Nationalities and Peoples Regional Government

THE DEVELOPMENT STUDY ON THE STRENGTHENING AGRICULTURAL MARKETING SYSTEM IN SOUTHERN NATIONS NATIONALITIES AND PEOPLES REGION IN THE FEDERAL DEMOCRATIC REPUBLIC OF ETHIOPIA

FINAL REPORT

APPENDICES

November 2012

JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)

OVERSEAS MERCHANDISE INSPECTION CO., LTD.

NIPPON KOEI CO., LTD.

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in Southern Nations Nationalities and Peoples Region
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APPENDICES

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Appendix A

The Result of the 10 Pilot Projects

(Verification Study)

Appendix A: The Result of the 10 Pilot Projects (Verification Study)

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Appendix A: The Results of the 10 Pilot Projects (Verification Study)

1 Planning of the Pilot Projects

1.1 Purposes of the Pilot Projects

By analyzing the results of the verification study through one-and-a-half years' pilot projects, the tentative master plan was reviewed and revised to the official one. The significant point was that the finalized master plan would be a suitable plan that could be handled by counterparts. If additional support from donor agencies would be necessary, the feasibility of the ideas including the financial plan should be weaved into the master plan during the study.

An accumulation of valuable experiences gained from trial and error was expected; therefore project management should be designed to foster ownership by the counterparts. The pilot projects, on the other hand, aimed to (i) develop good practices and (ii) establish a model of the dissemination system. A well-thought-out support strategy was required to realize practical pilot projects that could be transferred to the stakeholders in each target field after completing the master plan study, leading to self-sustainable development.

The purposes of the pilot projects are summarized in the following four points.

(a) To verify the adequacy of the strategies and action plans of the tentative master plan
(b) To verify the feasibility and effectiveness of the proposed action plans
(c) To secure the sustainability of the master plan through capacity development of stakeholders
(d) To provide on-the-job training to counterparts through the implementation of the pilot projects

1.2 Procedure of the Project Formulation

(1) Requirements of the Pilot Projects

The pilot projects should be feasible action plans that can meet the requirements of the pre-conditions and strategic balance as mentioned below.

<u>Requirements on the Implementation of the Pilot Projects</u>

- Visible effects are expected within one-and-a-half years
- The acceptance mechanisms of beneficiaries and related agencies should be readied to the required level
- Expansion is possible to other areas as models having broad utility
- Self-sustaining development as business models is expected

<u>Requirements on the Balance of the Development Strategies</u>

- The target crops should be balanced

- The target sites should be balanced
- The level of target stakeholders should be balanced

(2) Discussion on the Feasibility of Proposed Pilot Projects

The JICA Study Team prepared the pilot projects' outlines with counterparts and reviewed the present conditions of the target sites and the acceptance structure of beneficiaries. The beneficiaries' technical levels, management levels, and enthusiasm/spontaneity levels were estimated, and then, based on their capacities, the appropriate sizes and contents of the pilot projects were finalized. Furthermore, the detailed action plans of the pilot projects were refined and the costs were estimated.

(3) Selection of the Pilot Projects

The proposed pilot projects were prioritized from the comprehensive panoramic viewpoints of strategic balance, limitation of human resources and budget constraints. The process to select 10 pilot projects is illustrated as below.

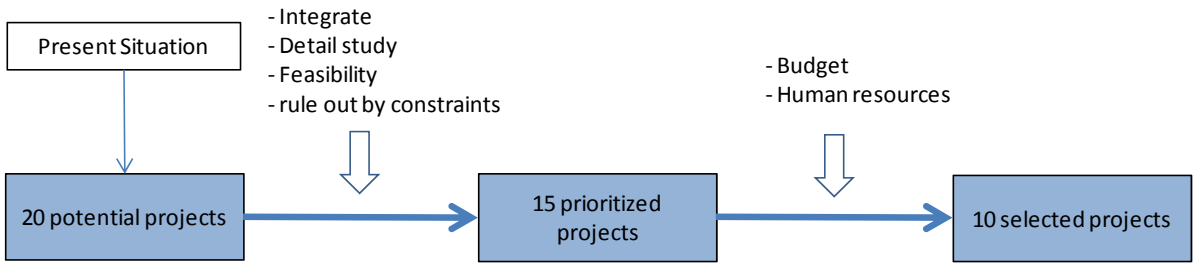


Figure 1 Process of the Pilot Projects Selection

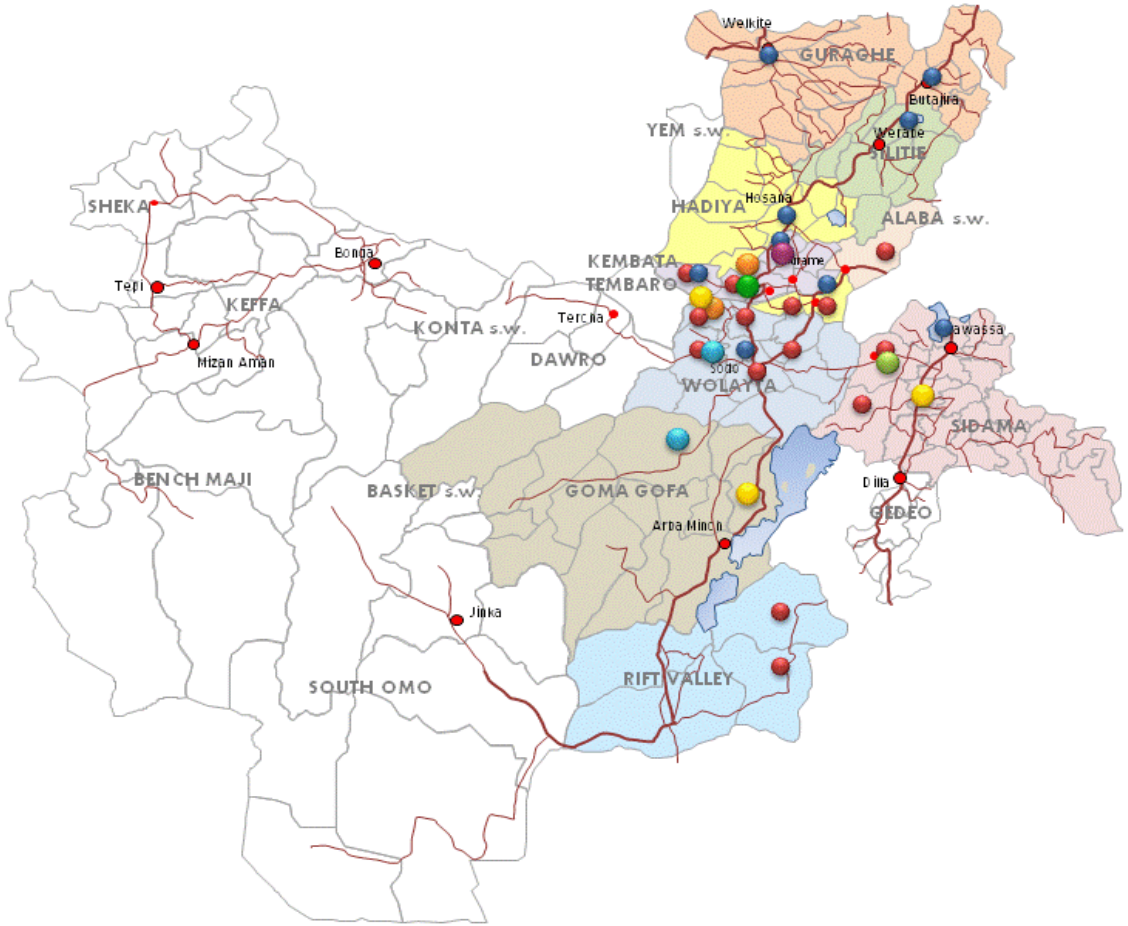
1.3 List of Pilot Projects

The selected 10 pilot projects are shown in Table 1 and the locations of each pilot project site are indicated in Figure 2.

The pilot projects were designed to comprehensively address development strategies. Moreover, the projects were composed to have mutually supportive relationships on some selected crops to achieve a total improvement of marketing issues in each value chain.

Table 1　10 Pilot Projects implemented in the Study

Basic Strategies	Strategies	Target Crops						Target Sites	Project Title	
		Cereals	Pulse	Vege tables	Fruits	Roots crops	Other crops			
Strengthening of AMIS	Strengthening of AMIS		Haricot bean				Ginger	5 Zones 1 Special woreda	01	Strengthening of the Agricultural Market Information Service
Increment of profit by introduction of High Value-Added Marketing	Postharvest handling & Quality improvement	Wheat Maize	Beans					9 Unions in 6 Zones and 1 Special woreda	02	Capacity development of quality control of cereals and pulses for cooperative unions (Collaboration with WFP/P4P)
	Harvesting & Postharvest handling				Avocado Mango			Sidama, Gamo Gofa, Wolayita	03	Improvement of harvesting and handling practices of Mango / Avocado
	Processing & marketing					Cassava		Wolayita Gamo Gofa	04	Improvement of dried cassava quality and market development project
	Quality improvement & marketing						Ginger	Kembata Tembaro, Wolayita	05	Production of “clean” dried-ginger and establishment of linkages with buyers
Improvement of Effective Market Infrastructure to Empower Market Activities	Marketplace		Haricot bean					Sidama	06	Local market improvement project in haricot bean producing areas
	Marketplace						Ginger	Kembata Tembaro	07	Local market improvement project in ginger producing areas
	Warehouse	Maize, Wheat	Haricot bean					Kembata Tembaro	08	Standard warehouse construction and its ideal management
Catch up and Adjustment to the Institutional System of Agricultural Marketing	Quality standard	Wheat						Sidama	09	Comparison test for ECX and Non-ECX wheat
	Enhancement of BoMC, BoA								10	Empowerment of civil servants' understanding of market improvement through monitoring the Pilot projects



Strategy 1: Market Information

- PP01 AMIS

Strategy 2: High Value-added Commodities

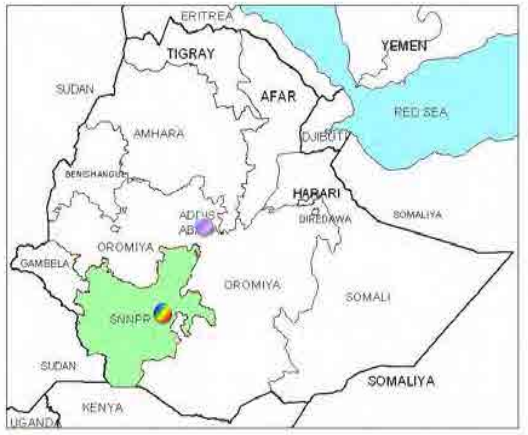
- PP02 Cereal and Pulse
- PP03 Mango and Avocado
- PP04 Cassava
- PP05 Ginger

Strategy 3: Market Infrastructure

- PP06 Haricot Bean Marketplace
- PP07 Ginger Marketplace
- PP08 Standard Warehouse

Strategy 4: Institutional System

- PP09 Quality Test with ECX
- PP10 Monitoring



Ethiopia

Figure 2 Target Sites for the Pilot Projects

2 Results of the Pilot Projects and Lessons Learnt

2.1 Basic Strategy 1: Strengthening of the Agricultural Market Information Services

PP01 : Strengthening of the Agricultural Market Information Service (AMIS)

(1) Objective of the Project

- Build a systematic and user-focused AMIS system for selected products (ginger and haricot bean) to model for further AMIS development after the Study.
- Capacity building of the BoMC officials in planning and executing the AMIS system installation.

(2) Target Crops

Ginger, Haricot bean

(3) Beneficiaries

Farmers, traders and BoMC and WoMC of the project sites

(4) Project Sites

- Ginger : Boloso Sore, Boloso Bombe, Kindo Koisha, Hadaro Tunto, Tembaro (5 WoMC)
- Haricot bean : Boricha, Loka Abaya, Damot Gale, Sodo Zuria, East Badewacho, West Badeawacho, Amaro, Burji, Alaba S.W. (9 WoMC)

(5) PDM (Project Design Matrix)

As shown in Table PP01-8 at the end of this section.

(6) Organization for Planning and Implementation

1) Organization chart with all C/P names are shown in Figure PP01-2 annexed. As initially planned, establishment of Ginger AMIS with five WoMC was started at the beginning. Confirmation of WoMC C/P and explanatory meeting were made by visiting each office during 03 - 04 March 2011. Technical meeting on Ginger AMIS was held on 09 March at Hawassa.
2) For Haricot bean AMIS, confirmation of C/P at nine WoMC and explanatory meeting were conducted during 29 June – 08 July 2011. Technical meeting on haricot bean AMIS was held on 13 July at Hawassa.
3) After starting the project, two C/P (Boloso Bombe WoMC and Tembaro WoMC) were replaced.

(7) Schedule and Progress of the Project

1) Overall process and schedule

   It was planned to work on Ginger AMIS which had fewer WoMC at first, and then to work on Haricot bean AMIS by use of experience being obtained in the Ginger AMIS.

Design Ginger AMIS ➔ Operation & Review ➔ Design improvements ➔ Haricot bean AMIS

Overall planned schedule (revised in April 2011) was as follows:

Designing AMIS for ginger	: Jan. – Mar. 2011
Delivery and installation of equipment for ginger AMIS	: April 2011
Operation & monitoring of ginger AMIS	: April 2011 and afterward
Designing AMIS for haricot bean	: June – July 2011
Delivery and installation of equipment for haricot bean AMIS	: July – Sep. 2011
Operation & monitoring of haricot bean AMIS	: Sep. 2011 and afterward

2) Activities plan

Under-listed activities were initially planned. The implementation schedule and actual progress is shown in Figure PP01-1 annexed.

A. Launch and operate the AMIS system for Ginger and Haricot bean

A-1. Design AMIS system and prepare operational guideline/ manuals

a. Observe the AMIS system of Oromia region and Tigray region.

b. Check the usable communication tools at target WoMCs (incl. WoredaNet).

c. Design the method/procedure of data collection by WoMCs.

d. Design the method/procedure of data processing and storage (WoMCs and BoMC).

e. Design the method/procedure of data transfer (input) to the server/database.

f. Design the coding system - products, places, type of price, etc.

g. Design the system for data transmitting / receiving (hardware & software system).

h. Document the operational guideline/ work manuals.

A-2. Prepare a detailed plan for equipment procurement and installation, and then implement it

A-3. Prepare a training plan and program (incl. training materials) for WoMCs, and then implement it

A-4. Monitor the state of operation/work performance of WoMCs

A-5. Review and improve the AMIS system and operating methods/procedures

B. Broadcast up-to-date price information by providing the collected data to Debubu FM radio program

C. Build data exchange scheme with Oromia AMIS

(8) Results of Activities

In this section, results of each activity are described in the order corresponding to the activities in PDM. Please note that activities are not listed chronologically in the PDM, therefore, the descriptions of results in this section are also not chronologically.

A. Launch and operate the AMIS system for Ginger and Haricot bean

A-1. Design AMIS system and prepare operational guideline/ manuals

a. Observe the AMIS system of Oromia region and Tigray region.

Before starting designing of AMIS system, existing AMIS were studied with following schedule.

06 – 08 Feb. 2011

- Oromiya Marketing Agency
- Ethiopia Grain Trade Enterprise
- FAO office (about availability of trainer for "FAO-Agri-Market" (database software))

16 – 20 Feb. 2011

- Tigray Agricultural Marketing Promotion Agency

b. Check the usable communication tools at target WoMCs (incl. WoredaNet).

Before starting designing of AMIS system, usable communication tools and office conditions were surveyed.

Ginger AMIS

Five WoMC for ginger AMIS were surveyed during 03 - 04 March, 2011. As a result, it became clear that usable communication tools are very limited. CDMA service is not available at four offices. Mobile phones (voice & SMS) are the only common tool usable for exchanging information among the five WoMC.

Table PP01-1 Usable Communication Tools at five WoMC for Ginger AMIS (March 2011)

WoMC	Electricity	Land phone	Internet access			
			Dial up	Mobile internet	CDMA	
Boloso Sore	Av	Av	Av	(Av)	Av	
Boloso Bombe	Av	NA	NA	Av	NA	State of former office
Kindo Koisha	Av	Av	Av	(Av)	NA	
Hadaro Tunto	Av	??	??	(Av)	NA	State of new office
Tembaro	NA	NA	NA	(Av)	NA	

Av : Available, NA : Not available, (AV) : not confirmed by mobile, guess of WoMC C/P

* Boloso Bombe WoMC and Hadaro Tunto WoMC had a plan to move to new office (and moved).

* There was no tool (Android mobile) to check the availability of mobile internet (EDGE service) at the time of survey.

Haricot bean AMIS

Surveys of nine WoMC were conducted during 29 June - 01 July, 2011. The survey revealed that mobile phones (voice & SMS) are the only common tool usable for exchanging information among the nine WoMC.

Table PP01-2 Usable Communication Tools at nine WoMC for Haricot bean AMIS (June 2011)

WoMC	Electricity	Land phone		Internet access		Fax machine	Computer & printer
		in office	in compound	Mobile internet	CDMA service		
East Badawacho	Av	Av		Av	NA	In compound, but not working	NA
West Badawacho	NA but planned	NA	NA	?	Av	NA	NA
Damot Gale	Av	Av, but disconnected	NA	Av	NA	NA	NA
Sodo Zuria	Av	Av		Av	Av	NA	NA
Halaba	Av	Av		Av	?	NA	NA
Loka Abaya	Av	Wireless, but broken	NA	NA	NA	NA	NA
Boricha	Av	NA	NA	Av	NA	NA	NA
Burji	Av	Av		?	Av	NA	NA
Amaro	Av	Av		?	Av	NA	NA

Av : Available, NA : Not available, Mobile internet = EDGE service
W. Badawacho WoMC had a plan to shift the office in future.

Explanatory meeting and survey of usable communication tools/office condition
(Tembaro WoMC, 04 March 2011) (West Badawacho WoMC, 29 June 2011)

c. Design the method/procedure of data collection by WoMCs.

By referring the methods used by other AMIS and by considering the mode of transactions, method of data collection was decided as follows.

- Collect prices of large volume transactions; attention should be given to farmers with large volume.
- Collect prices of accomplished transactions. Observe and eavesdrop on transactions; if not possible interview can be used.
- Collect three price data from different persons (transactions) and calculate average for each product form/type.
- Collect price data during market peak time.

Product types, marketplaces and market-days to collect price data were determined in the C/P technical meetings as follows.

Ginger AMIS (Meeting was held at Hawassa on 09 March 2011)

Product types to collect price data: "Fresh", "Dried winnowed", "Dried un-winnowed" and "Washed & Dried". Marketplaces and market-days to collect price data in each WoMC were set as shown in Table PP01-3. Data collection to be conducted at "●" marked marketplaces and market-days.

Table PP01-3 Marketplaces and Market-day for Data Collection (Ginger)

Woreda	Marketplaces important in Ginger trade	Market-day						
		Mon	Tue	Wed	Thu	Fri	Sat	Sun
Boloso Sore	Areka town		●		●			
Boloso Bombe	Old *				●			
	New	●						
Kindo Koisha	Belie				●			
	Sorto (15 km)			○				
Hadaro Tunto	Hadaro			●			●	
	Tunto (5km)			○	○		○	
	Mandoye (9 km)	○						
Tembaro	Mudula	●			●			
	Keleta (8 km)		○					
	Debub Ambukuna (10 km)				○			○

● Target market-day for data collection ○ Non-target market-day

* Old market in Boloso Bombe was closed in Dec. 2011.

Haricot bean AMIS (Meeting was held at Hawassa on 13 July 2011)

Product types to collect price data : "White", "Red", "Mixed" in color and "Fresh", "Dried" in form. Marketplaces and market-days to collect price data in each WoMC were set as shown in Table PP01-4. Data collection will be conducted at priority "A" marketplaces on X marked market-days.

Table PP01-4 Marketplaces and Market-day for Data Collection (Haricot bean)

Woreda		Marketplaces important in H.Bean trade	Distance from WoMC office	Market-days							Priority of price data collection
				Mon	Tue	Wed	Thu	Fri	Sat	Sun	
East Badawacho	1	Shone market	Nearby		X			X			A
	2	-----									
West Badawacho	1	Danema	Next to office		X				X		A
	2	Wada	6 km			X					B
Damot Gale	1	Boditi market	1 km		X				X		A
	2	-----									

Woreda		Marketplaces important in H.Bean trade	Distance from WoMC office	Market-days							Priority of price data collection
				Mon	Tue	Wed	Thu	Fri	Sat	Sun	
Sodo Zuria	1	Sodo town	Nearby						X		B
	2	Gulgula	7 km			X					A
	3	Shola Kodo	19 km				X				C
	4	Beklo Segno	18 km		X						D
Halaba	1	Kulito Market	Nearby	X			X				A
	2	Guba	23 km		X						B
Boricha	1	Belila	17 km		X			X			A
	2	Yirba town	Nearby	X			X				B
Loka Abaya	1	Hantate town	Nearby	Every 5 days							A
	2	----									
Amaro	1	Jijola	20 km		X			X			A
	2	Dano	17 km	X			X				B
	3	Kelle	Nearby						X		C
Burji	1	Soyama			X				X		A
	2	----									

X : Very important market-day, X : Important market-day, X : Less important market-day
Priority: A - B - C - D (High to Low) in each woreda

d. Design the method/procedure of data processing and storage (WoMCs and BoMC).

Data handling and storage system - Method of data entry into database (Microsoft Excel/Access)

The PP01 handled 2 crops and total data collection points were 14 marketplaces; thus, the data volume was limited. However, finding a data entry method which would not cause excessive burdens on BoMC staff in the future when the data collections expand was considered as necessary from the start of PP01.

One of the solutions for reducing the future workload of data entry was to send data from WoMC to BoMC in the form of Excel file. The team examined the feasibility of using a smart-phone (Window mobile, Apple iPhone and Android mobile). However, this idea was abandoned because:

- Smart-phones were (are) not yet commonly available and too costly.
- GPRS/EDGE service of ETC was (is) unusable / unreliable in many woredas (checked by Mr. BAN's Android mobile). Data transfer speed was (is) too slow to send attached file.

After deciding to test "AMIS with SMS and bulletin boards" in the pilot project, mobile phones which have PC link (possible to store/write/edit SMS messages on PC) were introduced to make a data entry/storage in PC easy.

Before launching the "AMIS with SMS and bulletin boards", the following procedures/rules were specified.

Work procedures/rules on data storing

- All collected and received data should be recorded in the designated format with WORD.

e. Design the method/procedure of data transfer (input) to the server/database.

This activity was cancelled since Internet was (is) not usable at most WoMC offices; in addition, ADSL internet service was not available at BoMC office after moving the office building in Jan. 2011. Therefore, it was (even now) impossible to design and test a "Internet + FAO database software" system.

f. Design the coding system - products, places, type of price, etc.

Following coding methods were designed in the C/P meetings.

Table PP01-5 Designed Coding System and SMS Format

Ginger AMIS

Woreda (marketplace)	Code	Product type	Code	Day	Code
Boloso Sore	Bs	Fresh	1	Monday	Mo
Boloso Bombe	Bb	Dried winnow	2	Tuesday	Tu
Kindo Koisha	Kk	Dried un-winnow	3	Wednesday	We
Hadaro Tunto	Ht	Washed and dried	4	Thursday	Th
Tembaro	Te			Friday	Fr
				Saturday	Sa

Haricot bean AMIS

Woreda (marketplace)	Code	Product type	Code	Day	Code
East Badawacho	Eb	Red –fresh	1	Monday	Mo
West Badawacho	Wb	Red – dried	2	Tuesday	Tu
Damot Gale	Dg	White – fresh	3	Wednesday	We
Sodo Zuria	Sz	White – dried	4	Thursday	Th
Halaba	Ha	Mixed – fresh	5	Friday	Fr
Boricha	Bo	Mixed – dried	6	Saturday	Sa
Loka Abaya	La				
Amaro	Am				
Burji	Bu				

Format of SMS message (Example)

Ginger AMIS : Bb, mo, 1 300, 2 340, 3 500, 4 np
Haricot bean AMIS : Eb, tu, 1 700, 2 940, 3 np, 4 np, 5 np, 6 800

* Price per QT (100kg), * np : no price data available

g. Design the system for data transmitting / receiving (hardware & software system).

Initially it was planned to use CDMA to access to the internet, then to send collected price data to BoMC and other WoMC by e-mail or by inputting price data directly into a database in web (To be more exact, "Internet + FAO-Agri-Market (database software)" based on the MoARD recommendation). However, the surveys revealed that mobile phones (voice & SMS) are the only tool usable for exchanging information among the target WoMC. In addition to this poor communication infrastructure in WoMC, BoMC lost the ADSL internet service after moving its

office to another building in January 2011 (until now).

The nature of AMIS (mode of data transmission) totally depends on the available communication service/tools. Corresponding to the reality on the ground, "AMIS with SMS and bulletin boards (distribute information promptly by SMS and post information on bulletin boards in the marketplace)" was designed for Ginger AMIS. For haricot bean AMIS, situations of available communication tools at nine WoMC were same as ginger WoMC, and "AMIS with SMS and bulletin boards" was applied.

Before launching the "AMIS with SMS and bulletin boards", the following procedures/rules were specified.

Work procedures/rules on data transmission

- Transmission of calculated average price should be done by mobile SMS to other eight (haricot bean AMIS) or to other four (ginger AMIS) WoMC experts and BoMC expert; to designated phone numbers.
- Transmission should be made immediately after collection; latest in next day.
- SMS message should conform to the designated format.

Work procedures/rules on data receiving and posting on bulletin board

- Post the received price data on the bulletin board as soon as possible.
- Use the designated posting format.
- Letters and figures should be readable and visible.

h. Document the operational guideline/ work manuals.

Manuals for "AMIS with SMS and bulletin board"

Based on the results of C/P technical meetings, work manuals for "AMIS with SMS and bulletin boards" were prepared by BoMC expert. It covers all work processes and details about data collection (marketplaces / days / product types), coding, SMS data format, and formats for data posting / data recording.

Kick-off meetings were held just before launching AMIS. Work process were confirmed / discussed again by WoMC C/P and BoMC expert based on the prepared work manual in the meetings.

Operational manual for PC and mobile phone

Regarding the usage and maintenance of PC and mobile phone, 3-days training was conducted, and handouts (operational manual) were prepared by BoMC expert. The contents are as follows.

Windows XP: Account setting, System restore, System tools,
Antivirus software (McAfee)
Connection of Mobile phone and PC (NOKIA PC Suite)
Data handling with PC (Excel)
Connecting to the Internet using CDMA mobile phone

Internet – Web search, Security settings
Web mail – Gmail, Yahoo mail
Printer - Driver installation, Change of toner cartridge

A-2. Prepare a detailed plan for equipment procurement and installation, and then implement it

The following equipment was provided to each WoMC.

Mobile phone and SIM card with Nokia PC Suite softeare	: 1 unit
Desktop computer (Dell OptiPlex GX 380 with 19" LCD)	: 1unit
UPS 1050VA	: 1 unit
A4 Printer (HP LaserJet P2055)	: 1 unit
Price bulletin board	: 1 unit

Installation of computers was done by BoMC expert during 23 – 24 June at five WoMC for ginger and during 20 – 25 July at nine WoMC for haricot bean.
Installation of price bulletin boards at marketplaces was carried out during 14 - 15 April for ginger AMIS, and during 31 Aug. - 07 Sep. for haricot bean AMIS.

Installation bulletin board at Kindo Koisha

Loka Abaya WoMC (22 July 2011)

For ginger AMIS, Nokia 1508 CDMA Mobile Phones were provided to five WoMC on 14 April 2011 as a tool to implement the "AMIS with SMS and bulletin boards". However, contrary to ETC's explanation, Nokia 1508 CDMA[1] did not cover GSM band. It was revealed after delivering the CMDA mobile to ginger WoMC. These Nokia 1508 CDMA were replaced with Nokia 2700 Classic (ordinary GSM mobile with PC link) on the occasion of computer training at Hawassa; on 03 August 2011. Nokia 1508 CDMA were provided to haricot bean WoMC where CDMA service is available.

[1] CDMA mobile were selected with consideration for future use.

Table PP01-6 Distributed Mobile Phone Model to 14 WoMC & BoMC

	WoMC	AMIS	Nokia 2700	Nokia 1508 CDMA
1	Hadaro Tunto	Ginger AMIS	X	
2	Tembaro		X	
3	Boloso Sore		X	
4	Boloso Bombe		X	
5	Kindo Koysha		X	
6	East Badawacho	Harico bean AMIS	X	
7	West Badawacho			X
8	Damot Gale		X	
9	Sodo Zuria			X
10	Halaba		X	
11	Boricha		X	
12	Loka Abaya		X	
13	Amaro			X
14	Burji			X
15	BoMC			X

A-3. Prepare a training plan and program (incl. training materials) for WoMCs, and then implement it

Training on information handling and computer usage

Training was provided to all WoMC C/P for PP01 (14 experts) during 02 - 04 August 2011 at Hawassa. Since 14 PC units were necessary, a facility for a private computer center was rented. BOMC expert (C/P for PP01) took up the task of trainer. The following contents were covered in the training.

Windows XP: Account setting, Internet connection setting, Internet option setting to protect PC from virus/malware

Web mail – Gmail, Yahoo mail: How to get email address, Setting, Sending & receiving, Attach files to email

Web search by Google

Connection of Mobile phone and PC: Software installation (NOKIA PC Suite), Connecting mobile phone and PC with cable, How to make send store text messages on PC, How to convert received text messages (text data) into Excel (table format)

CDMA Mobile phone: Connecting to the Internet using CDMA Mobile

Excel: Price data storage with Excel

Maintenance of PC: Virus protection (Scan setting, Manual scan, Update of DAT file, How to disable “autorun.inf”), How to use the System Tools (Desk clean-up, Defrag hard drive, Error check), System restore

Printer: Printer driver installation, Change of toner cartridge, Print setting

Training on information handling and computer usage at Hawassa (02-04 August)

A-4. Monitor the state of operation/work performance of WoMCs

Periodical Monitoring by BoMC expert

Operation of "AMIS with SMS and bulletin boards" for ginger was started after the kick-off meeting on 15 April 2011. Haricot bean AMIS was started after three kick-off meetings in Sep. 2011.
After starting the operation, BoMC expert (PP01 Team Leader) conducted the periodical field monitoring as follows.

Ginger AMIS (5 WoMC)

1. 26 - 27 May 2011
2. 23 - 24 June 2011 (at a time of PC installation)
3. 29 - 30 Aug. 2011
4. 22 - 23 Sep. 2011
5. 06 - 08 Dec. 2011
6. 08 - 10 Feb. 2012
7. 21 - 23 Mar. 2012

Haricot bean AMIS (9 WoMC)

1. 02 - 03 Nov. + 06 - 08 Dec.
2. 06 - 07 Feb. + 08 - 10 Feb. 2012
3. 19 - 20 Mar. + 21 - 23 Feb. 2012

Boloso Bombe

Kindo Koish

Display of price information at Boloso Bombe

Price data received by the BoMC

Price data received by the BoMC mobile during May 2011 – Jan. 2012 were summarized as follows. Please note that these figures are not the number of collected/transmitted data (SMS) by WoMC. There are missing (un-received) SMS messages due to mobile network failure.

Ginger AMIS (May 2011 – Jan. 2012, 39 weeks)

	Result	Plan (expected to receive)	
Total number of SMS to BoMC	96	273	39 weeks x 7 SMS per week
From :			
Boloso Sore	13	39	39 weeks x 1 SMS per week
Boloso Bombe	26	78	39 weeks x 2 SMS per week
Kindo Koisha	24	39	39 weeks x 1 SMS per week
Hadaro Tunto	10	78	39 weeks x 2 SMS per week
Tembaro	23	39	39 weeks x 1 SMS per week
By Month :			
May 2011	13	30	7 SMS per week from
June	12	32	6 marketplaces (*)
July	16	29	
Aug.	12	31	
Sep.	9	31	
Oct.	7	30	
Nov	8	30	
Dec.	12	32	
Jan. 2012	7	28	

* Maximum number of data collection was 9 data from 6 marketplaces under the plan

Haricot bean AMIS (Oct 2011 – early Jan. 2012, 14 weeks)

	Result	Plan (expected to receive)	
Total number of SMS to BoMC	46	126	14 weeks x 9 SMS per week
From :			
East Badawacho	10	14	14 weeks x 1 SMS per week
West Badawacho	8	14	ditto
Damot Gale	4	14	ditto
Sodo Zuria	8	14	ditto
Halaba	2	14	ditto
Boricha	8	14	ditto
Loka Abaya	0	14	ditto
Amaro	1	14	ditto
Burji	5	14	ditto
By Month :			
Oct. 2011	14	37	9 SMS per week from
Nov	18	40	9 marketplaces (*)
Dec.	11	40	
Jan. 2012 (1st week only)	3	9	

A-5. Review and improve the AMIS system and operating methods/procedures

1) Results of internal review & evaluation of introduced AMIS system

Each work process of "AMIS with SMS and bulletin boards" were reviewed to clarify the difficulties and points to be improved in the meeting of 14 WoMC C/P and BoMC expert. A

questionnaire was used to get opinions of each C/P. The meeting took place in Feb. 24, 2012 at Hawassa.

Data collection in the marketplace:

Six C/P said that "data collection from traders/farmers were easy most of the time" and eight C/P said that "it was hard sometimes". In general, there were not that many difficulties in data collection in the marketplace. Reasons for "hard sometimes" were "large price variation from person to person", therefore the number of samples (currently three samples) may need to be increased.

Seven (half of) C/P answered that "I am the only person to collect data in WoMC. There is no one to carry out AMIS work when I am busy with other work". Of course longer distance from marketplace made it harder to go to the marketplace for data collection in some woreda.

Data transmission by SMS:

Five C/P answered that "Sometimes difficult to send the price data with SMS". Major reasons for this difficulty were "Mobile network was not available" and "No electricity". Collected price data should be transmitted immediately (same day or next day). Eleven C/P answered that "delayed sometimes", and reasons were "Mobile network was often not available", "Busy with other work" and "No electricity".

Data receiving:

There were cases of un-received in spite of being transmitted. In general, it was judged that receiving was more problematic than sending. SMS message should reach receiver in very short time, but C/P said that it came after several days sometimes. C/P also said that SMS message is stored by ETC for several days, and if one cannot receive it in this period, SMS will be cleared off.

In case of ginger AMIS, data from Boloso Bombe and Hadato Tunto were often not received by other WoMC. In case of haricot bean, data from Sodo Zuria, Amaro and Burij were often not received by others. Reason(s) for these un-received SMS is unclear. In conclusion, mobile network / SMS service is not highly reliable, although it is the only communication tool available in common.

Current data format includes [day] data but it does not include [date] data. When receiving SMS delays, it may be hard to know the sending date, and [date] data needs to be added in the format.

Data posting/distribution:

Three units of price bulletin boards for ginger AMIS (out of 5 units) need repairs such as fixing wire mesh. It was caused due to poor workmanship of manufacturer (Tony printing company).

Five WoMC C/P said that "bulletin board needs to be relocated".

In relation to posting work, "No pins to fix papers", "No A4 paper", "Strong wind", " Rain made paper wet" were given as hindering factors. The idea of bulletin board [blackboard + chalk] was rejected by all C/P.

Dissemination of collected price data is not well practiced. Only six WoMC (out of 14 WoMC) periodically distribute the collected price data to other government offices such as ZoMC, WoA, Food security office.

Data filing/storage/utilization:

Eleven C/P store price data in PC. Only one C/P use EXCEL for data recording/storing. Five C/P did some analysis (such as drawing a chart).

Poor utilization of PC for data recording/storing/utilization is caused by shortage of PCs in WoMC, shortage of PC skills of C/P, and maybe a shortage of will to work.

Working environment of WoMC office:

Support of WoMC head is crucial for conducting the AMIS works. C/P were answered about their degree of satisfaction in regard to given supports from WoMC head as follows:

I got good support	6 C/P
I got some support	4 C/P
I got few / no support	3 C/P
WoMC head was hindrance	1 C/P

It was advised in the meeting that having an involvement of WoMC head and coordinator in preparation stage is important to secure good support. (Note: WoMC heads were changed in some WoMC during the project period.)

As described above, seven (half of) C/P had no colleagues to carry out AMIS work when he/she was busy with other work.

2) Results of user's evaluation of introduced AMIS system

Questionnaire surveys were conducted at 14 marketplaces to hear users' (traders and farmers) comments on price posting on bulletin board. Interviews were conducted on two market-days; to a) persons who were watching the price board (15 samples) and b) traders in marketplace (5 samples) at each marketplace. The total number of respondents was 240. Surveys were conducted in Feb. 2012.

Data input and analysis is still ongoing. As a result of a quick once-over of the answers, most respondents answered that "Price posting is useful" and "Continue the posting". There are respondents who suggest (wish) for price posting of other crops.

B. Broadcast up-to-date price information by providing the collected data to Debubu FM radio program and other stations.

Since the volume of price data able to be offered for broadcasting was very limited, this activity was not implemented. However, information of local radio stations and their broadcasting charges, etc. were collected for forward planning.

C. Build data exchange scheme with Oromia AMIS

It was informed when visiting Oromiya Marketing Agency in March 2011 that they had a plan to install on-time data collection/dissemination method via web page, and everyone can access the collected price data. It was considered that there would be no need to build a special scheme (agreement) with Oromia AMIS to obtain their price data, and this activity was not implemented.

(9) Achievement of Project purpose and Expected outputs

1) Project purpose

Purpose 1 : Constraints, strengths and weaknesses of designed/operated AMIS system for the selected products are identified.

As stated in the result of activity A-5 and succeeding section 10 and 11, improvements to be applied in each process of works and information (lessons learnt) for planning of future AMIS were obtained. Therefore, it is judged that project purpose-1 has been achieved.

Purpose 2 : Capacity of the BoMC officials is enhanced in planning and executing the AMIS system.

Through the project implementation, a series of works to launch the "AMIS with SMS and bulletin boards" were stylized, and BoMC C/P conducted it twice. In addition, BoMC C/P carried out the instructions on operational improvement in periodical monitoring, preparation of draft questionnaire for evaluation survey, preparation of handout for PC training and its implementation. Considering these past results, it is judged that BoMC C/P has adequate capacity to implement similar works.

2) Expected output

The achievement of expected output can be summarized as follows.

Table PP01-7 Achievement of Expected Output

Expected output	Achievement	Source of indicator
1. Systematic and user-focused AMIS system for Ginger and Haricot bean is designed. 2. Necessary equipments were determined and procured / installed. 3. Necessary training was identified and provided to WoMC C/P. 4. Systematic and user-focused AMIS system for Ginger and Haricot bean is operated and reviewed.	1. "AMIS with SMS and bulletin boards" was designed based on the available communication tools in 14 WoMC. - Details of AMIS operation (marketplaces, days of data collection, type of commodity, coding format) were determined by 14 WoMC and BoMC in the C/P technical meetings. - Operational guideline for "AMIS with SMS and bulletin boards" was prepared by BoMC expert. - Operating procedures were confirmed / discussed by 14 WoMC and BoMC based on the prepared guideline in the kick-off meetings.	Project documents: - Work manual /guideline - Procurement plan - Equipment handover record - Training records - Monitoring records - Collected price data

Expected output	Achievement	Source of indicator
	2. Mobile phones, price bulletin boards, PCs, printers (each 1 unit per WoMC) were installed in 14 WoMC. 3. "Training on information handling and computer usage" was conducted for 14 WoMC C/P by BoMC expert. 4. "AMIS with SMS and bulletin boards" was launched for ginger in April 2011; for haricot bean in Sep. 2011. Evaluation meeting was held by WoMC and BoMC C/Ps in March 2012.	
Collected up-to-date price information is broadcasted by Debubu FM radio program	Activity was cancelled.	
Data exchange scheme with Oromia AMIS is formed	Activity was cancelled.	

(10) Project Evaluation

Effectiveness:

Information to feed back to the development plan has been obtained. In this respect, the PP01 was effective. Especially, it is a significant result to know that communication service in many woredas was very limited, and AMIS by Internet; which is commonly conceived as a means for AMIS; is not applicable now in SNNPR.

Mobile (voice & SMS) service is the only tool to use now. However, network failure often hindered the immediate sending and receiving of collected price data. Though it is hard to predict improvements happening in communication service, Internet (ADSL) service or mobile dada service (CDMA, EDGE) is still fast enough to send attached file that would not be available in many woreda/WoMC in next five years.

Sustainability: Continuation of "AMIS with SMS and bulletin boards" for ginger and haricot bean

All 14 WoMC C/P show their wish to continue and add another crop to the "AMIS with SMS and bulletin boards".

For continuing, operational costs (mobile fee, consumables (A4 paper, printer toners, etc.), transportation fee between WoMC and marketplaces, periodical meeting cost, monitoring cost) are necessary. WoMC C/P has no power (not in position) to get budget. BoMC should work to allocate necessary budget to continue.

(11) Lessons Learnt

Currently, many WoMC has no land telephone line or no fax machines, and it's very difficult to convey even a single paper. Communications with WoMC rely almost entirely on private mobile phone. It is advisable to install a land line, fax machine and operational budget for each WoMC.

As stated in previous section, Internet (ADSL) service or mobile dada service (CDMA, EDGE) would still not be available in many woreda/WoMC in the next five years. "AMIS with SMS and bulletin boards" would be the best method to deliver price information quickly to users.

In case of expanding AMIS to other crops, the following points should be considered.

1) In the tested "AMIS with SMS and bulletin boards" method, a price data collection point (WoMC) sends SMS (price data) to all other points. In the project, price data collection points are not so many: five for ginger and nine for haricot bean. If price data collection points are many, for example 30-40 points (WoMC) for single crop, numbers of SMS to be received by each point become quite a large volume and WoMC expert must not be able to handle such many SMS properly. In addition, aggregate total work volume for data handling becomes very large since each point do the same work; which means that such a system is not efficient. Therefore, data flows and data handling methods must be amended; for example use ZoMC as a compiling & relaying point although speed of data delivery to user decreases.

   It is hard to say how many SMS messages WoMC expert can handle per week. 20 points (30-40 SMS per week) may be the maximum number considering their data handling ability.
2) BoMC staff should be increased. At least one person who is capable of day-to-day data handling is necessary.
3) Coding system needs to be amended.
   - Set woreda code without overlaps
   - Introduce commodity code
   - Introduce code for marketplace
   - Set date code (This should be done urgently for ginger and haricot bean AMIS)

"AMIS with SMS and bulletin boards" was operated only by WoMC and BoMC. No role was given to ZoMC. Regarding reporting to ZoMC, we considered that WoMC has a duty to report the collected price information to ZoMC, and we did not push the WoMC C/P to do it. However, more than half of the WoMC did not report the information to ZoMC. It is advisable to make a periodical reporting compulsory and to allocate budget for reporting (cost for A4 paper, printer toner) to WoMC.

In SNNPR, they say that replacement in short-term is common and usually there is no handover process from predecessor to successor. In PP01, two WoMC C/P were replaced in one year period and there was no handover process. Therefore, AMIS work manuals should be prepared in a manner thorough enough to know all details of work only by reading.

Most of WoMC had no PC and printer before providing them in PP01. Some WoMC C/P reported that they could not use the provided PC for AMIS works since other staff used it. Other problems on use of PC and printer are a) virus infection via. CD and memory stick, b) hard to find technical person capable of fixing it in woreda, c) no budget for toner and paper and d) poor power supply. It is advisable to improve power supply to WoMC office and power distribution in WoMC office, and to add PC.

According to the results of questionnaire survey, most users of price bulletin board (farmers and traders) appreciated the price posing service as useful.
There was one cooperative leader in Boricha. He commented about the service as follows: “Price posting is good since traders have to buy haricot bean at higher price than the posted price”. He may still think that haricot bean price is controlled by the government. If many farmers misunderstand like he does, it may be necessary to teach farmers the meaning of posted prices, and it must be a tough job.

Development of “BoMC homepage” was initiated by BoMC, and a BoMC expert created a homepage frame. An application for domain name server service (www.snnprbomc.gov.et) was made to ETC in early August 2011. However, due to uncertain reason of ETC, BoMC homepage did not activated until end of March 2012. ETC was too slow and not reliable.

Table PP01-8 PDM of PP01

Revised version

PROJECT SUMMARY	INDICATOR	SOURCE OF INDICATOR	IMPORTANT ASSUMPTION
OVERALL GOAL: Systematic and user-focused AMIS system fitting for the actual situation is developed.			
PROJECT PURPOSE: 1. Constraints, strengths and weaknesses of designed/operated AMIS system for the selected products are identified. 2. Capacity of the BoMC officials is enhanced in planning and executing the AMIS system.	1-1. Results of internal evaluation of introduced AMIS system. Evaluation items: - Performance of core functions (collection, transmission, distribution, storage) - Number of trained manpower in BoMC and WoMC - Adaptability for future expansion (crops and marketplaces) - Utilization of Operational guideline/ work manuals 1-2. User's evaluation of introduced AMIS system - Number of farmers / traders who check the price info. shown on bulletin board. - Evaluations of farmers / traders about the price info. distribution by bulletin board (frequency, contents, way of display, etc.) - Changes in farmers' way of selling (timing, place of selling, volume, frequency, selection of buyer) 2-1. Internal evaluation of performance of the BoMC officials	1-1. Evaluation meeting by BoMC & WoMCs Evaluation documents 1-2. Questionnaire survey at marketplaces Ad-hoc collection of users' voice at marketplaces by WoMCs 2-1. Evaluation by Japanese expert, Process owner Evaluation documents	
EXPECTED OUTPUT: A-1. Systematic and user-focused AMIS system for Ginger and Haricot bean is designed. A-2. Necessary equipments are determined and procured / installed. A-3. Necessary training was identified and WoMC C/P are trained. A-4. Designed AMIS system for Ginger and Haricot bean is operated and reviewed.	A-1 Number and contents of operational guideline /manual. A-2 Physical set-up of AMIS in WoMC A-3 Number and content of training conducted for BoMC & WoMC A-4 Number of price data collected/transmitted.	A. Project documents - Work manual/guideline - Procurement plan - Equipment handover record - Training records - Monitoring records - Collected price data	Unexpected personnel relocation of the counterparts in charge of the pilot projects

B. Collected up-to-date price information is broadcasted by Debubu FM radio and other station(s). C. Data exchange scheme with Oromia AMIS is formed.	B Number and frequency of radio programs for price information broadcasted by Debubu and other station(s). C-1 Content and frequency of data exchanged C-2 Utilization of data exchanged	B. Project documents Radio program information C. Project documents Provided/obtained price data to/from Oromiya AMIS	
ACTIVITIES: A. Launch and operate the AMIS system for Ginger and Haricot bean A-1. Design AMIS system and prepare operational guideline/ manuals. a. Observe the AMIS system of Oromia region and Tigray region. b. Check the usable communication tools at target WoMCs (incl. WoredaNet). c. Design the method/procedure of data collection by WoMCs. d. Design the method/procedure of data process and storage (WoMCs and BoMC). e. Design the method/procedure of data transfer (input) to the server/database. f. Design the coding system - products, places, type of price, etc. g. Design the system for data transmitting / receiving (hardware & software system). h. Document the operational guideline/ work manuals. A-2. Prepare a detailed plan for equipment procurement and installation, and then implement it. A-3. Prepare a training plan and program (incl. training materials) for WoMCs, and then implement them. A-4. Monitor the state of operation/work performances of WoMCs. A-5. Review and improve the AMIS system and operating methods/procedures B. Broadcast up-to-date price information by providing the collected data to Debubu FM radio and other stations. B-1 Prepare a explanatory paper (proposal) to Debubu FM radio and others. B-2 Discuss with Debubu FM radio and others, and execute necessary works based on the agreement. C. Built data exchange scheme with Oromia AMIS C-1. Prepare a explanatory paper (proposed scheme of data exchange) to Oromia Agr. Marketing Agency C-2. Discuss with Oromia Agr. Marketing Agency, and execute necessary works based on the agreement.	**INPUT** ［**FROM SNNPR**］ 1) Personnel costs of the counterparts 2) Office for AMIS (including the space/room for server) in BoMC 3) ADSL service in the AMIS office in BoMC 4) Electric supply and Telephone line in WoMCs (including monthly fee) 5) Space for PC installation in WoMCs 6) Telephone fee for CDMA in WoMCs ［**FROM JAPAN**］ 1) Communication and office equipment 2) Price bulletin boards 3) Costs for meeting, workshop and training 4) Telephone fee for AMIS by SMS 5) Travel allowance for the counterparts		**PRECONDITION:** JICA allocates necessary budget for the pilot project

Project Title : Strengthening of the Agricultural Market Information Service (PP01)

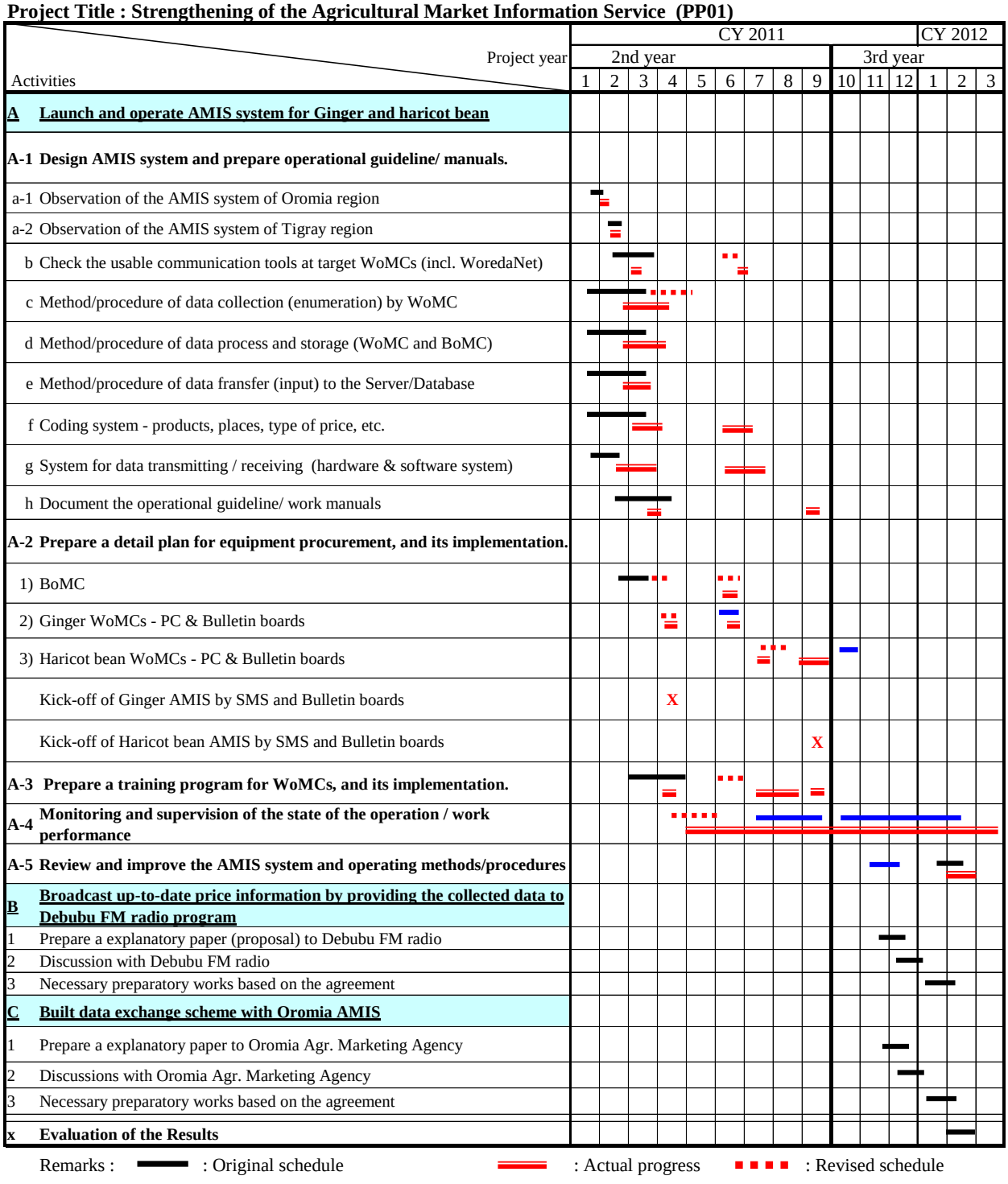


Figure PP01-1 Schedule and Progress of PP01

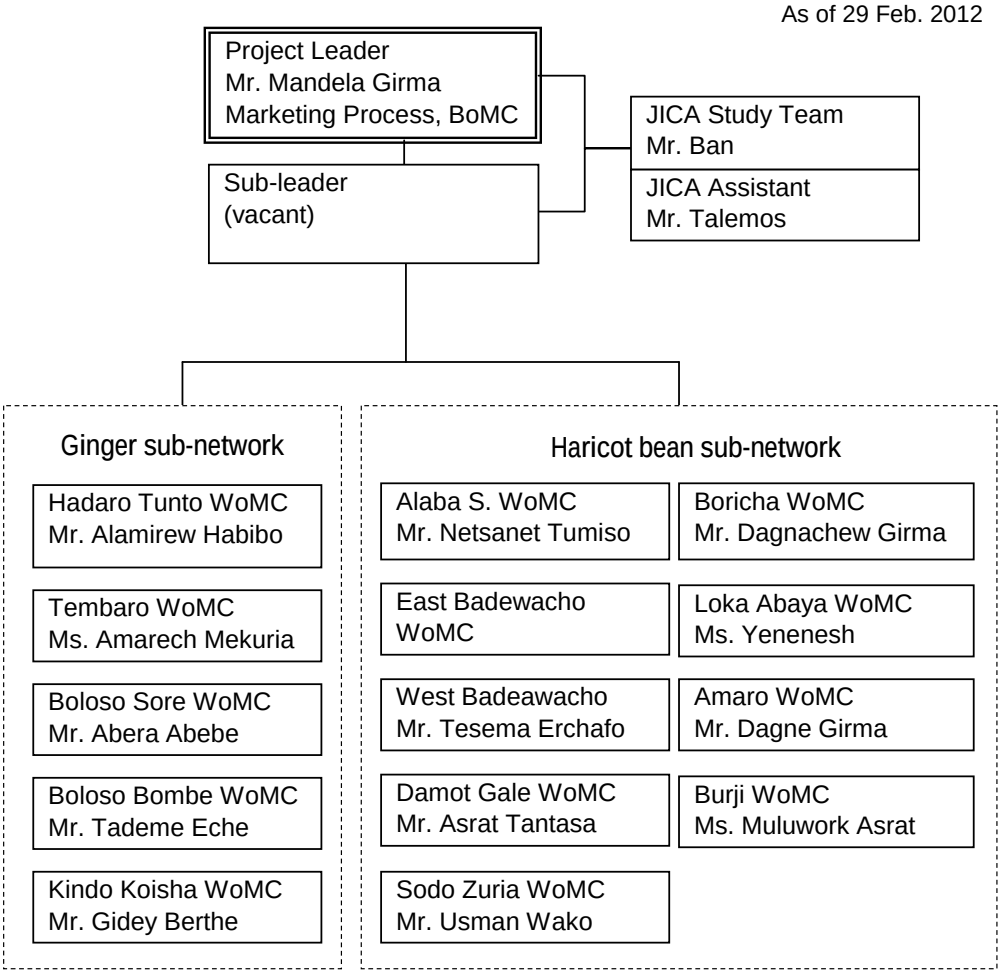


Figure PP01-2 Organization Chart for Planning and Implementation of PP01

2.2 Basic Strategy 2: Increment of Profit by Introduction of High Value-Added Marketing

PP02 : Capacity Development of Quality Control of Cereals and Pulses for Cooperative Unions (Collaboration with WFP/P4P)

(1) Objective of the Project

Profit improvement by high value-addition

- Acceleration of collective marketing and quality marketing of 9 targeted cooperative unions
- Awareness development and capacity building on quality control and warehouse management against training participants
- Collaboration with WFP/P4P program

(2) Target Crops

Maize, haricot bean and wheat

(3) Beneficiaries

Primary cooperatives, Cooperative unions, ZoMC, WoMC

(4) Project Sites

Area covered by 9 Cooperative Unions of WFP /P4P participants.

The 1st training were carried out at 3 places (Hawassa, Butajira and Hosana).

The 2nd training were carried out at; Hawassa for TOT and 8 woredas for training of primary cooperatives.

(5) PDM (Project Design Matrix)

As per annexed at the close of this section (Table PP02-7).

(6) Organization for Planning and Implementation

1) The PP02 was implemented in strong collaboration among BoMC, WFP and the JICA Study Team. As indicated in Figure PP02-2, the PP02 team leader and sub-team leader were appointed from the Cooperative Process and Marketing Process of BoMC. Since their appointment in February 2011, the team leader and sub-team leader have taken a lead in the development and preparation of the training curriculum and content with technical assistance from the JICA Study Team.
2) The targeted 9 cooperative unions were requested to facilitate the training preparation through the nomination of and subsequent communication with the participants from their primary cooperatives.
3) PP02 and PP08 targeted the same cooperative unions who are WFP/P4P participants. Considering the efficiency of the projects, the PP02 training incorporated the topics of warehouse management related to the PP08. An outline of the 9 cooperative unions is shown as Table PP02-1.

Table PP02-1 Outline of nine Cooperative Unions

	Group 1			Group 2				Group 3		Total
Coop Union	Walta	Admas	Melik Silitie's	Ambericho	Angacha	Damota Wolayita's	Licha Hadiya's	Sidama Elto	Mancheno	
Zone	Guraghe	Guraghe	Silitie	KT	KT	Wolayita	Hadiya	Sidama	Alaba SW	-
Estab.	May 2003	May 2003	March 2004	June 2005	June 2002	Feb. 2004	May 2002	Oct 2003	Dec. 2004	-
Capital (mil.Birr)	1.6	3.6	3.6	1.7	1.5	5.3	18.0	5.5	1.5	42.3
Annual Budget (mil.Birr)	20.5	1.0	10.7	2.2	2.2	n.a.	21.0	27.0	2.5	87.1
No. of PC*	23	55	54	21	8	63	32	62	17	335
No. of Members (M/F**)	7,765 (M:6,747. F: 1,018)	24,596 (M:21,827. F:2,769)	29,960 (M:26,950 F:3,010)	7,113 (M: 5,893. F:1,220)	6,632 (M:6,079 F:553)	22,780 (M:18,241 F:4,539)	89,657 (M:73,268 F:16,389)	8,930 (M:8,444 F:486)	5,580 (M:5,300 F:280)	204,325 M:173,931 F:30,394)
No. of Staffs	9	12	10	6	6	11	30	11	5	100
Targeted Woredas	3	10	8	5	2	12	7	19	73 kebeles	66+73 kebeles
Selling volume P4P 2010 (ton)	-	-	-	-	-	Maize:800	Maize:750 HB***:789	Maize:600 HB:1,000	Maize:500	-

Source: Inventory Survey of the JICA Study Team in March 2010
Note: PC* means Primary Cooperatives. M/F** means Male & Female. HB*** means red Haricot Bean.

4) The kick-off meeting of the project team was conducted on Feb. 9, 2011 for PP08 and on Feb. 10, 2011 for PP02. The project contents and tentative schedules were agreed on PP02 and PP08.
5) The staff meeting among WFP/P4P, BoMC and PP team was conducted on Feb. 28, 2011. PP team requested WFP the collaboration for the training of quality control and warehouse management.
6) On May 23, the final implementation plan of the 1st training was discussed and the training topics and the lecturers were selected. The developing schedule of the teaching materials was also decided.
7) The participants of the 1st training on July, 2011 were selected from the storekeeper/purchaser of the P4P-targeted unions and primary cooperatives. The training places were decided 3 venues of Hawassa, Butajira and Hosana.
8) The 2nd training was targeted for the committee members and constituent members of primary cooperatives. The trainers of 2nd training were trained by TOT (Training of Trainers). The training topics were quality control and warehouse management technology. Its contents were further simplified to be easily understood by target participants, compared with the 1st training. At first, TOT was conducted to the WoMC experts for two days at Hawassa. Next, the training for primary cooperatives was implemented for one day by the trainers who attended the TOT. The teaching materials were newly developed by the JICA Study Team.

(7) Schedule and Progress of the Project

1) Schedule

The overall training schedule of PP02 together with PP08 was planned as follows:

First period : Implementation of the 1st training (from Jan. 2011 to July 2011)
Second period : Implementation of the 2nd training (from Sept. 2011 to Feb. 2012)

2) Activities plan

The following activities were programmed between Jan. 2011 and Mar. 2012 according to the plans of PDM. The implementation schedule and actual progress of activities are shown in Figure PP02-1.

1-1. Selection of the person in charge for the training project of 9 unions
1-2. Confirmation and agreement of purpose and contents of pilot project among stakeholders
1-3. Selection of trainers
1-4. Preparation of training contents
1-5. Implementation of 1st training
2-1. Collection and verification of available teaching materials
2-2. Preparation of teaching materials
3-1. Design of TOT training system
3-2. Revision of training contents developed in Activity 1-4.
3-3. Revision of teaching materials developed in Activity 2-2.
3-4. Implementation of TOT training (2nd training)
3-5. Evaluation and review of TOT training system

(8) Result of Activities

1-1. Selection of the person in charge for the training project of 9 unions

The project program of PP02 and the training program of PP08 were approved at 4th Steering Committee on Feb. 2, 2011.

The PP02 team leader Mr. Kasaye Masebo (Expert of Cooperative Process) and sub-team leader Mr. Redwan Kedir (Expert of Marketing Process) were appointed from BoMC.

1-2. Confirmation and agreement of purpose and contents of pilot project among stakeholders

The kick-off meeting was held on Feb. 9 and 10 by the pilot project team (PP Team). The training program of PP02 and the project program (on standard warehouse construction and warehouse management training) of PP08 were discussed and agreed. The coordinator meeting between WFP and BoMC was conducted on Feb. 28, 2011 to enhance collaboration between two agencies in the implementation of WFP/P4P program. The purpose and contents of the Pilot Project by SAMS were confirmed and the cooperation of WFP/P4P in PP02/08 was agreed.

1-3. Selection of trainers

The trainers of 1st training were selected from the post-harvest experts of BoMC and WFP.

1-4. Preparation of training contents

1) The training contents were prepared from February to June, 2011. The 7 topics were covered in three-day training on July, 2011.
    1. Quality
    2. Quality Standard

3. Quality Control and Pest Control
4. Post-Harvest Loss
5. Warehouse Management
6. Inspection
7. Fumigation

2) The training of quality control for PP02 was designed to help the storekeepers, purchasers and quality control officers of primary cooperatives and unions to increase their awareness over the issues. The training was made as practical as possible to deepen the understanding of the participants so as to equip them with necessary knowledge and skills for proper quality management.
3) The training of warehouse management for PP08 aimed to make the participants aware of the importance of the quality control of commodities as well as proper warehouse management, which would dramatically contribute to the reduction of post-harvest loss. A field trip to the warehouse newly constructed under PP08 was organized to give an idea to the participants on a standard design warehouse. Below photo shows a wooden pallet, 152 x 152 cm. Pallets should be used for ventilation and fumigation in modern warehouse. PP08 provided the necessary number of pallets to a newly constructed warehouse in October 2011.

1-5. Implementation of 1st training

1) The 1st training was implemented on July, 2011 for 3 days at each 3 venues (Hawassa, Butajira and Hosana) in SNNPR. The participants were selected from storekeepers or purchasers of 9 targeted unions and the affiliated primary cooperatives. The numbers of participants of the 1st training are shown in Table PP02-2 and PP02-3.

Table PP02-2 Numbers of Participants of the 1st Training (by venue)

Venues	Period	Participants		
		Cooperative Union	Primary Coop.	Participant*
Hawassa city	06 – 08 July	2	12	14
Butajira town	11 – 13 July	3	16	19
Hosana town	18 – 20 July	4	21	25
Total		9	49	58

* 1 person from each union and primary coop.

Table PP02-3 Numbers of Participants of the 1st Training (by zone and union)

Zone	Cooperative Union		Primary Coop.		Participant by zone
	Name	Participant	Number of PC	Participant*	
Guraghe	Admas Union	1	5	5	13
	Walta Union	1	6	6	
Siliti	Melik Siliti Union	1	5	5	6

Zone	Cooperative Union		Primary Coop.		Participant by zone
	Name	Participant	Number of PC	Participant*	
Hadiya	Licha Hadiya Union	1	6	6	7
Kambata	Ambericho Union	1	3	3	4
Tembaro	Angacha Union	1	6	6	7
Wolayita	Damota Wolayita Union	1	6	6	7
Sidama	Sidama Elto Union	1	6	6	7
Alaba Special woreda	Mancheno Union	1	6	6	7
	9 Unions	9 persons	49 PCs	49 persons	58 persons

* 1 person from each union and primary coop.

2) The training included a visit to large-sized warehouse of the Ethiopian Food Security Reserve Administration (EFSRA) in Sheshamane with an aim to facilitate the understanding of the participants on the proper warehouse management. A demonstration on inspection and pest control was carried out for the participants to have a hands-on experience.

Program of the 1st training is shown in Annex at the close of this section.

During practical training on the machine operation and the observation tour to the large-sized warehouse, they were very inquisitive about modern technology, inspection method and practical aspects of quality control and warehouse management.

Lecture on Quality (Hawassa)

Group Photo of Participants (Butajira)

Lecture on Warehouse Management (Hawassa)

Field tour to new warehouse (Angacha CU)

Explanation of grain sample box

Field tour to large-sized warehouse

Large-sized warehouse tour (explanation of record keeping)

Operation practice of maize cleaner (supplied by WFP/P4P)

Moisture measurement practice (how to use moisture meter)

= 1st Training Evaluation =

At the end of the training the participants were requested to fill out an evaluation form. Out of 58, 43 participants submitted the form. Most participants seemed very satisfied with the training, rating it high in content, methodology, materials and its relevance to their duties.

Since the participants were encouraged to write their comments in the space provided in the evaluation form, many expressed their appreciation and content towards the training. The others indicated their intention to train the others in their cooperatives about what they had learned and stated the desire for the continuous training to improve their knowledge and skills.

2-1. Collection and verification of available teaching materials

The technical documents on post-harvest handling system were collected through BoMC, BoA, WFP, internet web and books, etc. Through the meeting with WFP and Sasakawa Africa Association (SAA), their teaching materials and training experiences of WFP/P4P were referred to. Since most of their teaching materials of post-harvest technology were mainly made by power-point in English and took up the various topics, the farmers of primary cooperatives may not easily understand such teaching materials due to the complicated contents.

2-2. Preparation of teaching materials

The teaching materials for 1st training were developed by PP Team in cooperation with nominated trainers. The handout of power point on 7 topics of post-harvest technology, 4 kinds of posters and grain sample box were developed.

3-1. Design of TOT training system

The TOT training system of cascade method (two-step training) was designed for the 2nd training of quality control and warehouse management for the primary cooperatives. First, TOT training was implemented to the experts of ZoMC and WoMC as trainees. Then, the trained WoMC experts offered the training to the members of primary cooperatives as trainers. WoMC experts made all necessary arrangement for the implementation of training for primary cooperatives except teaching materials and monetary matters.

3-2. Revision of training contents developed in Activity 1-4.

1) The July training invited the storekeepers and other relevant personnel from the grain unions of WFP/P4P participants and selected primary cooperatives. It was true, however, that the training needs of the storekeepers of primary cooperatives seemed different from those of union storekeepers, to some extent. Available equipment and the warehouse condition can be some of the examples, which indicate the different needs existing between the primary cooperatives and the unions. In addition, the JICA Study Team was informed that WFP planed to provide continuous training for the union personnel on P4P related topics. Also, there was a concern that the three-day training may be difficult to be replicated by the BoMC due to the financial and human resources constraints they face.
2) Cognizant of the above, the PP Team made the 2nd training solely target the primary cooperatives and accordingly revised the training contents to meet the specific needs of primary cooperatives in quality control and warehouse management. Furthermore, the PP Team was to structure the mechanism in which the training would be easily replicated with the involvement of unions and WoMC, and a number of primary cooperatives would therefore be reached. In addition, the increase in the number of participants from the primary cooperatives was likely to encourage more women to take part in the training.
3) The training topics focused on only two of quality control and warehouse management due to the restricted time of one-day training. The framework of 2nd training is shown in Table PP02-4.

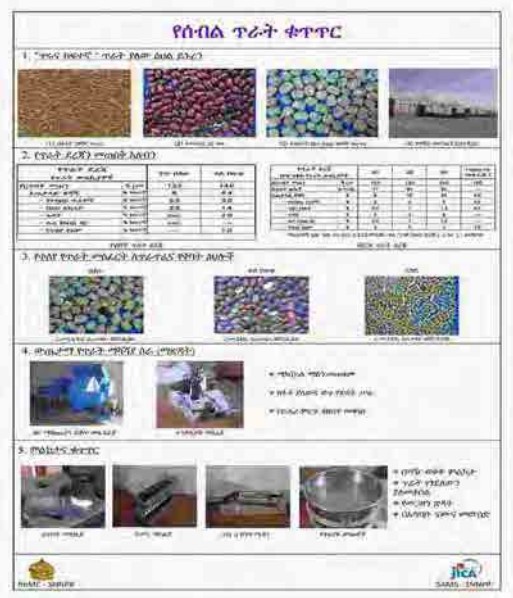
Table PP02-4 Framework of the 2nd Training

	1st Step (TOT)	2nd Step
Duration	2 days	1 day
Place	Zonal Capitals	Primary Coop. office
Trainers	PP Team BoMC / WFP	WoMC
Trainees	ZoMC WoMC Union	Primary Coop. members
Coordination	PP Team BoMC / WFP	PP Team

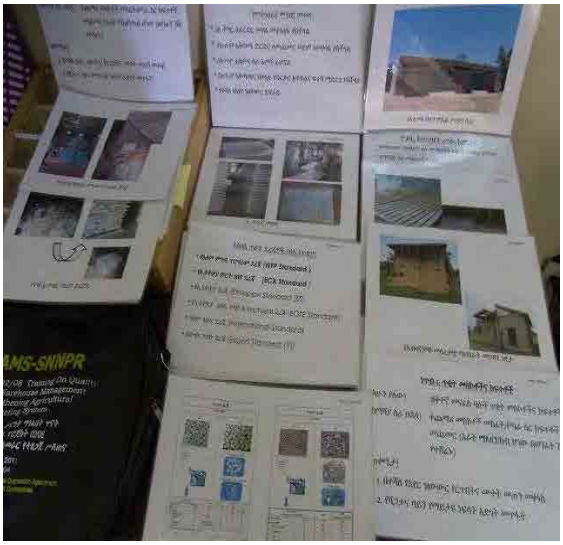
3-3. Revision of teaching materials developed in Activity 2-2.

The participants of primary cooperative members are the local farmers who are unaccustomed to the wide variety of topics, complicated contents. Therefore, the picture-card type teaching materials were developed that described the essential matters with a lot of pictures and illustrations with which every participants would be able to easily understand the concepts. The picture cards were translated into Amharic. The picture cards were developed for three different topics (quality control, warehouse management and renovation of existing warehouse). The training contents focused on what farmers would be able to implement immediately without much difficulties. They can be used

at any place even if there is no electricity, computer and projector. The posters and grain sample box were also revised to be understood by farmers more easily.



Quality Control poster



Newly developed picture cards in Amharic

3-4. Implementation of TOT training (2nd training)

The two-day TOT training was implemented in Amharic at Hawassa on Dec. 2011. The trainers of TOT training adopted the post-harvest experts of BoMC and WFP. A total of 12 trainees of ZoMC and WoMC experts attended the TOT training. The TOT training discussed how to use the newly developed picture-cards and how to elaborate the key issues to be emphasized in the training for primary cooperatives. The picture-cards were distributed to all participants. The revised Amharic posters and sample box were also distributed.

The one-day training for primary cooperatives was implemented by the WoMC experts who attended the TOT. The training was provided to the total of 26 primary cooperatives during Dec. 2011 and Feb. 2012.

The participants of the 2nd training are shown in Table PP02-5.

TOT training at Hawassa

Training on picture-cards teaching material

Distributed bag for picture-card

Training at Hole Geba PC,
Kedida Gamella woreda

Taining at Shammena Goddo PC,
Boricha woreda

Training at Ashara PC,
Kacha Bira woreda

Table PP02-5 Participants of the 2nd Training (Dec. 2011 - Feb. 2012)

TOT Training				Training for PC		
ZoMC	Nos. of participant	WoMC	Nos. of participant	Nos. of PC	Nos. of participant	Name of PCs
Kambata Tembaro	1	Demboya	1	6	75	Funto PC, Gendela PC, Hobicho PC, Megara PC, Trader Group, Yebu PC
		Kedida Gamella	1	3	32	Addilo Birhan PC, Dide PC, Hole Geba PC
		Kacha Bira	1	3	31	Ashara PC, Doreba PC, Ediget Behibret PC
		Angacha	1	3	24	Angacha PC, Goyota PC, Shino Jeba PC
Sidama	1	Boricha	1	3	31	Kayo PC, Shallo Bellela PC, Shammena Goddo PC
		Loka Abaya	1	3	33	Gorebe PC, Hantate PC, Sala Kebado PC
		Hawassa Zuria	1	3	19	Karena Akababiw PC, Odonna Gallo PC, Shemenna Akababiw PC
		Alaba Special woreda	1	2	34	Bekino PC, Mituma PC
Total	2 persons		8 persons	26 PCs	279 persons	

Note: Following trainings were not included in above table.
1. Demboya WoMC provided training to 17 traders on 15/01/2012.
2. PP Team provided training to 16 participants (committee and PC members) of Angacha CU on 29/02/2012.

3-5. Evaluation and review of TOT training system

In the TOT training system of 2nd training, the participants of the primary cooperatives appreciated the simple and understandable training by using the new picture-card type teaching materials. They acquired the useful and practical skills and knowledge. The participants regarded the training as superior and expressed their intention to train all other members in their cooperatives about what they had learned. According to the training participants interviewed after the 2nd training, some improvements in quality control and warehouse management practices have been observed in a majority of primary cooperatives which participated in the training.

The JICA Study Team efficiently conducted the training on quality control and warehouse management for primary cooperatives in collaboration with WFP/P4P. The 2nd training managed to train only the primary cooperatives which were under four unions due to time constraints although a total of 9 unions are the target of WFP/P4P. BoMC should discuss with WFP how to organize the training for primary cooperatives under the remaining 5 unions because BoMC doesn't have sufficient budget to carry out the SAMS training by its own.

(9) Achievement of Project Purpose and Expected Output

The project purpose was almost achieved. The interview of 8 participants of TOT training revealed that more than half of the trained primary cooperatives started quality control and warehouse management practices suggested by the training and indicated their intention to carry on such practices from now on. The training participants have come to understand that appropriate practices in quality control and warehouse management greatly contribute to the reduction of post-harvest loss, hence, result in better profits.

The result of the pilot project is summarized according to the expected outputs of PDM and is shown as Table PP02-6.

Table PP02-6 Achievement of Expected Output

Expected Output	Achievement	Source of Indicator
1. Understanding of target primary coops on: - Quality control is enhanced (PP02); - Proper warehouse management is enhanced (PP08).	1. The 1st training was conducted on 7 topics over three days. 1st step of the 2nd training (TOT) was conducted at Hawassa and one-day training (2nd step) was conducted to 26 primary coops on 3 topics. 2. Participants were: 58 (Male 56, Female 2) at the 1st training. At 2nd training: 12 (Male 10, Female 2) for TOT and 279 (Male 253, Female 26) for primary coops. 3. Level of understanding of the participants was nearly half of the contents at the 1st training. 90% of the participants of the 2nd training understood almost all of the training contents.	1.1. Training records 1.2. Attendance sheets 1.3. Participants' evaluation on training
2. Teaching materials (Posters, Handouts and product samples) are developed and distributed to target primary coops.	2. Developed handouts were distributed to 58 attendants for the 1st training. Posters and product sample box were developed and distributed to BoMC, WFP and primary coops. (total 65 sets)	2.1. Developed teaching materials 2.2. Delivery record

Expected Output	Achievement	Source of Indicator
3. TOT training system is established and operational.	3.1. TOT training was conducted at Hawassa on Dec, 2011. 3.2. Participants were 10 in total. (Refer to Table PP02-5) 3.3. Training contents: Refer to (8) Results of the Activities, Clause 3-2. 3.4. Picture-card type teaching materials for TOT were developed and distributed to 12 attendants. Revised posters and sample box were developed and distributed to attendants, ZoMC, BoMC and WFP. (40 sets in total) 3.5. Interview results indicate that almost all stakeholders appreciated the training because it was simple, understandable and useful.	3.1. Training records 3.2. Attendance sheets 3.3. Training records 3.4. Developed teaching materials 3.5. Interview with stakeholders

WoMC experts and the staff/members of union and primary cooperative who had taken part in the training were interviewed.

Interview Results of WoMC Experts (8 respondents):

Overall the responses from WoMC experts were very positive. They appreciated the "picture-cards" because referring to them, they were able to undertake the training with confidence.

Five out of these eight experts attended the BoA training on quality control in 2010/11. However, lack of teaching materials and budget prevented them from undertaking the training for primary cooperatives. The "picture-cards" addressed one of big constraints they encountered in the past.

The interview results of TOT training are as follows:

1) Importance of SAMS training and present issues of primary coops

All participants of WoMC experts revealed that they recognized the simplified and practical methods of quality control and warehouse management by the training. They could show the primary coops how to solve the issues practically after the training.

Q1. Was the training useful for your future job?	Yes: 8	No: 0	Reason for Yes: Received many proposals/suggestions of quality control/warehouse management.
Q2. Did the training meet the present issues?	Yes: 8	No: 0	

2) Teaching Materials and Level of Understanding

Some respondents stated that the developed teaching materials were very satisfactory. Materials had a lot of pictures/illustrations with simple and brief phrases about very essential and important issues, thus they were very easy to understand for farmers.

Q1. Were the teaching materials easy to teach primary coops?	Yes: 8	No: 0	Reason for Yes: Simple and helpful.
Q2. Did the trainees of coops understand well?	Yes: 5	No: 3	Reason for No: Short duration.

3) Timing and Duration of Training

SAMS training conducted during Dec. 2011 and Feb. 2012 was timely because it was the time between harvesting and marketing. Two experts said they couldn't conduct the training on time because another assignment overlapped.

Q1. Was the timing right for training?	Yes: 5	No: 2	Reason for No: Late
Q2. Was the training duration long enough?	Yes: 0	No: 8	Reason for No: Short (at least 3days)

4) Improvement of Quality Control after Training

Some stated that the trained cooperatives started adopting new practices, especially in ventilation, inspection and cleaning of their warehouse. There are also some challenges for the implementation of continuous training.

Q1. Is there any improvement of quality control and/or warehouse management in your coop?	Yes: 5	No: 3	Reason for No: Too early to monitor.
Q2. Are there any issues which may adversely affect the continuation of the TOT training system?	1.Lack of budget: 8, 2.Replication of teaching materials: 8, 3.Bad access: 5, 4.Organization: 1, 5.Teaching capacity: 1		

Note: Figures in above tables are the numbers of respondents.

Interview Results of Members of Unions and Primary Coops (12 respondents):

The results of interview to the participants, especially to the 2nd training attendants, are as follows. More than half of respondents said that recognizing its importance, they started implementing quality control measures in their unions/coops. They also started warehouse management. One coop reported that they bought 30 tons of maize and improved its quality, and then sold it at higher price. Their profit was 6,000 Birr.

1) Helpfulness and Level of Understanding of SAMS Training

Q1. Have you ever attended other trainings of quality control and/or warehouse management?	Yes: 6	No: 5	
Q2. Is SAMS training helpful and useful?	Yes: 11	No: 0	Reason for Yes: To gain better profit by reduction of post-harvest loss.
Q3. Did the trainers teach you to understand well?	Yes: 11	No: 0	Reason for Yes: Understandable teaching materials.
Q4. Have you ever known the quality standard of cereals and pulses?	Yes: 7	No: 4	Reason for No: Concept only.

2) Level of Understanding and Timing & Duration of Training

All respondents were positive about the teaching materials. However, many expressed their wishes for the training to be longer in duration. Training duration must be considered.

Q1. Were picture-cards teaching materials understandable?	Yes: 11	No: 0	
Q2. Could you understand well on training contents?	Yes: 9	No: 2	Reason for No: Short duration. Too difficult due to many topics and complicated contents at 1st training.
Q3. Was the timing right for training?	Yes: 7	No: 4	Reason for No: Too late.
Q4. Was the training duration long enough?	Yes: 1	No: 8	Reason for No: Short duration

3) Improvement of Quality Control

Most of respondents agreed that primary coops improved quality of their commodities and gained profits.

Q1. Is there any improvement plan of product quality in coops?	Yes: 8	No: 3	Reason for Yes: Implemented quality control
Q2. Is it possible to continue above improvement?	Yes: 8	No: 2	Reason for No: Lack of budget
Q3. Did your coops gain any profit after improvement?	Yes: 7	No: 4	Reason for Yes: Reduced loss/ high quality

Note: Figures in above tables are the numbers of respondents.

(10) Project Evaluation

Effectiveness:

- Most of the participants of primary coops recognized that quality control of product was important and the reduction of post-harvest loss was profitable.
- Some primary coops have started to improve ventilation, inspection and cleanness of warehouse after the training.
- The standard of farmers' technology has been raised by the training of quality control of cereals and pulses.

Efficiency:

Picture-card type teaching materials developed for TOT training requires no electricity. Therefore, they can be used in a rural area where most primary coops are located.

Impact:

- WoMC expert in Demboya woreda trained 17 traders. One trader participant became aware of the importance of quality control and he decided not to buy bad quality product after training. In the past, he did not care about product quality at all. He started to renovate the existing warehouse to put upper openings for ventilation, to put plastic sheet on the floor and to clean inside/outside of the warehouse regularly.

- The dissemination of quality control technology started to other stakeholder in addition to primary coops and farmers.
- Because some training participants are convinced of the importance of quality control and warehouse management, they are now planning to train all members, using the picture-cards borrowed from WoMC.

Sustainability:

After finalizing the project, the unions and primary coops should be able to continue the essential improvement practices of quality control and warehouse management which were taught in the training.

(11) Lessens Learnt

1) Implementation system of training

- The counterparts of pilot project did not fully take part in the training program due to their own busy work in BoMC. Project counterparts should be selected from the capable persons in charge.
- In case of WoMC, the process owner shall be appointed as one of the project members.

2) Facilities and Teaching Materials

- The standard warehouse constructed under PP08 should be utilized to enhance an awareness of unions and primary coops on model warehouse design and proper warehouse management.
- Teaching materials should be developed according to the educational level and knowledge level of the participants. Also, a local language should be used in training as much as possible. The picture-card type teaching materials with laminated film of water-proof should be developed for other topics of post-harvest technology for low-educated farmers. The materials should use a lot of pictures and illustration for easy understanding for farmers.
- The posters and sample box prepared by SAMS will be disseminated to the primary coops which participated in the training. WoMC should advise a cooperative to display them in its office or warehouse to give all members a chance to take a look at them so that their awareness on quality control and proper warehouse management will be enhanced.

SAMS posters in Union's office (upper right)

Distributed sample box

3) Organization of Training

- WoMC experts are capable of effectively undertaking the training for primary coops provided that they are given in TOT proper instructions and advice on contents and methodologies of the training, which they are going to undertake.
- In case of the one-day SAMS training, a full day is necessary to cover a whole content; three hours for quality control and three hours for warehouse management. Thus, a training venue should be easily accessible to every participant so that the training can start on time.
- It is highly recommended that more than one person from each union or primary coop are invited to training so that knowledge and skills taught in the training would be more easily transmitted to the other members of their cooperative.

4) Training Time and Duration

- It is said that the timing of training is very important. Most appropriate time for training on quality control and warehouse management is between harvesting and marketing. Training participants will be able to implement what they learned in the training immediately and feel its benefit right away.
- It seems that the long duration of training for low educated farmers has little effect.

Table PP02-7 PDM of PP02

PROJECT SUMMARY	INDICATOR	SOURCE OF INDICATOR	IMPORTANT ASSUMPTION
OVERALL GOAL： Profit is increased by introduction of high value added marketing.			
PROJECT PURPOSE： Quality control activities are routinely carried out by primary coops, which participated in the PP02 training.	1. No of primary coops, which implement quality control activities recommended by PP02 training 2. Assessment of unions over the grain quality brought in to unions by primary coops	1.1. Interview with primary coops 1.2. Observation of JICA Team/CP 2.1. Interview with unions	Market prices of grain do not slump.
EXPECTED OUTPUT： 1. Understanding of target primary coops on quality control is enhanced. 2. Teaching materials (posters, handouts and product samples) are developed and distributed to target primary coops. 3. TOT Training system is established and operational.	1.1. No. and content of training 1.2. No. of training participants from target primary coops. 1.3. Understanding of participants on the training. 2.1. No. and content of training materials developed and distributed to primary coops. 3.1. No. of training conducted in the framework of ToT system. 3.2. No. of participants in the training conducted in the framework of ToT system. 3.3. Contents of training developed for TOT system. 3.4. Training materials developed for TOT system 3.5. Feedback from stakeholders on TOT training system.	1.1. Training records 1.2. Attendance sheets 1.3. Participants' evaluation on training 2.1. Developed training materials 2.2. Delivery record 3.1. Training records 3.2. Attendance sheets 3.3. Training records 3.4. Developed training materials 3.5. Interview with stakeholders.	

ACTIVITIES :	INPUT	PRECONDITION:
1-1. Appointment of person from nine unions in charge of the PP02 training. 1-2. Confirmation and agreement of purpose and content of pilot project among stakeholders. 1-3. Appointment of lecturers 1-4. Preparation of lecture content 1-5. Implementation of training 2-1. Collection and assessment of available teaching materials 2-2. Preparation of teaching materials 3-1. Design the TOT training system. 3-2. Revision of training content developed in Activity 1-4. 3-3. Revision of teaching materials developed in Activity 2-2. 3-4. Implementation of TOT training 3-5. Evaluation and review of TOT training system.	**［FROM SNNPR］** 1) Labor cost of union staffs 2) Machines/instrument for training (provided by WFP) **［FROM JAPAN］** 1) Expert (quality improvement) 2) Instructor (daily allowance, lodging expense, transportation cost) 3) Training cost (room charge, transportation cost) 4) Development cost of teaching materials 5) Development cost of poster and samples 6) BoMC personnel (daily allowance, transportation cost)	JICA allocates necessary budget for the pilot project.

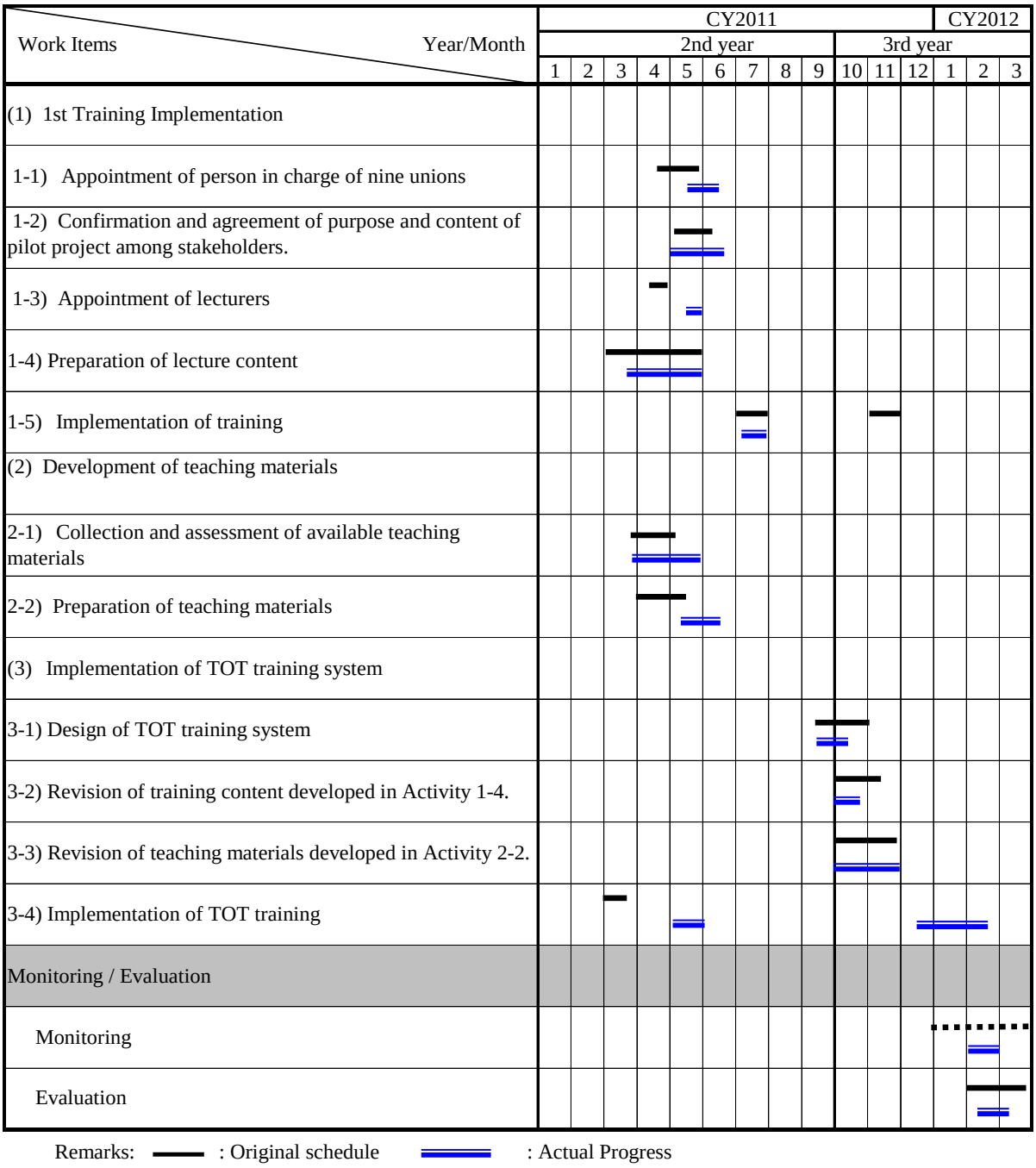


Figure PP02-1 Schedule and Progress of PP02

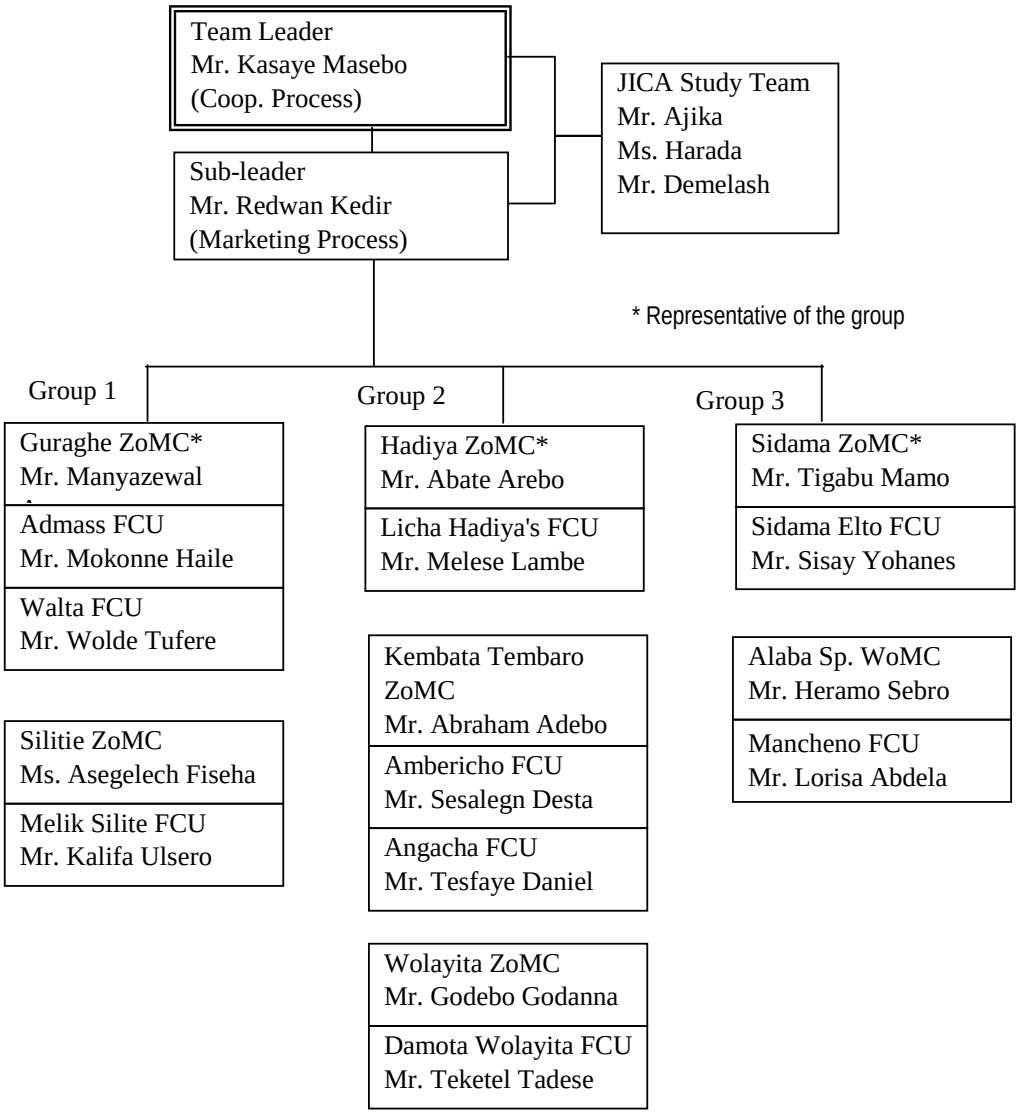


Figure PP02-2 Organization Chart for Planning and Implementation of PP02

Annex : Program of the 1st Training

Training: 1st Day

Time	Description	Lecturer	Organization
10:00 - 10:10	Opening of Team Leader of PP02	Mr. Kasaye	BoMC
10:10 - 10:20	Greeting of Team Leader of Study Team	Mr. Akutsu	Study Team
10:30 - 11:00	"Quality"	Mr. Redwan	BoMC
11:00 - 11:30	Coffee Break		
11:30 - 12:00	"Quality"	Mr. Redwan	BoMC
12:00 - 13:30	Lunch Break		
13:30 - 15:00	"Quality Standard"	Mr. Redwan	BoMC
15:00 - 15:15	Coffee Break		
15:15 - 16:45	"Inspection" & "Warehouse Management"	Mr. Wuhib	WFP
16:45 - 18:00	"Quality Control" & "Pest Control"	Mr. Abrham	BoMC

Training: 2nd Day

Time	Description	Lecturer	Organization
09:00 - 10:30	"Fumigation"	Mr. Wuhib	WFP
10:30 - 11:00	Coffee Break		
11:00 - 12:30	"Post-Harvest Loss"	Mr. Abrham	BoMC
12:30 - 14:00	Lunch Break		
14:00 - 15:30	"WFP/P4P supplied machinery"	Mr. Ajika Mr. Demelash	Study Team
15:30 - 16:00	Coffee Break		
16:00 - 17:30	Practice "How to operate/maintain machines/instrument"	Mr. Ajika Mr. Demelash	Study Team

Training: 3rd Day

Time	Description	Lecturer	Organization
08:00 - 11:00	Move to warehouse of Angacha FCU		
11:00 - 12:00	Tour of model warehouse & management	Mr. Wuhib Mr. Kasaye	WFP BoMC
12:00 - 13:00	Lunch Break		
13:00 - 14:30	Move to large warehouse at Shashemene		
14:30 - 15:15	Practice "How to manage warehouse storage"	Mr. Wuhib Mr. Kasaye	WFP BoMC
15:15 - 16:00	Closing Ceremony (questionnaire)	Mr. Kasaye Mr. Akutsu	BoMC Study Team
16:00 - 16:30	Return to Hawassa, Butajira or Hosana		

PP03 : Improvement of Harvesting and Handling Practices of Mango/Avocado

(1) Objective of the Project

To improve current harvesting and handling practices;

1. Develop appropriate harvesting and handling methods/tools.
2. Identify effective ways to disseminate the harvesting and handling methods/tools.

(2) Target Crops

Mango, Avocado

(3) Beneficiaries

Mango and/or Avocado producing farmers

(4) Project Sites

Mango: Mirab Abaya woreda (Goma Gofa zone), Boloso Bombe woreda (Wolayita zone)

Avocado : Dale woreda (Sidama zone)

(5) PDM (Project Design Matrix)

As shown in Table PP03-7 at the end of this section.

(6) Organization for Planning and Implementation

1) Revised organization chart of project implementation is shown in Figure PP03-2.
2) In case of mango, two sites (Boloso Bombe and Mirab Abaya woreda) were selected and primary cooperatives which entered into contract with cooperative union to ship mangoes to Africa Juice Company in 2010/11 were selected for target group.
3) Boloso Bombe primary cooperative covers all kebeles in woreda and two (2) kebeles where have larger mango production were selected for the pilot project. Both of these two kebeles have three (3) sub-kebeles and the cooperative decided to manage the project tools by each sub-kebele (by sub-kebele coop. leaders).
4) Umo Lante primary cooperative covers only one kebele and has no sub-groups.
5) In case of avocado, Dale woreda was selected. After having meetings with WoMC, two farmers groups (Belatie Marketing Group and Garatie Marketing Group) in Dagiya kebele were selected.
6) Beneficiary groups in Dale (Belatie Marketing Group and Garatie Marketing Group) have recently merged to have a status of primary cooperative. Registration process is almost complete as of end of Feb. 2012. New cooperative name is Dagiya Kebele Vegetable & Fruits Primary Coop.
7) WoMC C/P of Boloso Bombe WoMC was changed in June 2011.

(7) Schedule and Progress of the Project

1) Component of activities

Following three categories of activity were implemented.

Category 1: Development of harvesting and handling methods/tools

Category 2: Explore effective ways to disseminate the harvesting and handling methods/tools

Category 3: Support for market linkage building (added activities)

2) Activities plan

Under-listed activities were planned. The implementation schedule and actual progress is shown in Figure PP03-1.

Activities implemented:

1-1. Determine the sites and farmers' groups to work with
1-2. Design harvesting and handling methods/tools to introduce
1-3. Manufacture / procure tools locally, and provide them to farmers' groups
1-4. Harvest and collect fruits with the provided tools by farmers
1-5. Support farmers' groups to formulate/install their tool share-use methods and fruits collection systems
1-6. Get farmers' feedback/evaluation on the methods/tools, and explore further improvements.
1-7. Implement further improvements (only if necessary)
2-1. Explore effective ways to disseminate the introduced methods/tools
2-2. Prepare an action plan to verify the idea to disseminate the methods/tools (C/P workshop)
2-4. Develop extension materials

Activities not implemented:

2-3. Implement the action plan to verify the ideas (by WoMCs counterparts)
2-5. Conduct a seminar on the introduced methods/tools and methods to disseminate the methods/tools
2-6. Monitor challenges made by WoMC/ZoMC after the seminar

Activities added:

3. Support for market linkage building
3-1. Conduct a market survey to identify the buyers/linkages (Avocado)
3-2. Arrange and conduct a study tour to Africa Juice Factory (Mango)
3-3. Support for establishing linkages with identified buyers

Regarding the Category 2: Explore effective ways to disseminate the methods/tools, initially the following steps were planned; 1) get ideas for effective ways of dissemination, 2) plan an action plan to verify (test) the ideas, then 3) implement an action plan, and 4) conduct a seminar and provide extension materials to some WoMC, and 5) monitor spontaneous extension works to be made by WoMC. However, fruiting of mango and avocado during April – June 2011 (minor harvesting season) was scarce, and the provided tools were not used. Tools were used after Dec.

2011 in main harvest season. Thus, all succeeding activities were postponed and following three activities could not be implemented due to lack of time.

- Implement the action plan to verify the ideas (by WoMCs counterparts)
- Conduct a seminar on the introduced methods/tools and methods to disseminate the methods/tools
  * *Instead of a seminar, developed tools and extension materials were presented to the participants from ZoMC and WoMC in 08-March conference.*
- Monitor challenges made by WoMC/ZoMC after the seminar

(8) Results of Activities

In this section, results of each activity are described in the order corresponding to the activities in PDM. Note that activities are not listed chronologically in the PDM, therefore, the descriptions of results in this section are also not chronologically.

Category 1: Development of harvesting and handling methods/tools

1-1. Determine the sites and farmers' groups to work with

In case of mango, two sites (Boloso Bombe and Mirab Abaya woreda) were selected and primary cooperatives (Boloso Bombe Primary Coop. and Umo Lante Primary Coop.) which did enter into contract with coop. union to ship mangoes to Africa Juice Company in 2010/11 were selected for target group.

In case of avocado, Dale woreda was selected. Selection criteria were: a) groups which have experience in collective marketing, b) not very far from Yilgarem town and c) access to main roads is available all year around. After having meetings with WoMC, two kebeles (Dagiya and Duba) were selected as candidate sites, then, in early April, it was narrowed down to two farmers groups (Belatie Marketing Group and Garatie Marketing Group) in Dagiya kebele. These groups were formed in 2009 for collective coffee marketing and they have a total of 175 members. Dale WoMC estimates that there are about 27,000 avocado trees (many of them are big trees) in this kebele.

Explanatory meeting with farmer groups to confirm their participations were conducted on 23 Feb. 2011 at Boloso Bombe, on 26 March at Umo Lante (Mirab Abaya) and on 20 April at Dale.

Explanatory meeting at Boloso Bomb

Explanatory meeting at Umo Lante

1-2. Design harvesting and handling methods/tools to introduce

After testing several prototypes, the following tools were designed and locally manufactured.

Harvesting tool

Easy-to-carry stepladder

Cart for plastic boxes

Catching cloth
and
Carrying bag

1-3. Manufacture / procure tools locally, and provide them to farmers' groups

Tools and materials provided to three sites are listed in the table below. Provision of tools/materials to Boloso Bombe site were made three (3) times and it was completed on 25 March. 2011. Provision of tools to Miraba Abaya site (Umo Lante) and Dale site were completed in April 2011. Constructions of huts for fruit collection were done by the farmer groups by using the provided materials.

Table PP03-1 Tools and Materials Provided at Each Sites

Items	Boloso Bombe	Mirab Abaya	Dale	Total
Harvesting tool	150	100	100	350
Carrying bag	150	100	70	320
Plastic box	300	250	150	700
2-wheel push cart	18	4	4	26
Donkey cart with donkey	--	2	--	*2*
Catching cloth with handle (samples)	18	10	10	38
Wooden stepladder (samples)	1	1	1	3
Materials for making huts for fruits collection	For 6 huts	For 1 hut	For 1 hut	For 8 huts

* Material for making huts: roofing sheets, nails, doors, hinges, door lock, pad lock. Timbers for pillar, beam and wall are provided by farmers. Size of each hut varies by the sites.


Provision of tools to the beneficiary farmers in Boloso Bombe (25 March)

Provision of tools and guidance to Umo Lante coop. at Miraba Abaya (18 April)


Provision of tools and guidance to two farmers groups at Dale (27 April)


Fruit collection hut at Umo Lante

Fruit collection hut at Boloso Bombe

Fruit collection hut at Dale

1-4. Harvest and collect fruits with the provided tools by farmers

It was expected that the first-time use of the tools would take place during April – June 2011 (minor harvesting season). To facilitate the usage of the tools and to monitor the fruiting situations, periodical field visits were carried out by JICA Study Team members, BoMC C/P and WoMC C/P. In addition, the fruiting situation at each site was occasionally checked by phoning the chairman/group leader.

Unfortunately, fruiting of mangoes during April-June 2011 was very limited due to abnormal rainfall pattern in 2010. Therefore, the provided tools were not well used, and hearings of farmers' feedback/evaluation on the methods/tools were postponed until next harvest season.

Usage of the tools has started in Dec. 2011 and afterward in main harvesting season as shown in the following photos. (Photos show collective collection done by Boloso Bombe coop. in Feb. 2012).

1-5. Support farmers' groups to formulate/install their tool share-use methods and fruits collection systems

Regarding the share-use of tools, lend-out method (borrow on registration) were applied at all sites.

Boloso Bombe primary cooperative stored and managed the provided tools at/by six sub-kebele coop. leaders. Umo Lante cooperative and two farmers groups in Dale stored the tools in one location and managed by executive board members.

In case of Umo Lante cooperative, the tools were lent only on the occasion of collective sales to Ethfruit. Executive board members lent harvesting tools and plastic boxes to members and non-members who supply (sell) mangoes to the cooperative (Ethfruit). Borrowers returned the tools and boxes upon delivery of fruits at collection hut.

So far, there was no necessity of supporting establishment/operation of tool share-use method for all sites. (There was necessity of facilitate use of the tools). No trouble with share-use was reported. Trouble may occur in future when quantity of tools becomes insufficient.

Regarding the collection systems, periodical site visits were carried out by WoMC C/P, JICA Study Team member and BoMC expert to monitor and support the fruits collections for Ethfruit. Dale WoMC C/P prepared and provided sum-up sheets to record the collected volume from each farmer. JICA Study team instructed the buyer’s requirements and fruit sorting to farmers at the time of 1st shipment in Boloso Bombe; in addition, the team instructed the various improvements to the executive board members of Boloso Bombe cooperative.

1-6. Get farmers’ feedback/evaluation on the methods/tools, and explore further improvements

To get farmers’ feedback/evaluation, meetings with farmer groups were held at Dale and Umo Lante in Feb. 2012. Meeting with Boloso Bombe cooperative could not happen since the mango harvest just started in February. State of use of provided tools by farmers and their feedback/evaluation are summarized as below.

1) Harvesting tool

Dale (Avocado): As of the end of February, 23 harvesting tools (out of 100) were lent to farmers who wanted to use them. Reasons for this low usage are presumed that: (a) Pre-shipment quality check by buyer (Ethfruit) is not strict; Ethfruit keeps buying slightly damaged avocado since original quality (size & shape) is better than other producing area, (b) Group leaders did not proactively tell the members to use them, (c) Demonstrations of tools were made only one time at the time of provision in April.

Users and group leaders evaluate the harvesting tool as “Good/useful tool because we can harvest matured fruits selectively without damage”.

Umo Lante (Mango): Tools were lent to farmers only on the occasion of collective shipments to

Ethfruit, and about 40 (out of 100) were used in January 2012.

Comments of group leaders and some members were as follows:

- Using the tool requires more time to harvest mango fruits. But farmers understand that we can avoid physical damage with tool and wastage (unsalable mangoes) is reduced. Therefore, users will increase.
- There were non-member farmers who did not join collective shipments but wanted to use the tools.
- Size, Shape and function are OK. No need to modify it.
- If I buy it, I pay 25 birr.

WoMC C/P reported that local traders are collecting mangoes in Umo Lante after the coop. stopped collective sales to Ethfruit, and they are requesting farmers to provide same quality of mangoes as shipped to Ethfruit, and such request make farmers keep on using the tools.

2) Plastic box

Dale (Avocado): Boxes were not lent to individual farmers. All boxes were used for handling work and temporary storage of collected fruits at collection point.

Umo Lante (Mango): Boxes were lent to individual farmers with harvesting tools. Also, boxes were used for temporary storage of collected fruits at collection point.

3) Carrying bag

Dale (Avocado): Not used.

Umo Lante (Mango): Only a few farmers used it.

4) 2-wheel push cart

Dale (Avocado): Only 4 units were provided to use around the collection hut. All carts were not yet used as of 09 Feb.

Umo Lante (Mango): Only 4 units were provided to use around the collection hut. Carts were used for handling work at collection point but only sometimes.

5) Donkey cart with donkey (only Umo Lante)

Considering the transportation distances and road conditions between mango fields to collection point (kebele office), 2 sets of donkey carts were provided to Umo Lante. Donkey carts were operated by executive board member to provide transportation service with about half of common rate in the kabale. Total earning was about 1,000 birr.

6) Catching cloth with handle (samples)

Dale (Avocado): No one made a copy. However, catching method has been used; some farmers traditionally use a similar tool made with enset fiber. Also, farmers make stacks of grass to drop fruits on it.

Umo Lante (Mango): Larger size of catching cloth was made and used by farmer.

7) Wooden stepladder (samples)

No one made a copy.

Category 2: Explore effective ways to disseminate the harvesting and handling methods/tools

2-1. Explore effective ways to disseminate the introduced methods/tools

Following five activities were conducted.

1) Trial sales of tools in the market

Trial sales of developed tools were conducted twice at Kela market in Wondo Genet; on 07 Feb. and 18 Feb. 2012. The purposes were: (a) To find out the affordable price / right price for farmers, (b) To check the capability of WoMC staff in explanation/demonstration of the tools, (c) To check if poster designs are OK or not. Sold items and prices were as follows.

Table PP03-2 Sold Items and Prices in the Trial Sales

Items	Price	Sold qty
Harvesting tool	30 birr	10
Catching cloth	10 birr	1
Plastic box	50 birr	10
Push cart	1300 birr	0

Findings:

- Avocado traders showed more interest in the harvesting tools than farmers. Most of the tools sold were purchased by avocado traders.
- Dissemination of information (tool can reduce damage) by traders who buy fruits from farmers must be practicable.
- C/P explained about tool with posters well without preparation. Children read the posters and understand them, i.e. design of posters seems OK.
- Tool price : 50 birr is too expensive. 30 birr seems OK.
- 1300 birr push cart is not affordable.

2) Trial manufacturing of harvesting tool at metal-workshop in woreda

Harvesting tools being provided to the sites were all manufactured by metal workshops in Hawassa town, which have better skill than local workshop. To popularize the harvesting tool, it

should be manufactured by local metal workshops in fruits producing area as a commercial product.

The team ordered a metal workshop at Kela market in Wondo Genet woreda to duplicate the tool by giving a sample. Made tools were poor quality; especially its shape and uniformity as shown in next photos. This result concludes that a mold for shaping rebar is necessary.

3) Manufacturing of mold for harvesting tools

Harvesting tool is a simple design and local metal workshops can duplicate it, but having uniformity is a challenge. Therefore, two types of mold were prepared. Manufacturing costs of mold were about 300 birr/each.

Left: Tool duplicated by local metal workshop
Right: Given sample for duplication

Left : Mold for bending/shaping and welding.
Right : Mold for bending/shaping

4) Meeting on extension methods by BoMC & WoMC counterparts

Meeting was held on 01 March 2012 at Hawassa and ideas on extension methods were exchanged by BoMC & WoMC counterparts. Following ideas/opinions were presented.

- At the first setout, the tools should be popularized by free-distribution to farmers to create famers' demand. Then, local workshop will start making them.
- To reduce the cost of the tools for free-distribution, production can be done by Rural Technology Centers.
- Production of the tools for free-distribution should be handled by ZoMC.
- Market-linkage support can be considered (provided) later; according the needs.
- BoA-WoA and BoMC-WoMC should share work and cooperate.
- Demarcation / role allotment should be discussed to make an agreement by BoA-WoA and BoMC-WoMC.
- Information ("there is good harvesting tool to reduce damage") can be disseminated through local traders who collect fruits from farmers.

5) Test of dissemination by local traders

In the trial sales of developed tools at Kela market in Wondo Genet, local traders showed more

interest in the harvesting tool. Traders want to collect better quality of fruits from farmers, and dissemination of information (tool can reduce damage) to farmers by local traders is considered to be practicable. 20 harvesting tools were handed over to the Avocado traders association; which has office at Kela market, on 18 Feb. 2012. Following feedback was obtained from the leader of association.

- Harvesting avocado fruits by the tool took more time than usual way.
- Avocado demand increased because of the fasting period, and quality requirement of buyers in Addis Ababa is not so severe. They buy slightly damaged avocado. Therefore, necessity to use the tool is less.

2-2. Prepare an action plan to verify the idea to disseminate the methods/tools (C/P workshop)

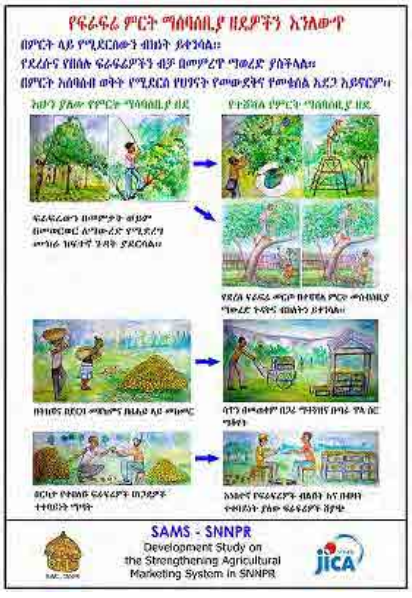
In the meeting on 01 March, planning of extension plan (2-years plan, extension to other kebeles in the project sites) also exercised.

2-4. Develop extension materials

1) Posters

Three types of poster were designed. For the future extension use, type-1 and type-3 have been printed 72 pcs. each (on plastic sheet) and 500 pcs. each (on paper).

Type-1



Type-2

Type-3

2) Manual – How to make a harvesting tool (manual for local metal workshop)

A manual showing how to make a harvesting tool was prepared. It contains: Drawings (1/1 scale), Material list, How to use the mold to shape an iron-bar, How to make a mold and Photos.

Category 3: Support for market linkage building (added activities)

In response to a request from Dale farmers groups for support of linkage building with avocado buyers as well as to add strong incentive to use the provided tools, the team decided to work on linkage support. The team carried out the following support activities.

3-1. Conduct a market survey to identify the buyers/linkages (Avocado)

A survey was carried out by Mr. Abreham (Team leader), Mr. Deneke (Assistant of JICA Study Team) and Mr. Kindihun (BoMC) during June – July 2011. Field survey areas were Addis Ababa, Nazaret, Hawassa, Wondo Genet and Yirgalem. As a result of the survey, several potential buyers were indentified, and it was finally decided to work on a business linkage with Adama Fere Fruit & Vegetable Marketing (traders) Cooperative.

3-2. Arrange and conduct a study tour to Africa Juice Factory (Mango)

Africa Juice Tibila S.C. in Awash valley built a new juice processing factory for export in 2010, and entered into agreements with cooperative unions (Gamo Gofa Farmers Fruit & Vegetable Marketing Cooperative Union and Damota Wolayita Farmers Cooperative Union) in Aug. 2010 to procure very large volume of mangoes ("yellow-small-full of fiber" type). Two primary cooperatives for PP03 are the members of these unions and they also engaged in supply of mango to the company through the unions.

It was observed that leader farmers of two primary cooperatives were not very clear about quality requirements of Africa Juice Company because of inadequate/incomplete instruction given by the company. None of the union members and cooperative leaders visited the factory. Considering this situation, the team made the arrangements for a study tour to the juice factory at Tibila as follows.

Purpose:

- To understand the quality requirements of Africa Juice S.C. for juice processing purpose by observing the juice process operation and discussing it with the company employees.
- To discuss possible solutions for shipment problems encountered in the last season.

Participants:

Wolayta zone :

Mr. Tadesse Taje, Chairman, Boloso Bombe Primary Cooperative

Mr. Tadem Ache, C/P for PP03, Boloso Bombe WoMC

** Mr. Teketal, Manager of Damota Wolayta Coop. Union could not join the tour due to urgent business.*

Gamo Gofa zone :

Mr. Dawit Deseta, Chairman, Gamo Gofa Fruit & Vegetable Marketing Cooperative Union

Mr. Tamerayehu Meresha, Manager, Gamo Gofa Fruit & Vege. Marketing Cooperative Union

Mr. Yisahak Mathiwos, Chairman, Umo Lante Primary Cooperative

Mr. Mulunesh Duqa, C/P for PP03, Miraba Abaya WoMC

BoMC & BoA

Mr. Abraham Astatike, Team Leader of PP03, BoMC-Marketing process

Day of the visit:

July 29 (Journey period was July 27-30 for Wolayta zone participants; July 27-31 for Gamo Gofa zone participants)

Outcome of the visit were as follows.

- According to assessment of the company, the quality of supplied mangoes is very poor. Poor quality means pre-mature, damaged and small size.
- Factory's quality requirements are: (1) matured on the trees; (2) no damage (no cracks or physical injury); (3) bigger size; and (4) no black spots.
- the quality manager of the factory mentioned the importance/necessity of teaching farmers the factory's quality requirements. PP01 plans to make a poster of harvesting tools/equipment, and the team explained that it must possible to collaborate with the company to make another poster of quality requirements, so that such a poster can promote farmers' better awareness of the necessity of using new harvesting tools.
- The managers promised to deploy a large enough number of quality control experts at sites to assist farmers, make a timely arrangement of trucks to transport mango fruits and to make timely payments without delay.

Listening to the processing methods from quality control manager.

Discussing quality requirements and problems faced in the last season

It seemed that observing the juice factory was an 'eye-opening' experience for the participants. The participants described the following impressions and lessons learnt.

- Cooperative's (Umo Lante and Boloso Bombe) management of mango fruit is poor; even in the basics such as harvesting and postharvest handling.
- Participants obtained information on quality requirements of the company and were convinced of the need to meet them.
- Due to poor quality of mango material, losses at the factory are 40-45%.
- Mango farmers still need know-how, technology and improved methods for harvesting and handling practices.

3-3. Support for establishing linkages with identified buyers

1) Match-making meeting with Adama Fere Fruit & Vegetable Marketing (traders) Cooperative

Chairman and vice-chairman of Adama Fere Fruit & Vegetable Marketing (traders) Cooperative were invited to the meeting which took place at Dale WoMC office on 23 July. 13 farmers (4 from Garatie group and 9 from Belatie group) and 2 WoMC experts attended the meeting. The outcome of the meeting is as follows.

- Consent to enter into business was confirmed by both parties.
- Target supply volume: 2 Isuzu trucks per week in September, then increasing to 4 to 6 trucks per week.
- Trade terms:
  - ✓ Buyer purchases only Grade-1 (large size) and Grade-2 (medium size) fruits with no damage and fully matured.
  - ✓ Truck and boxes shall be arranged by buyer.
  - ✓ Transaction shall be ex-site basis. Quality shall be checked by buyer at site, and weight shall be measured at the time of loading. Fruits shall be sorted for grade (by size) by farmers groups in advance.
  - ✓ Buyer informs his offer prices to farmers groups, and transaction prices shall be fixed 2-days before each shipment.
  - ✓ Payment shall be made by cash at site upon loading.
- Sample shipment: one truck volume, in September, only Grade-1 fruits.

However, actual transaction did not take place for certain reasons on buyer side.

Match-making meeting at Dale WoMC office (23 July 2011)

2) Collective sales to Ethfriuts

To materialize the agreed business deals with Ethfruit, BoMC expert and assistant of JICA study team directly engaged in communications between Ethfruit and farmers groups / WoMC C/P during inception period. WoMC C/P of each site attended almost every shipments to monitor and to provide advices. Results of sales to Ethfruit were as follows.

Table PP03-3 Results of Sales to Ethfruit - Dale (avocado)

	Shipped date		Shipped volume (QT)	Selling price to Ethfruit (Birr/kg)	Purchase price from farmers (Birr/kg)
1	03-Jan	Tue	55.45	4.50	4.25
2	05-Jan	Thu	57.61	4.50	4.25
3	14-Jan	Sat	60.10	4.50	4.25
4	15-Jan	Sun	64.50	4.50	4.25
5	31-Jan	Tue	62.98	4.50	4.25
6	14-Feb	Tue	64.69	3.75	3.25
7	21-Feb	Tue	63.61	3.75	3.25
8	25-Feb	Sat	66.95	3.75	3.25
	Total		495.89		

Sales continued in March

Table PP03-4 Results of Sales to Ethfruit - Umo Lante (mango)

	Shipped date		Shipped volume (QT)	Selling price to Ethfruit (Birr/kg)	Purchase price from farmers (Birr/kg) *
1	12-Jan	Thu	61.74	2.10	1.0
2	14-Jan	Sat	66.68	2.10	1.0
3	19-Jan	Thu	61.95	2.10	1.0
4	24-Jan	Tue	51.04	2.10	1.0
	Total		241.41		

***** 1kg = 5 pcs or 4 pcs of mongo fruits

There was mistake in communication regarding the 4th shipment. Etifruit could not (did not?) inform that "no collection on Jan-21 (Sat.) since it was holiday. Truck came on 24-Jan., and many fruits (about 10 QT) were over matured (= no commercial value).

Table PP03-5 Results of Sales to Ethfruit - Boloso Bombe (mango)

	Shipped date		Shipped volume (QT)	Selling price to Ethfruit (Birr/kg)	Purchase price from farmers (Birr/kg) *
1	16-Feb	Thu	61	1.50	1.0
2	20-Feb	Mon	46.72	1.50	1.0
	Total		107.72		

* 1kg = 6 pcs of mongo fruits

Truck for 2nd shipment came to the site late behind schedule.

Collective sales of Avocado to Ethfruit by Dale groups (14 Feb. 2012)

Left:
Sorting fruits

Right:
Repacking

Avocado were ready for weighing

Weighing of avocado

Collective sales of Mango to Ethfruit by Boloso Bombe coop. (15 - 16 Feb. 2012)

Above left: Harvested mangoes were kept under the shade in boxes.

Above right: Quality were OK

Left : Out of requirements of the buyer
Damage : scratch, cut, hit
Black spots
Too small, Too young

Ethfruit staff was explaining quality requirements to farmers

Quality check by the coop. staff

Weighing of mangoes

Many fruits did not meet the requirement (too young)

(9) Achievement of Project purpose and Expected outputs

1) Project purpose

Project purpose 1: Appropriate harvesting and handling methods/tools are developed and ready for dissemination.

The harvesting tool is a core tool to change current harvesting practices. The harvesting tool is evaluated by farmers and WoMC C/P as suitable for practical use and effective to avoid physical damage occurring in harvesting work. Also, it is easy to manufacture and production cost is cheap (material cost is 7 - 8 birr). Extension materials also developed. Therefore, this purpose is fully achieved.

Project purpose 2: Effective ways to disseminate the harvesting and handling methods/tools are identified.

All initially planned five (5) activities for this purpose were not able to implement due to scarcely fruiting in April – June 2011, and provided tools were not used until Dec. 2011. Therefore, “new / original methods” were not very well explored as wished-for. However, useful tips were obtained and tools for extension such as posters, molds, manual for making harvesting tool were prepared.

2) Expected output

The achievement of expected output can be summarized as follows.

Table PP03-6 Achievement of Expected output

Expected output	Achievement	Source of indicator
1-1. Tools for harvesting and handling are designed and tested with the participation of farmers.	- 350 Harvesting tools, 38 Catching-cloth with handle, 320 Carrying bags, 26 2-wheel push carts, 3 wooden stepladders were designed, manufactured and provided to three sites. - 700 Plastic boxes and 2 donkey carts were purchased and provided to three sites. - Harvesting tools were used by farmers in three sites in Dec. 2011 and after ward. * See section 1-1 to 1-4 in (8) for detail.	Deliver records
1-2. Tool share-use methods, fruits collection systems are formulated / installed by farmers groups.	- Lend-out method was applied at three sites. - Fruits collection system was practiced in collective sales to Ethfruit at three sites.	Result of interview of farmers and site visits
1-3. Farmers' feedback / evaluation on the methods / tools are obtained.	Farmers' feedback was obtained from Dale and Umo Lante. Harvesting tool is evaluated as effective in reducing damage and suitable for practical use. * See section 1-6 in (8) for details.	Result of interview of farmers Observation and opinions of WoMC C/P.
2-1. Ideas of effective ways to disseminate the methods / tools are identified.	Several ideas were obtained through: 1) Trial sales of tools, 2) Trial manufacturing of harvesting tool at metal-workshop in woreda, 3) Meeting on extension methods by BoMC & WoMC C/P. * See section 2-1 in (8) for details.	
2-2. Lessons learnt are obtained through implementing the action plan to verify the idea of effective ways.	<Relevant activities were cancelled>	
2-3. Extension materials are developed.	Posters, Molds for harvesting tool making, Manual for harvesting tool making were prepared. * See section 2-4 in (8) for details.	
3 Market linkages with institutional buyers are established.	Sales to Ethfruit by each group were materialized. As at late Feb. 2012, Dale 496 Qt (avocado), Umo Lante 241 Qt (mongo), B. Bombe 107 Qt (mongo) were shipped. * See section 3-1 to 3-3 for details.	Sales records

(10) Project Evaluation

Effectiveness:

Appropriate harvesting tools were developed and they are ready for dissemination (Project purpose 1). Useful tips and tools for effective extension of the tools were obtained / prepared (Project purpose 2) although the made exploration was not as deep as wished-for; due to time limitation. Therefore, it is judged that the PP03 was effective.

Sustainability:

Three farmer groups have started collective sales of quality fruits to Ethfruit in the pilot project. In view of the leaders' commitment to cooperative business, management ability and solidarity among leaders, prospects for maintaining the collective sales to Ethfruit or other buyers are quite high for Umo Lante coop., high-middle for Dale groups and low for Boloso Bombe coop. In case of Boloso Bombe coop., it is hard to imagine that the leaders will (can) make all necessary communications/ arrangements with Ethfruit/buyers properly. In case of Dale groups, two marketing groups recently merged to have a status of primary cooperative, and some leaders have been changed. It is hoped that changes in leaders will not work negatively.

(11) Recommendation

Maintaining the collective sales to Ethfruit or other buyers

As stated above, the prospect for maintaining the collective sales to Ethfruit or other buyers is low for Boloso Bombe coop. It is hard to imagine that the leaders will (can) make all necessary communications/arrangements with buyer properly in future (in the next season). WoMC must need to stand between buyer and the coop. to coordinate the business as JICA study team did.

(12) Lessons Learnt

Introduced tools in the Project

1) Plastic box : Stackable boxes are very useful and effective for handling work in collective sales and for preventing physical damage occur in transportation and storage. The plastic box should be the second target item (next to harvesting tool) to extend its use.

   The plastic box being used in the project is less durable than the one manufactured in Addis Ababa but it is still strong enough to hold 20-25 kg of fruits, and its price (50 birr, ex-warehouse in Hawassa) is about 1/3 of the Addis Ababa made one. Recently this plastic box is becoming popular and it is sometimes available in marketplaces in some woredas.

2) 2-wheel push cart : 2-wheel carts aimed at cutting down on labor for short-distance carrying work in collective sales. It should be used with the plastic boxes and it is not suitable for use in bumpy places. Provided carts were not yet well used in Umo Lante and Dale sites. Hence, 2-wheel cart is regard as an item not always necessary for collective sales.

   Manufacturing cost (1500 birr) is too high for ordinary farmers. In addition, workshops in woreda towns must not have adequate skill to make it. Therefore, unlike the harvesting tool, it is not

necessary to think of how to extend local manufacturing in the plan.

Farmers can somehow manage fruits carrying work from fields to collection points with available tools/means. Support (provision) on transportation tools should be limited to a case of collective sales and tools/methods should be planned base on each local condition such as location/distribution of fruits fields, distances to collection points and road conditions.

3) Carrying bag : Carrying bag (shoulder hold, designed for use in harvesting work) made with PP bag was invented. Materials are widely available anywhere, but making it is not so easy. Farmers often use a locally made handbasket (sold in local market at around 30 birr) to carry fruits, and this handbasket can do the same job if a belt/rope for shoulder-hold is added. Therefore, carrying bag can be excluded from the tools to extend.

4) Wooden stepladder : Samples of new type of stepladder (only two legs are fixed, and easy to carry on one's shoulder) were provided for demonstration. A similar stepladder (all legs fixed) is used by farmers for coffee harvesting. No single ladder has been duplicated by farmers. Farmers must prefer to use familiar type. Therefore, wooden stepladder can be excluded from the tools to extend.

Method for Popularizing Farm Tools

1) Commercial manufacturing of tools in fruits producing area (Support local metal workshops):

It is impossible to provide free-tools to all farmers who have mango and avocado trees. The final goal of extension work should be "a new tool becomes a commercially-available product like a sickle and hoe in local markets in fruits producing areas", and best efforts should be made to make commercial manufacturing happen; at/by local workshops in fruits producing areas.

Business risk in making a new product for sales should be mitigated by giving support such as a free material for initial production (when farmer demand is not very sure).

In general, local metal workshops have low level of understanding/sense of appreciation for quality. Quality inspection/control by ordering party is absolutely necessary. Mold for bending / shaping should be provided / taught to uniform the shape.

2) Questions on usual way of extension:

In the C/P meeting, none of the idea of new extension method/approach, even a tip; was suggested by WoMC C/P. It looked like they simply stick to the usual way and could not (did not want to) think of something new.

It must be necessary to deliver a number of free tools to key farmers as a first step of extension. However, the following questions arise:

Q1 : How many free tools need to be distributed to create wide demand (eagerness to buy) in villages?

Q2 : Will key farmers use provided tools without incentive to reduce damage (without linkage to quality-seeking buyer) ?

Q3 : Can demonstrations and use of tool by key farmers create demand from other farmers ?

Answers for the above questions cannot be obtained by thinking in the office. Due to time limitation, the PP03 could not implement the activities to verify ideas of effective extension. The process of verifying usual extension method (process of having answer/tips on above questions) should be included in the Extension Plan.

3) Explanation of benefits of tools to farmers:

Ethiopian farmers will not understand (believe) the usefulness by only photos and/or by only oral explanation. Only displaying posters will not work. Demonstrations are essential to disseminate the information.

An aimed benefit of harvesting tools is in reduction of damage (quality improvement). However, if there is no incentive for quality improvement in village, secondary benefits such as “you can harvest fruits in high position easy” “there is no risk of being injured by falling” should be stressed; especially to women.

4) Support on market linkage with institutional buyers:

In the C/P meeting, WoMC C/P suggested that market-linkage support can be considered (provided) later; according the needs. However, market-linkage with quality-seeking buyer is very effective in giving incentive to improve quality by use of tools, therefore, market-linkage support should be started as early as and as many as possible.

Support on establishing a linkage with institutional buyer is presupposed a farmers’ challenge to collective sales. Ability of group leaders is a key for success of collective sales. Farmer group whose leaders have a strong will and business experiences should be targeted.

WoMC C/P want BoMC to identify prospective buyers, and it is realistic to give this task to BoMC in viewpoint of cost-effectivness and budget allocation.

5) Dissemination of information and promotion of tools through traders:

Market linkage support by WoMC-BoMC will have a limitation; it cannot cover many groups/areas. There are local traders who buy fruits from farmers and who want to collect quality fruits to reduce his/her risk of losses. Dissemination of information and promotion of tools can be carried out by such traders, by giving them tools. This method requires lower cost.

6) Demarcation between BoA-ZoA-WoA and BoMC-ZoMC-WoMC:

In the C/P meeting, the discussion ended with very general opinion – “Both organizations should share work and cooperate”. Demarcation/roles should be clarified before a extension program takes place at some point.

Table PP03-7 PDM of PP03

Revised version

PROJECT SUMMARY	INDICATOR	SOURCE OF INDICATOR	IMPORTANT ASSUMPTION
OVERALL GOAL : Quality of marketed fruits is improved. Farmers' income is increased by quality improvement.			
PROJECT PURPOSE : In order to improve current harvesting and handling practices; 1. Appropriate harvesting and handling methods/tools are developed and ready for dissemination. 2. Effective ways to disseminate the harvesting and handling methods/tools are identified.	 1.1. Methods/tools are developed 2.1. Extension methods / materials are developed		
EXPECTED OUTPUT : 1-1. Tools for harvesting and handling are designed and tested with the participation of farmers. 1-2. Tool share-use methods, fruits collection systems are established / installed by farmers groups. 1-3. Farmers' feedback/evaluation on the methods/tools is obtained. 2-1. Ideas for effective ways to spread the methods/tools are identified. 2-2. Lessons learnt are obtained through implementing the action plan to verify the idea of effective ways. 2-3. Extension materials are developed. 3. Market linkages with institutional buyers are established.	1-1. & 1-3. Indicators of "appropriate methods/tools" = Farmers' feedback/evaluation of the methods/ tools - Numbers of farmers used the methods/tools - Change in damaged / loss volume before shipping - Change in work efficiency (work speed, required manpower) - Durability, Maintenance - Decrease in numbers of accidents (fall from a tree) - Production cost of tools 1-2. Tool share-use systems: Numbers of farmers who used the methods/tools Fruits collection systems : Collected volume 2-1. & 2-2. Numbers of ideas identified / verified "effective ways" = lower costs, private initiative, less support/ intervention by WoMC, feasible / realistic 2-3. Prepared extension materials 3. Results of the transactions with buyers - Shipping volume/frequency, transaction value	Result of activity no. 1-6 Interview of farmers Observation and opinions of WoMC C/P Interview of farmers group leaders Result of activity no. 2-1, 2-2 and 2-3 Extension materials Business records	Unexpected personnel relocation of the counterparts in charge of pilot projects

ACTIVITIES :	INPUT	PRECONDITION:
1-1. Determine the sites and farmers' groups to work with 1-2. Design harvesting and handling methods/tools to introduce. 1-3. Manufacture / procure tools locally, and provide them to farmers' groups. 1-4. Harvest and collect fruits with the methods/tools by farmers. 1-5. Support farmers' groups to formulate/install their tool share-use methods and fruits collection systems. 1-6. Get farmers' feedback/evaluation on the methods/tools, and explore further improvements. 1-7. Implement further improvements (only if necessary) 2-1. Explore effective ways to spread the introduced methods/tools 2-2. Prepare an action plan to verify the idea to disseminate the methods/tools (C/P workshop) 2-3. Implement the action plan to verify the ideas (by WoMCs counterparts) 2-4. Develop extension materials (poster, leaflet) 2-5. Conduct a seminar on the introduced methods/tools and methods to disseminate the methods/tools. 2-6. Monitor challenges made by WoMC/ZoMC after the seminar. 3. Support for market linkage building [added activities] 3-1. Conduct a market survey to identify the buyers/linkages (Avocado) 3-2. Arrange and conduct a study tour to Africa Juice Factory (Mango) 3-3. Support for establishing linkages with identified buyers	**INPUT** **［FROM SNNPR］** 1) Personnel costs of the counterparts 2) Periodical monitoring of use of introduced tools by the selected farmers' groups 3) Challenges made by WoMC/ZoMC after the seminar **［FROM JAPAN］** 1) Costs for developing/manufacturing harvesting/handling tools 2) Costs for meeting, workshop, seminar and training 3) Costs for developing extension materials 4) Costs for extension materials and tools (Costs for implement action plan to verify ideas to spread the methods/tools) 5) Travel allowance for the counterparts	**PRECONDITION:** JICA allocates necessary budget for the pilot project There are fruits to harvest.

Project Title : Improvement of harvesting and handling practices of Mango/Avocado (PP03)

Activities \ Project year	CY 2011												CY 2012		
	2nd year									3rd year					
	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
1-1 Determine the sites and farmers' groups															
1) Collect information on mango supply to Africa Juice S.C. by coops in Arba Minch and Sodo															
2) Determination of sites/farmers' groups															
3) Explanation of PP plan to farmer groups, Consensus building with farmer groups															
1-2 Design harvesting and handling methods/tools to introduce.															
1-3 Manufacture/procure tools locally, and provide them to farmers' groups.															
1) Identification of capable metal workshop and ordering															
2) Manufacturing and procurement of tools and materials															
3) Instruct farmers how to use/make tools (demonstration)															
Use the harvesting and handling methods/tools by farmers															
Monitoring, Facilitate use of tools															
1-6 Get farmers' feedback/evaluation on the methods/tools															
1-7 Implement the planned improvements (only if necessary)															
2-1 Explore effective ways to disseminate the introduced methods/tools															
2-2 Planning meeting / workshop, Preparation of an action plan to verify the idea(s)															
2-3 ~~Implement the action plan to verify the ideas (limited scale)~~															
2-4 Develop extension materials															
1) Preparation of poster															
2) Others															
2-5 ~~Seminar on the introduced tools and effective methods to spread them~~															
2-6 ~~Monitor challenges made by WoMC/ZoMC after the seminar.~~															
3 Supports to establish market linkages [added activities]															
3-1 [Avocado] Conduct a market survey to identify the buyers/linkages for Dale groups															
3-2 [Mango] Arrange and conduct a study tour to Africa Juice Factory															
3-3 Support to establish linkages with identified buyers															
MANGO HARVEST TIME (Mirab Abaya area)															
MANGO HARVEST TIME (Boloso Bombe area)															
AVOCADO HARVEST TIME (Yirgalem area)															

Remarks : : Original schedule : Actual progress : Revised schedule

Figure PP03-1 Schedule and Progress of PP03

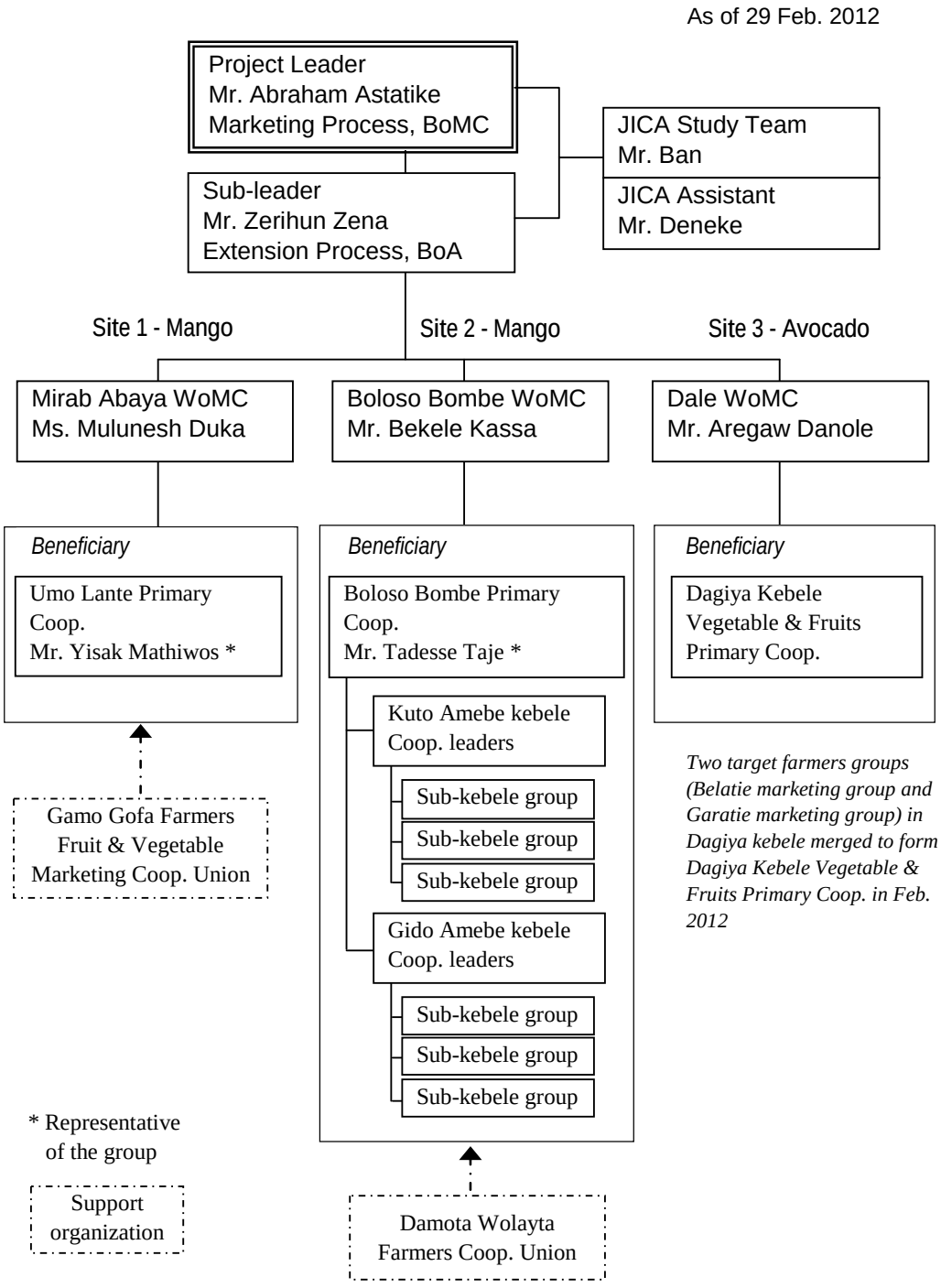
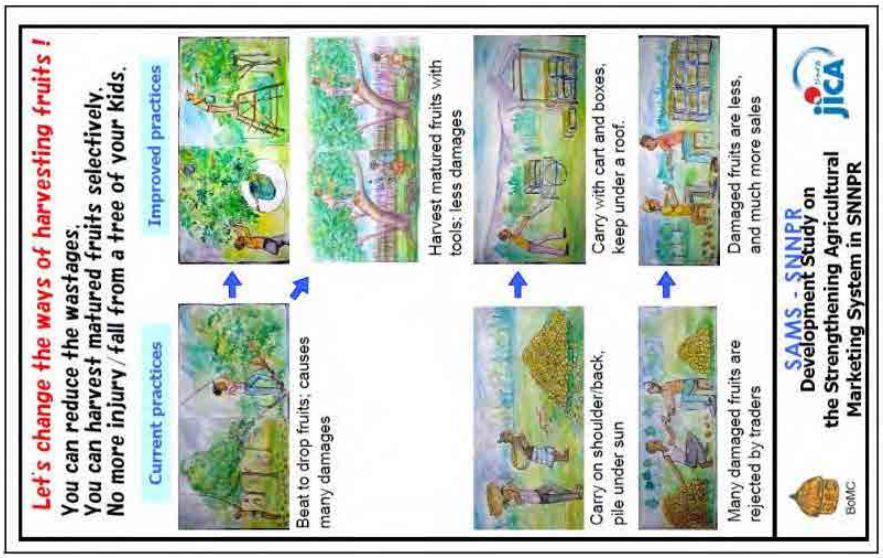


Figure PP03-2 Organization Chart for Planning and Implementation of PP03

Annex: Developed posters (Original design in English)

Type 1



Type 2

Type 3

PP04: Improvement of Dried Cassava Quality and Market Development Project

(1) Objective of the Project

In order to improve the livelihood of cassava farmers and develop dry cassava markets;

1. Develop better processing practice by introducing appropriate fresh cassava cutting machines and sun-drying plastic sheets.
2. Organize farmers' groups for bulking of dry cassava for better negotiating power for sale prices.
3. Develop market linkage between farmers groups and dry cassava traders and consumers.

(2) Target Crops

Cassava

(3) Beneficiaries

Farmers, Traders, Grind mill owners (Retailers) and Consumers.

(4) Project Site

Offa woreda and Kindo Koysha woreda in Wolayita zone

(5) PDM (Project Design Matrix)

The PDM for the PP04 is shown in Table PP04-9 hereafter.

(6) Organization for Planning and Implementation

1) Revised Organization Chart of PP04 is shown in Figure PP04-2. The 4th Steering Committee held in February 2011 nominated a project leader and a sub-leader from Crop Development Extension Process of BoA and Agricultural Marketing Process of BoMC respectively. The team members were appointed from the line sector offices of zone and woreda. Each office nominated two staff members, one in charge of extension and the other in charge of marketing.
2) A Kick-off meeting with the project leader and the sub-leader, including local assistant, was held on February 9, and the meeting discussed and confirmed the contents of various activities and schedule for PP04.
3) A field trip was made to visit and explain PP04 to target zone of Wolayita and concerned woredas in the middle of February 2011. The team leader explained the project contents and schedule and asked for a selection of project team members in ZoMC and WoMCs.
4) In addition to the Wolayita zone, the Project Team visited Gamo Gofa zone to assess possibilities of including Kucha woreda in PP04. Kucha woreda has been one of the target areas of FAO Project for root crop production and crop diversification since 2009. In view of this, JICA study team discussed it with FAO in Addis Ababa with an aim to maximize the impact of both projects through the collaboration of two donor agencies. After reconnaissance conducted in May in those target kebeles in Kucha woreda, the team found that it was too early to extend this project to these

target kebeles. FAO project was to introduce an early maturity type new variety of cassava to these chronically food-insecure areas. However, this project just started and those target food-insecure households were found to be not in a position to produce surplus cassava for markets. Therefore, the Team decided to cancel PP04 activities in Gamo Gofa zone this time.

5) The team leader requested target woreda offices (Offa and Kindo Koysha woreda) in Wolayita zone to select target kebeles and farmers' groups. Accordingly, three kebeles were selected from each woredas and, subsequently, two farmers' groups from each kebele were nominated. A total of 12 target farmers groups were selected.

6) Traders of dry cassava in Sodo city formed a small and medium enterprise cooperative in May 2011. They started construction of a warehouse with machine room in Sodo and complete it by the end of November 2011. The Study team supplied a dry cassava crusher to this group.

(7) Schedule and Progress of the Project

1) Schedule

Overall schedule for the implementation was designed in 3 steps as follows;

Step 1: Selection of the target areas and farmers' groups (from January to March, 2011).

Step 2: Develop fresh cassava cutting machine, construction of storages by farmers' groups and distribution of necessary equipment and materials.

Step 3: The beneficiaries start production and sale of clean dry cassava.

2) Activities plan

According to the activities plan made as PDM, following activities were performed from January 2011 till March 2012. The planned activities scheduled and actual works done are shown in Fig. PP04-1 attached.

1-1. Explain the contents of PP04 to Steering Committee (SC) and acquire their consent
1-2. Appoint project team members (BoMC, BoA, ZoMC, WoMC)
1-3. Explain the project contents to ZoMC, WoMCs and acquire their consent
1-4. Select targeted farmers groups
1-5. Develop fresh cassava cutting machine in Hawassa
1-6. Supply necessary equipment and materials to selected 12 farmers' groups
2-1. Explanation of the project contents to cassava traders
2-2. Assist establishing and registration of traders group
2-3. Develop a dry cassava crusher for traders group
3-1. Construction of storages by farmers' groups
3-2. Technical training to farmers groups
3-3. Monitoring farmers' practice and advising necessary technical practices
3-4. Improve fresh cassava cutting machine and supply new ones to selected farmers groups
4-1. Assist sales promotion to farmers' groups
5-1. Construction of a worksite by the traders' group
5-2. Training on technical and marketing issues to the traders' group

6-1. Arrangement of round table conference for mutual understanding among farmers, traders, consumers groups and government officers

6-2. Assistance for establishments of marketing linkages between farmers groups and traders

6-3. Assist sales promotion to the traders' group

7-1. Preparation of posters and their distribution to grind mills

(8) Results of activities

1-1. Explain the contents of PP04 to Steering Committee (SC) and acquire their consent

1-2. Appoint project team members (BoMC, BoA, ZoMC, WoMCs)

The 4th Steering committee held on the 2nd Feb.2011 approved PP04 and nominated Mr. Zerihun Zena (Expert, Crop Extension Process, BoA) as the leader and Mr. Demissie Balicha (Expert, Marketing Process, BoMC) as the sub-leader.

A Kick-off meeting with team members was held in February and the meeting agreed on the contents of various activities and schedule for PP04.

1-3. Explanation of the project contents to ZoMC, WoMCs and acquire their consent

A field trip was made to visit and explain PP04 to target zone of Wolayita and concerned woredas in the middle of February 2011. The team leader explained the project contents and schedule, and asked for a selection of project team members in zone and woreda offices.

Explanation of the project contents at Kindo Koysha woreda in Feb 2011

Explanation of the project contents at Weshiwocha Dekeyakebele, Offa woreda in Feb. 2011

1-4. Selection of targeted farmers groups

Offa and Kindo Koysha woreda in Walayita zone were selected as the target woreda through discussion among the team members of BoMC and ZoMC. With participation of WoMC staff members from the selected woredas, further discussion was held in the Project Team to select target kebeles and farmers' groups. The selection criteria for kebele and farmers' groups were set as follows;

Selection criteria for kebele

1. Surplus of cassava production area
2. Accessibility
3. The distance between those kebeles is not so far

Selection criteria for farmers' groups

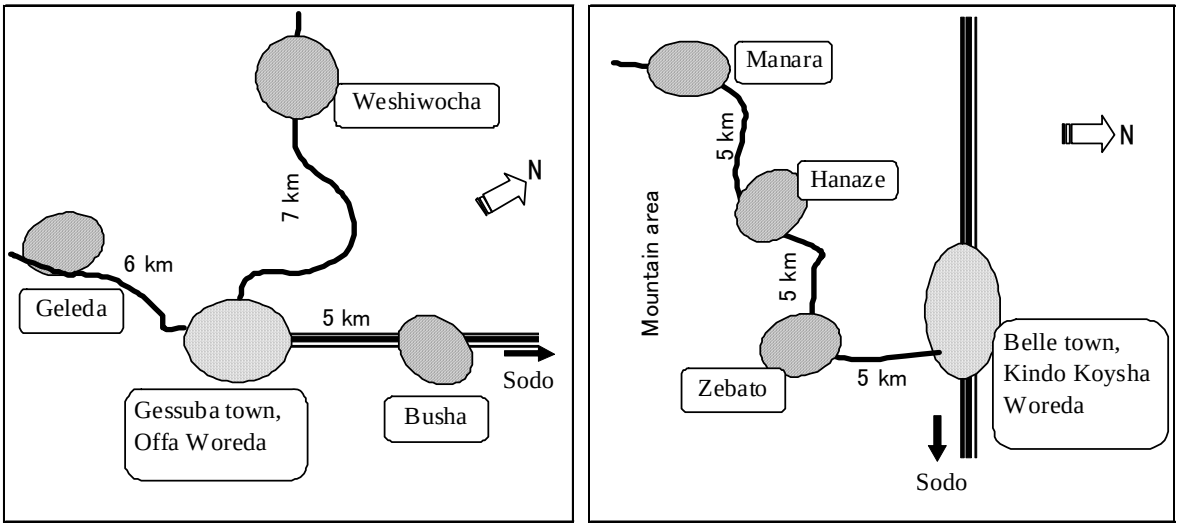
1. Surplus cassava farmers (farmers plant cassava for sales purpose)
2. Existing farmers' groups having some group activities
3. Willingness to participate in adaption of new drying processes of cassava
4. Willingness to challenge collective marketing
5. The areas where washing water is available during the dry season

As the result, kebeles and farmers' groups were selected as shown in table below:

Woreda	Kebele	Farmers' group	No. of household
Offa	Busha	2	30
	Weshiwocha	2	30
	Geleda	2	30
Kindo Koysha	Zebato	2	20
	Hanaze	2	20
	Manara	2	20
Total	6 kebeles	12	150

Note: One farmers' group in Offa has 15 members and 10 members in Kindo Koysha woreda.

Location map of the woreda and the kebele



The features of the woreda and the kebele

Offa woreda: Located 20km west of Sodo city and surrounded in rolling hills. Maize and cassava dominate crops production. 1. Busha kebele: Along the national road and easily accessible	Kindo Koysha woreda: Located 15km north-west of Sodo at the bottom of the Omo river valley. The target kebeles are in rugged mountainous areas. Early maturing type cassava is widely planted. 1. Zebato kebele: In hilly area and spring water is

2. Geleda kebele: Access road to Gessuba town is very rough and impassable during the rainy season 3. Weshiwocha kebele: Access road to the town was improved in 2010. A lot of cassava is planted but most of them are traditional non-early maturity type.	abundant. 2. Hanaze kebele: Cassava planting covers hilly land. Most of cassava is early maturity type. 3. Manara kebele: Located on top mountain area. The difficult accessibility to Belle town leads collective works.

1-5. Develop fresh cassava cutting machine

The University Industry Linkage & Technology Transfer project in Hawassa University developed multi-knives kocho cutting equipment to break up fibers in kocho. Cognizant of this, the study team approached the University to develop a manually-operating fresh cassava cutting machine, which would cut cassava into small pieces of around 10mm diameter, based on the University's basic multi-knives technology. The machine should be easily operated by farmers. Several trials were made in March 2011 and the final version was developed and sent to Offa woreda for the trial by farmers in May.

Hawassa University developed fiber cutter with multi knives for Kocho.

The Study team modified original Kocho cutter to fresh cassava cutter by installing fixed and rotating blades.

Proto type Cassava Cutter fabricated after many performance tests, sent for tests and monitoring by farmers in April.

Cutting test in front of farmers in Offa woreda.

1-6. Supply necessary equipment and materials to selected 12 farmers' groups

Delivery of machines and equipment to target farmers groups in Wolayita zone was arranged on 21-23 of July. As it was not possible for a truck to reach Geleda kebele in Offa woreda and the 3 target kebeles in Kindo Koysha woreda due to the extremely bad road condition in rainy season, some equipment were unloaded at woredas' offices. Later, the team members of WoMC delivered those machines and equipment to the kebeles.

Total 24 units of fresh cassava cutter (2 units/ farmers group) were manufactured at a local ironworks in Hawassa.

Two units of fresh cassava cutting machine, 4 drying sheets and one weighing scale were delivered to each farmer's group in July 2011.

Table PP04-1 List of Machines and Equipment Supplied to the Target Groups

	Items	Q'ty for 1 group
Machines and equipment	Fresh cassava cutter	2 units
	Plastic sheets for sun-drying (4x5M)	4 sheets
	Hanging type weighing scale. Max. 150kg	1 unit
	Locally made knife	10 pieces

2-1. Explanation of the project contents to cassava traders

2-2. Assist establishing and registration of traders group

Dry cassava is both for human consumption as well as for industrial use. People use dry cassava to mix it with teff to bake injera. In this case, they prefer granulated dry cassava of around 10mm diameter over powered one, because if dry cassava is powdered, it is difficult to mix it with teff evenly before grinding. In order to develop the market for dry cassava, PP04 made a plan to provide a traders' group with a dry cassava crusher with which they would be able to produce granulated dry cassava.

2-3. Development of dry cassava crusher for traders group

JICA Study Team developed with Salem Company in Hawassa a simple crushing machine to make a large size dry cassava into smaller ones with minimum generation of powder from April 2011. This company has experience in developing dry maize cob crusher. The Study team developed Pin Mill type crusher as the first trial but it was found that too much powder was generated. Then

Study Team and Salem Company developed a Drum Type Crusher. This type showed better performance in cassava crushing. Study team delivered this crusher to Sodo for installation in a grind mill belonging to a member of the traders' group.

Pin Mill type dry cassava crusher.

Performance test of Pin Mill Crusher.

Drum type crusher was developed after repeated performance tests.

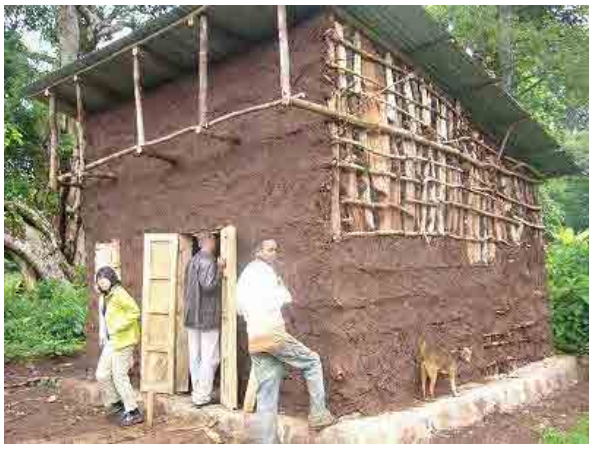
The crusher was installed at a grind mill in Sodo city.

3-1. Construction of storage by farmers' groups

The Study team requested all farmers' groups to construct a small storage house for keeping dry cassava for bulking sales. Study team supplied construction drawings, materials such as galvanized sheets, iron material, cement and labor costs for a carpenter and a mason, whereas farmers' groups contributed wood, mad, stones and labor. The storing capacity is 50 quintal with a size of 4 by 5 meters. Most of the storage houses were completed already.

Table PP04-2 List of Construction Materials Supplied to the Target Groups

	Items	Q'ty per group
Construction materials	Galvanized sheets	21 pcs
	Nail and hinges	1 lot
	Cement	7 bags
	Sand and stone	1 lot



A few groups out of 12 groups could not complete the construction in the end.

Completed cassava storage house at Busha Kebele, Offa Woreda.

3-2. Technical training to farmers groups

The farmers' training was conducted in September 2011 before the harvest season to come. The training contents and participants of this training are as follows;

1) Training topics

- Current status of cassava processing, marketing and challenges (brain storming)
- Quality control of dry cassava
- Handling and usage of machines and equipment supplied by the JICA Study Team
- How to use a storage house and record-keeping
- Collective marketing and increment of profits
- Quality assurance and member contribution for operation costs

2) Trainers and participants

The sub-leader of the Project Team, local assistant of JICA Team and WoMC staff members arranged the training programme.

Table PP04-3 Numbers of the Participants by the Target Groups

Offa woreda	Male	Female	Total
Woshiwocha Kebele	27	30	57
Busha Kebele	26	28	54
GeledaKebele	30	30	29
Sub total	83	88	171
KIndo Koysha woreda			
Zebato Kebele	10	8	18
Hanaze Kebele	20	19	39
Manara Kebele	20	17	37
Sub total	50	44	94
Total	133	132	265

3) Training outcomes

It was confirmed that all participants were fully aware of the project objectives and agreed that they would work collectively for production of high quality dry cassava and its marketing in order to fetch a good price.

Training in Busha kebele, Offa woreda in Sep.2011. 50% of the participants were female.

Demonstration of fresh cassava cutter during the training at Woshiwocha kebele, Offa woreda.

3-3. Monitoring of farmers' practices and advising necessary technical practices

4 farmers' groups out of total 6 groups in Kindo Koysha woreda started clean dry cassava production using the fresh cassava cutter in October 2011, immediately after the training programme. The remaining 2 groups also started the same works in November. The Study Team provided additional materials upon the request from farmers' groups such as washing basin, water transporting cans and new PP bags for bulking.

Table PP04-4 Additional Materials Supplied

Items	Q'ty per group
Plastic basin	4 pcs
Water can, 20 liters	4 pcs
PP bags for 100kg	50bags

2 farmers' groups in Kindo Koysha are actively involved in processing and bulking of dry cassava. Some farmers started agri-business by buying fresh cassava in the field of neighbors and hiring workers for harvesting, peeling, cutting, drying and storing of dry cassava.

On the other hand, nobody in Offa woreda started a commercial activity using the machines and equipment supplied until January 2012. Farmers in Offa woreda are dull in response in spite of several approaches conducted by the Study team and WoMC officers. Farmers made excuses by saying that the cutting machine was very heavy and difficult to operate. The Study Team together with WoMC officers took some farmers in Offa to Kindo Koysha woreda for experience sharing in

February 2012. After that a few farmers in Offa woreda started trial production of clean dry cassava using supplied machine and equipment at last. Every cassava farmers in Offa who produces dry cassava for selling have standard practices. They cut cassava into large chops using a knife and drying them on ground or on a small plastic sheet. There are more than 20 cassava traders in Gessuba town, a center of Offa woreda. All deal with only those cassava of large chops, thus show no interest in clean, small size cassava. This type dry cassava can be said as Offa Standard. So farmers in Offa cannot find a trader who offers better price to such high quality dry cassava. The Study Team canvassed traders in Sodo city to purchase it but it has not been materialized yet as there is no production in Offa.

Many warehouses for dry cassava surrounding the marketplace in Gessuba town.

Dry cassava is dirty and black mold and mud is adhered. Handling method is no longer for foodstuff.

3-4. Improve fresh cassava cutting machine and supply it to selected farmers groups

The Study Team decided to improve fresh cassava cutters which had been fabricated in a small ironwork in Hawassa because the precision of machine was poor. There was a big gap between a machine body and the edge of knives, causing poor discharge of small pieces of cassava from the cutter. The requirement for a new model was to maintain the gap to be less than 5mm only. The Study Team found that Salem Company in Hawassa had higher precision skills for fabricating machine. Therefore, the Study Team placed an order for another 8 units of fresh cassava cutter. Those 8 units were delivered to the target groups; 5 units to Kindo Koysha woreda and 2 units to Offa woreda. Remaining 1 was delivered to Rural Technology Center, Governmental factory under BoA, in Walayita zone together with fabrication drawings so that they will be able to make a copy unit in order to meet local demand. The fabrication cost of new type Cutter was 2,500Birr which was 50% higher than that of old type.

Improved model of cassava cutter. The body shape is circular for easy cutting and discharging.

The installation angle of fixed blades is 45 degree for smooth discharge. The gap between the screen and edge of knives needs to be 5mm.

4-1. Assist saes promotion of farmers' groups

The Study Team distributed dry cassava samples produced by farmers in Kindo Koysha to grind-mills in Sodo, Shashamane and Hawassa for establishment of market linkage. Most of grind-mill owners were keen to purchase this new type clean and sanitary product but they were not able to present buying prices to farmers before hand because the price fluctuates from year to year and from season to season. It required further market development work including Addis Ababa markets by Government officers, especially by BoMC and WoMC

In a farmers house at Manara kebele, Kindo Koysha. He produced 30sacks already and was going to sell with neighbor farmers after 60 sacks are bulked for one Isuzu track. Dry cassava quality is excellent.

In a warehouse of traders located at marketplace in Belle town, Kindo Koysha. Unlike Offa, handling is better and product is kept clean for human consumption.

5-1. Construction of a worksite by a traders' group

5-2. Training on technical and marketing issues to the traders' group

The traders group constructed a worksite for cassava crushing in Sodo in November 2011. The worksite has a size of 10 x 20 and 4 meters height, big enough for the purpose. However, the group

did not yet start cassava crushing work using the crusher as of the end of February 2012. Presently they use the crusher to process large size dry cassava into small pieces so as to make it ready for milling. It can be said that until the market demand for small size dry cassava is increased, traders' business to produce and supply such products will not be active. This approach adopted by the Study Team might be premature under the current conditions.

6-1. Arrangement of round table conference for mutual understanding among farmers, traders, consumers groups and Gov. officers.

6-2. Assistance for establishments of marketing linkages between farmers groups and traders.

The Study Team conducted a round table conference among traders, farmers' groups and WoMC officers in Kindo Koysha in March. The Study Team invited two (2) cassava traders, one from Hawassa and the other from Shashamane, to Kindo Koysha woreda on March 2-3 to develop and strengthen a market linkage. Traders and farmers groups discussed it and became eager to work together. The administrator and WoMC officers of Kindo Koysha woreda are also very cooperative in developing new markets of their products.

Traders of Hawassa inspect the quality of dry cassava produced by farmers in Kindo Koysha.

Farmers demonstrate cutting work of fresh cassava to traders from Shashamane.

6-3. Assist sales promotion to the traders' group

As explained in 5-2 above, a traders' group did not start producing clean and small size cassava chips using the supplied crushing machine yet. Because of that, no assistance to traders' group for sales promotion was extended from the Study Team but the Team initiated the discussion between farmers' groups and traders for the establishment of market linkage.

7-1. Preparation of posters and their distribution to grind mills

The Study Team developed campaign posters for clean, dried cassava chips. 100 pieces of poster will be distributed mainly to grind-mills in Shashamane, Hawassa, Sodo and other towns for the promotion of clean and sanitary dry cassava for human consumption.

The sample poster is attached to this report.

(9) Achievement of Project purpose and Expected output

1) Project purpose

The project purpose of PP04 was summarized in the PDM as follows;

1. Profits of farmers and traders by improvement of dry cassava quality are increased.
2. Market linkage is developed between producers, traders and retailers.

The project purpose 1 and 2 are yet to be achieved. Profits of farmers and traders seem to be increasing by producing/selling high quality dry cassava because a lot of consumers are willing to pay higher prices for it than ordinary ones. In fact, farmers in Kindo Koysha now receive better prices from the sale of clean and small dry cassava in their local markets.

Development of market linkage between farmers' groups and traders also just started. It needs further efforts of farmers' groups and local officers, especially by WoMC to develop the linkage.

2) Expected output

The achievements of expected output are summarized as follows.

Table PP04-5 Achievement of Expected Output

Expected Output	Achievement (Indicator)	Source of Indicator
1. Cassava cutting machine is developed and distributed to the target farmer groups.	1. Delivered 2-3 units to each group in Kindo Koysha woreda. Total was 16 units. 2. Delivered 2-3 units to each group in Offa woreda. Total was 14 units. 3. Rented 1 machine to women's group in Kindo Koysha. However, it was difficult for women to operate machine. Thus, WoMC decided to deliver this unit to Hanaze kebele, where farmers requested additional machines 4. Delivered 1 unit each to Hawassa University as compensation to their collaboration and to Rural Technology Center, BoA in Sodo for their duplication to meet local demand.	Report of the Study Team and receipt of the beneficiaries.
2. Cassava crusher is designed and developed and distributed to the traders association.	1 unit of newly developed cassava crusher was delivered to a traders group in Sodo.	Report of the Study Team and receipt of the beneficiaries.
3. Quality dry cassava is produced by target farmers using introduced machines.	Farmers' groups in Kindo Koysha have produced significant volume of high quality dry cassava. But farmers' groups in Offa woreda produced almost nil up to now. Refer to the table below.	Interview results of farmers and WoMC officers.
4. Quality dry cassava is marketed by target farmers through group marketing.	Some of farmers' groups in Kindo Koysha started collective sale. Refer to the table below.	Interview results of farmers and WoMC officers.

Expected Output	Achievement (Indicator)	Source of Indicator
5. Quality dry cassava is processed and marketed by the traders association using introduced machines.	Installation of the machine is finished but full operation did not start yet due to power supply troubles in Walayita zone.	Interview results to the traders group and Team visit to their workplace.
6. Mutual understanding enhanced over the dry cassava marketing between farmers and traders.	Study team arranged a stakeholders meeting in March 2012 among farmers' groups, traders and WoMC for further collaboration among them.	Activity results by Study Team.
7. Consumers awareness on dry cassava is enhanced.	Study Team produced 100 pieces of campaign poster and distributed them to main grind mills in Hawassa, Sodo and Shashamane.	Activity results by Study Team.

The Study Team evaluated the achievement of Project Purpose and Expected Output through direct interview survey in addition to questionnaire survey using the questionnaire attached to the targeted beneficiaries and officers at ZoMC and WoMC. Following clauses explain the situations.

The situation of using machines and equipment and production and selling by farmers

A big difference in the achievement was observed between farmers' groups in Kindo Koysha and Offa woreda. In addition, there are active farmers and inactive farmers within a group. WoMC office in Offa woreda ordered farmers' groups in Busha kebele to return all machines and equipment supplied to the kebele office as they didn't use those at all. WoMC of Offa woreda promised to find another farmers' group in woreda who may be interested in and capable of participating in this project. The issue of this project was the number of farmers who participated was limited in the 1st year operation.

Table PP04-6 Results of Production by the Target Groups (up to 20 Feb. 2012)

Farmers' group	No. of quintal	No. of participants	Selling by group or individual
Offa Woreda			
Weshiwocga-FMG 1	0	0	--
Weshiwocga-FMG 2	3	1	Individual
Busha- FMG 1	0	0	--
Busha- FMG 2	0	0	--
Geleda-FMG 1	2	1	Individual
Geleda-FMG 2	1	1	Individual
Offa Woreda Subtotal	6	3	
Kindo Koysha			
Zebato- FMG 1	10	2	Individual
Zebato- FMG 2	27	2	Individual
Hanaze-FMG 1	57	4	Group

Farmers' group	No. of quintal	No. of participants	Selling by group or individual
Hanaze-FMG 2	29	5	Individual
Manara-FMG 1	28	2	Group
Manara-FMG 2	48	6	Group
Kindo Koysha Subtotal	199	21	
Total	**205**	**24**	

Use of the cutting machine and storage house

Farmers in Offa replied that the machine required force to cut cassava, thus it was difficult to operate while farmers in Kindo Koysha answered it was very easy to use. Their answers clearly indicated who was motivated and who wasn't.

All farmers expressed their concerns about the security of the storage house although the construction site was decided by the farmers themselves. The farmers' group 2 in Manara kebele explained that they will use this storage house just before the shipment and member farmers will stay overnight there as an anti theft measure.

Table PP04-7 Evaluation of the Cutting Machine and Storage by the Target Groups

Farmers' group	Cassava Cutter	Use of the storage house
Offa Woreda		
Weshiwocga-FMG 1	Difficult	Not in use yet
Weshiwocga-FMG 2	Normal	Not in use yet
Busha- FMG 1	Easy but no market available	Not in use yet
Busha- FMG 2	Difficult	Not in use yet
Geleda-FMG 1	Difficult	Not in use yet
Geleda-FMG 2	Difficult	Not in use yet
Kindo Koysha		
Zebato- FMG 1	Difficult	Using（Constructed in leader's premise）
Zebato- FMG 2	Easy	Not in use yet (security matter)
Hanaze-FMG 1	Easy	Not in use yet (security matter)
Hanaze-FMG 2	Easy	Not in use yet (security matter)
Manara-FMG 1	Difficult	Not in use yet (security matter)
Manara-FMG 2	Easy	Will use just before the shipment

Change in selling prices and an evaluation of the project

There is no contribution to increment of farmers' income by this project in Offa, while some farmers in Kindo Koysha appreciated the increase in selling prices of dry cassava; however, there are farmers who benefit from this project and those who don't in the same villages. Leaders of farmers' groups explained during the interview that those groups, which made a decision on when and who to sell their produce only after checking market information, successfully benefitted from price increase. On the

other hand, in some groups' farmers individually sold produce in a local market without bulking them with other members. In such a case, they hardly benefit from any price increase.
Proactive work of a group and its accessibility to marketplace influenced how a group benefitted from this project.

Table PP04-8 Changes in Selling Prices and Evaluation of the Project by the Target Groups

Farmers' group	Change in selling prices	Project evaluation
Offa Woreda		
Weshiwocga-FMG 1	No production	No market available
Weshiwocga-FMG 2	Slightly increased	No market available
Busha- FMG 1	No production	No market available
Busha- FMG 2	No production	No market available
Geleda-FMG 1	No production	No market available
Geleda-FMG 2	No production	No market available
Kindo Koysha		
Zebato- FMG 1	No change	Support for market linkage creation is essential
Zebato- FMG 2	Forecast high price (5.5 Birr/kg)	Market linkage creation is essential
Hanaze-FMG 1	Min. 1 Birr/kg is higher	Very good project but the number of the machine is not enough
Hanaze-FMG 2	Min. 1 Birr/kg is higher	Very good project
Manara-FMG 1	Min. 1 Birr/kg is higher	Good project but needs financial supports
Manara-FMG 2	Min. 1 Birr/kg is higher	Good project but needs continuous supports

(10) Project Evaluation

Effectiveness:

- The effectiveness of this project in Kundo Koysha woreda and in Offa woreda is very much different. Farmers in Kindo Koysha started producing clean and small size dry cassava for value addition using machine and equipment supplied by this project. There are market demands in this woreda and Sodo where the farmers have access. Some active farmers started agro-business by processing, drying and selling cassava using equipment from this project. The effectiveness of this project in Kindo Koysha woreda is very high.
- On the other hand, the effectiveness of this project in Offa woreda is almost a nil result. Farmers in Offa could not find a market where farmers can sell clean and small dry cassava chips with better pries. Gessube town of Offa woreda is a collection center for dry cassava in this area. However, traders in Gessube are not interested at all in clean and small dry cassava. Traders do not care about the quality of dry cassava. Very dirty dry ones with mud and black mold for industrial glue in Addis and slightly dirty cassava is sold in markets mainly in Addis as an additive to teff flour for cooking injera after being ground into powder.

- The crushing business of large size cassava chips to small size by traders' group in Sodo is not matured yet. The market demand for such cassava is limited and consumers are not aware of high quality dry cassava. The effectiveness of crushing business by traders is low.

Efficiency:

- The efficiency of this project in Kundo Koysha woreda and in Offa woreda is also very much different. Most of the machines and equipment are well utilized in Kindo Koysha. The timing of supplying those machines and equipment was appropriate for their harvesting time. The efficiency of this project in Kindo Koysha is very high.
- It was wasted input for Offa woreda because almost nobody used the machines and equipment supplied by the project. The efficiency of this project in Offa is very low.
- The cassava crusher supplied to a traders' group in Sodo also shows very low efficiency.

Impact:

Some farmers in Kindo Koysha started agro-business using machines and equipment supplied by this project. They buy fresh cassava in a neighbor's field and process it by hired laborers for value addition.

Sustainability:

- The sustainability of this project in Kindo Koysha is high because farmers started their own profitable business.
- Manara kebele is located on the top of a hill and accessibility to the market is very poor. Farmers in Manara try to sell their products together by bulking. On the other hand, in Zebato kebele located near the marketplace in Belle town, farmers carry their cassava products individually. There is a question whether farmers in Zebato kebele can reserve funds for repairing or replacement of machines and equipment under such individual sale.
- Many farmers express their wishes for continuous support, especially for the development of the market linkage. As farmers who live in remote areas have very limited information from buyers or consumers outside, they will require continuous support for the market linkage from woreda office (WoMC).
- Increasing consumers' demand in urban areas for clean, small and sanitary dry cassava as an external factor, the production and number of farmers participating in this type project will be increasing and the sustainability will be enhanced.

(11) Recommendation

To farmers/WoMC in Kindo Koysha:

1) Sustain producing and developing market linkages
2) Keep high quality all the time
3) Develop group activities such as bulking, saving and rotating usages of equipment among the members.

4) WoMC has to work hard to develop the markets outside woreda for farmers
5) WoMC has to extend similar project to other kekeles in the woreda

To farmers/WoMC in Offa:

1) Produce clean and hygienic dry cassava
2) Develop new markets for high quality dry cassava outside Offa
3) Offa WoMC needs to develop new markets and consumers in collaboration with Kindo Koysha woreda.

To BoMC/ZoMC:

1) Secure this project's sustainability
2) Develop consumers' markets in Addis Ababa for clean dry cassava from SNNPR
3) Extension this project to other cassava producing zone/ woreda

(12) Lessons learnt

Organization matters:

- The implementation of PPs aimed not only the verification of the tentative Master Plan but also to provide on-the-job training for counterparts. However, their participation in the implementation was not very active in general. The team leader of PP04 did not perform his duty as a leader at all. The philosophy or idea of JICA to transfer Japanese technologies or experiences to counterparts at Bureau during the field works may not be realistic in SNNPR.
- The selection of target farmers' group might be too quickly done. Before the selection, the team should evaluate the willingness and ability of candidate farmers' groups in more details. Some trials might be useful before the final selection.
- The traders' group members are busy in their daily work and their efforts to develop new business were limited. During formation works of traders' group, the Study Team should have spent more time to gain their understanding and to facilitate their active participation in the new business.

Operation and management:

- The project was properly designed and carried out, corresponding to the harvesting and processing time of cassava.
- Training program for farmers' groups for record-keeping and maintenance or replacement of equipment needs to be organized repeatedly.
- WoMC needs to mobilize farmers' groups for collective marketing.
- BoMC/ZoMC and WoMC needs to assist farmers' groups for market linkage as the mobility of most farmers is limited in their vicinity.
- NGO or Donor agencies are required to assist expansion of this project to other target groups/areas as local Government has limited project budgets and subsidy system.

Facility and equipment:

- The storage houses are not utilized at all due to security issues. Farmers have to find a way for security while keeping the products in storage.
- The development of a smaller type of fresh cassava cutter is necessary for women's use.
- A locally fabricated cassava cutter is good for sustainability.
- Local ironworks have limited skills in machine fabrication, constant supervision is required to assure quality of final product.

Financial and economical aspects:

- Farmers' groups have no capacity to perform proper record-keeping yet. Assistance to them on this issue from WoMC or outside sources is required.
- Most farmers' groups do not save or reserve funds for repairing or replacement of machines and equipment such as repairing cutting machines and replacement of plastic sheets. Assistance to them on this issue from WoMC or outside sources is required.

Training:

- Operation training conducted for farmers was effective through Amharic lectures and actual demonstration of the machine using fresh cassava for the participant full understanding.
- Women's participation to the training was more than 50%, which accelerated their understanding of this project.
- The training was conducted at each kebele. Trainers visited the training site so the number of trainees was more than expected.

Others:

- There are consumers and traders of clean and small size dry cassava in Gelle town, a center of Kindo Koysha woreda, while nobody is interested in such clean cassava for consuming or trading in Gessuba town, a center of Offa woreda. Needs finding survey in Offa woreda was not thoroughly done before this project started in that woreda.
- Through this project implementation, there are farmers who earn benefits and who do not enjoy any earning from this project in the same group. This accelerates disparities in wealth in a village.
- The leader of farmers' group 2 in Hanaze kebele found that it would be easier to cut fresh cassava one day after it was peeled than immediately after being peeled. This technique was immediately spread to other farmers in neighboring kebeles.
- As the production yields/acreage of cassava is very high (about 20-30 metric ton per hector), if traders and suppliers in large cities such as Addis Abeba are involved in cassava trading for foodstuff consumption, this project eventually may mitigate chronic food-shortage in Ethiopia.

Table PP04-9 PDM of PP04

PROJECT SUMMARY	INDICATOR	SOURCE OF INDICATOR	IMPORTANT ASSUMPTION
OVERALL GOAL : Profit increased by introduction of high value added marketing	Price differences of high quality dried cassava and ordinary dried cassava being marketed.	Retail prices in markets	
PROJECT PURPOSE : 1. Profits of farmers and traders by improvement of dried cassava quality are increased 2. Market linkage is developed between producers, traders and retailers.	1. Income of farmers and trades targeted by sales of high quality dried cassava 2. Marketing routes of dried cassava from targeted farmers groups to traders/ consumers	1. Interview survey to targeted farmers groups and traders association 2. Interview survey to targeted farmers groups, traders and grind mills/ consumers	▪ Demand for high quality dried cassava is stable and consumers willingly pay its quality. ▪ Traders/consumers will pay reasonable prices to producers.
EXPECTED OUTPUT : 1. Cassava cutting machine is developed and distributed to the target farmer groups. 2. Cassava crusher is designed and developed and distributed to the traders association. 3. Quality dried cassava is produced by target farmers using introduced machines. 4. Quality dried cassava is marketed by target farmers through group marketing. 5. Quality dried cassava is processed and marketed by the traders association using introduced machines. 6. Mutual understanding enhanced over the dried cassava marketing between farmers and traders. 7. Consumers awareness on dried cassava is enhanced.	1. Number of Fresh Cassava Cutter produced and utilized by farmers groups 2. Number of Dry Cassava Crusher produced and utilized. 3. Production volume of dried cassava cut by machines introduced. 4. Volume of produced dried cassava marketed by target farmers groups 5. Volume of produced dried cassava marketed by traders association 6-1. Numbers of traders whom farmers' groups sold dried cassava and their way of communication 6-2. Issues discussed and decisions made between farmer groups and trader association. 7. Number of leaflets distributed	1. Monitoring survey to targeted farmers groups 2. Monitoring survey to targeted traders association 3. Monitoring/ interview survey to targeted farmers groups 4. Monitoring/ interview survey to targeted farmers groups. Check record books of farmers groups if available. 5. Monitoring/ interview survey to traders association. Check record books of association if available. 6-1. Monitoring/ interview survey to targeted farmers groups and traders. 6-2. Minutes and any other documents 7. Record of the distribution	

ACTIVITIES :	INPUT [FROM SNNPR]	IMPORTANT ASSUMPTION
1-1. Explanation of the contents of PP04 to Steering Committee (SC) and acquire their consent 1-2. Appointment of project team members (BoMC, MoA, ZoMC, WoMC) 1-3. Explanation of the project contents to ZoMC, WoMCs and acquire their consent 1-4. Selection of targeted farmers groups: 2 Woreda of Walayita, 3 Kebele of selected Woreda, 2 farmers groups from each Kebele. 1-5. Development of fresh cassava cutting machine. 1-6. Supply machines and tools to 12 farmers groups. 2-1. Explanation of the project contents to Traders 2-2. Assistance for the establishment of traders group 2-3. Development of dried cassava crusher for traders association 3-1. Construction of storage by farmers groups 3-2. Technical training to farmers groups 3-3. Monitoring farmers' practice and advising necessary technical practices 3-4. Improve fresh cassava cutting machine and supply it to selected farmers groups 4-1. Assist sales promotion by farmers' groups 5-1. Construction of work area by traders association 5-2. Training on technical and marketing issues to traders association 6-1. Arrangement of round table conference for mutual understanding among farmers, traders, consumers groups and Gov. staffs 6-2. Assistance for establishment of marketing linkage between farmers groups and traders association 6-3. Assist sales promotion by traders 7-1. Preparation of leaflets and its distribution to grind mill	1. Selection and appointment of project team members 2. Personnel costs of the project team members 3. Construction of stores by farmers groups and work area by traders association 4. Installation and operation cost of supplied equipment 5. Public relation and canvassing for markets [FROM JAPAN] 1. Cost for technical training to farmers groups and traders association 2. Development and procurement of equipment for farmers groups and traders association 3. Technical training fee to farmers groups and traders association 4. Experts (Cassava processing, marketing) 5. Cost of roundtable conferences 6. Preparation cost for leaflets	▪ Local manufactures can fabricate prototype machine with acceptable prices and quality ▪ Consumers are willing to pay for high quality dried cassava **PRECONDITION:** ▪ Consumers' demand for dried cassava is stable in Ethiopia/ SNNPR ▪ This project meets Government policy/ requirement ▪ SNNPR Gov. will work together with JICA Study team on this project ▪ Farmers want to increase their income through sales of their surplus cassava ▪ Traders want to increase their markets of dried cassava ▪ Local manufactures can produce such simple machines

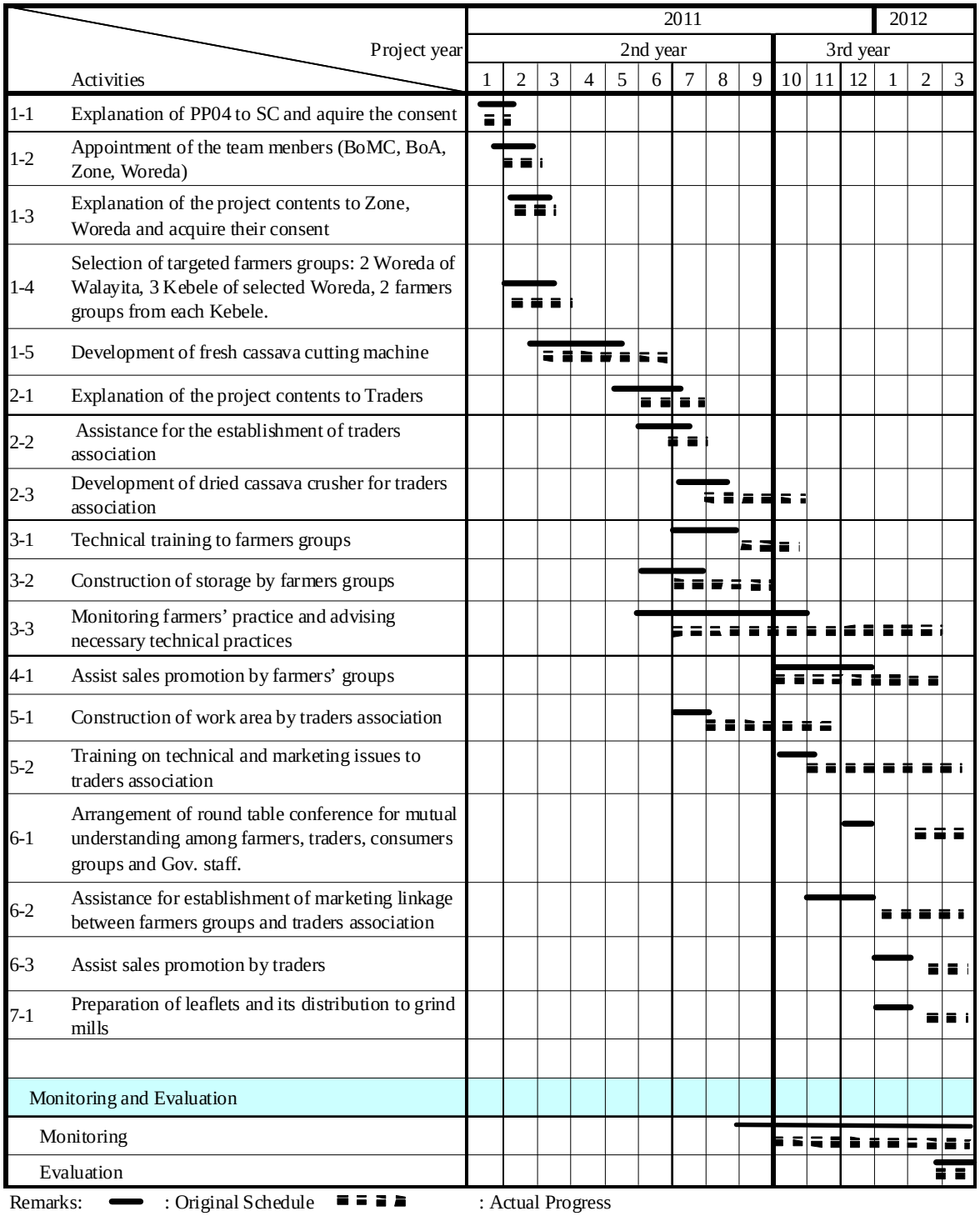
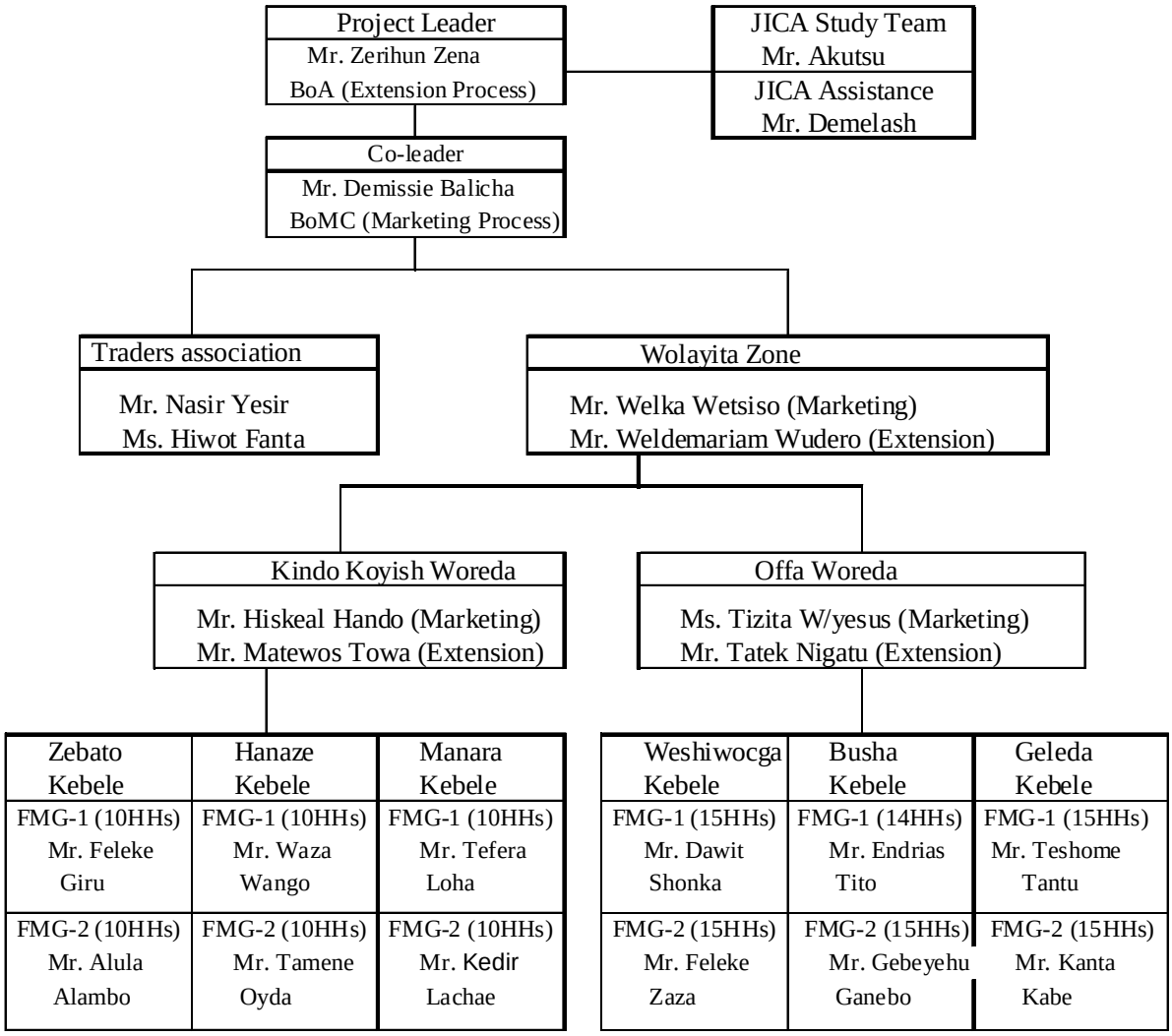


Figure PP04-1 Schedule and Progress of PP04



Note: FMG stand for Farmers Marketing Group (formerly they called as FDG: Farmers Development Group)
Group leaders are changed from original nominees to actual participants in Kindo Koysha but no change in Offa.

Figure PP04-2 Organization Chart for Planning and Implementation of PP04

Annex: Distributed poster to the Grind mills

PP05 : Production of "Clean" Dried-Ginger and Establishment of Linkages with Buyers

(1) Objective of the Project

1. Introduce practical washing methods to produce quality dried ginger by target farmer groups.
2. Built the linkage between export-oriented traders (quality-conscious buyers) and target farmer groups.

(2) Target Crops

Ginger

(3) Beneficiaries

Ginger producing farmers/farmer groups, Ginger traders

(4) Project Sites

Hadaro Tunto woreda in Kambata Tembaro zone
Boloso Bombe woreda in Wolayita zone

(5) PDM (Project Design Matrix)

As shown in Table PP05-6 at the end of this section.

(6) Organization of Planning and Implementation

1) Revised organization chart of project implementation is shown in Figure PP05-2.
2) PP05 is implemented at Hadaro Tunto woreda and Boloso Bombe woreda. Target farmer groups are Boloso Bombe Primary Cooperative for Boloso Bombe woreda; and Abay Ginger Production and Marketing Group (Abay Group) for Hadaro Tunto woreda.
3) Abay Group is an autonomously-formed group of 26 ginger farmers-cum-traders. The group has been formed in 2011 and each member contributed 45,000 birr.
4) WoMC C/P of Boloso Bombe WoMC was changed in June 2011.

(7) Schedule and Progress of the Project

1) Component of activities

The following four categories of activity were planned, but the activities under category 4 were not implemented.

1. Determination of farmer groups to work with	: May 2011 (Boloso Bombe woreda) Oct. 2011 (Hadaro Tunto woreda)
2. Introduction of practical washing methods	: Jan. 2011 – Dec. 2011
3. Support for business operation and management	: June 2011 – Dec. 2011
4. Support for market linkage building	: Not implemented

2) Activities plan

Under-listed activities were planned. The implementation schedule and actual progress is shown in Figure PP05-1.

Activities implemented:

1. Determination of farmer groups to work with:
   - 1-1. Monitor the washing activities in the target sites (during Jan-March)
   - 1-2. Meeting with WoMCs and candidate farmer groups
2. Introduction of practical washing methods
   - 2-1. Check the results of washing tests done by farmers group
   - 2-2. Design and test washing methods
   - 2-3. Design the washing & drying facility to be introduced
   - 2-4. Procure/manufacture equipment, and Construct washing & drying facility
   - 2-5. Training on usage of washing & drying facility and equipment
   - 2-6. Evaluate the effectiveness of facility and equipment
   - 2-7. Further improving of facility and equipment
3. Support for business operation and management
   - 3-1. Participatory planning of business plan
   - 3-2. Prepare necessary business formats
   - 3-3. OJT-mode training on management of washing & drying operation

Activities not implemented:

4. Support for market linkage building; especially with traders in export marketing chain
   - 4-1. Collect information to identify target buyers
   - 4-2. Support farmers' canvassing and negotiation on business terms

Planned activities for support for market linkage building were not implemented for the following reasons.

- Boloso Bombe Coop. intends to sell dried ginger to Damota Wolayta Farmers Coop. Union.
- Hadaro Abay Group is a group of ginger traders and support for linkage building was not asked for.

(8) Results of Activities

In this section, results of each activity are described in the order corresponding to the activities in PDM. Please note that activities are not listed chronologically in the PDM, therefore, the descriptions of results in this section are also not chronologically.

1. Determination of farmer groups to work with:

1-1. Monitor the washing activities in the target sites

Initially it was planned to select target groups from the AMIP ginger marketing groups. In Hadaro

Tunto woreda, four (4) groups which did washing in 2010/11 season (Oct. 2010 – Mar. 2011) were considered as primary candidates. Washing & drying work of those groups were monitored in Feb. 2011.

1-2. Meeting with WoMCs and candidate farmer groups

Boloso Bombe

There were no active AMIP ginger marketing groups in Boloso Bombe woreda and the team decided to propose that Boloso Bombe Primary Cooperative work with the project. Discussion with the executive board members of the cooperative was conducted on 02 May 2011, and consent to work with the project (enthusiastic welcome) was confirmed.

Hadaro

None of the primary candidates showed strong intent to try washing & drying in 2011/12 season as of Feb./March 2011. In October 2011, WoMC suggested the team work with Abay Group. After having an interview with key members and checking the site conditions, the team decided to work with Abay Group. In the initial discussion, it was confirmed that the group would construct drying tables, warehouse, fencing, power installation by themselves, and JICA study team would provide support for washing (washing facility and necessary training).

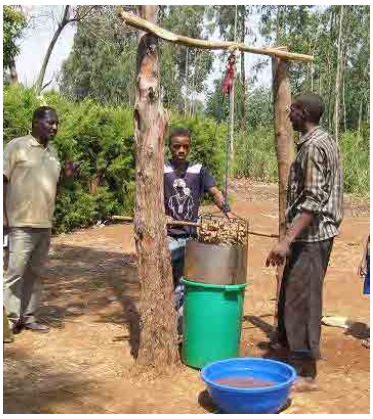
2. Introduction of practical washing methods

2-1. Check the results of washing tests done by farmers group

Several washing methods were tested at Harado Tunto woreda with the help of farmers. Through the testing, the following results were obtained.

- "Up-and-down shaking cage method" was not feasible in viewpoint of required muscle strength and not enough washing effect (farmer's comment).
- "Rotary cage method" can not achieve the same cleanliness as "Manual brush washing" can.
- "Soak in water" plus "Manual brush washing" removed most of soil on roots; it looked clean enough. However, ginger roots had complex shape and soil remained in small gaps, and it was hard to remove such soil completely with brush washing.
- It was observed that women removed the soil in small gaps with sticks from tree branch at final stage of washing work, scratching soil in gap by stick one by one (lower left photo). This method removed the soil in the gap but it required a lot of labour and time.
- As seen in motorized ginger washing machine which are used in Japan, "Jet-nozzle + constant pressure water" is the most efficient and sure (reliable) method to remove soil in the gap.


Remove soil in small gaps with stick


Up-and-down shaking cage


Rotary cage

2-2. Design and test washing methods

Testing was continued at BoMC compound. Searching for necessary equipment/materials conducted in Hawassa, Shashamane and Addis Ababa.

Based on the results and observation, “Soak in water” ➔ “Manual brush washing” (remove most of soil) ➔ “Jet-nozzle + constant pressure water” (final wash to remove soil in gaps) was considered as ideal washing process. Hence, “Jet-nozzle + constant pressure water” system was tested by trial-and-error method. A trial of “Filter the used-water to re-use for jet-nozzle washing (water recycle system)” also was carried out since water availability is one of major hindering factors for popularizing ginger-washing in the production areas.



Testing the various types of Jet-nozzle with water pump (April - June 2011)

In July 2011, designing of device for final washing to test in a real operation in the pilot project was completed.


Device for final washing : “Jet-nozzle + constant pressure water” plus “water recycle system”

2-3. Design the washing & drying facility to be introduced

Boloso Bombe Coop.

Participatory business planning meetings were conducted three (3) times during the period of 24 June – 14 July at the site. The executive board members of the cooperative, head and experts of WoMC participated.

Washing method to apply, component of washing facility, size of drying yard and facility layout were designed based on the parameters set in the meetings as well as based on the site conditions. Outline of the business plan; including a) Key indicators of business scale, b) Washing & drying method / work process, c) Initial investment plan, d) Operating cost and e) Facility layout plan are shown in Annex at the end of this section.

The business plan was reviewed by the executive board members in early August and it was decided to get an endorsement in the annual general assembly to be held in September. However, due to a delay in annual audit process, the general assembly was not held and the plan was not endorsed in the general assembly.

Boloso Bombe Coop. submitted the business plan to Damota Wolayta Farmers Coop. Union and requested financial support for purchasing material ginger as well as marketing (buying) of product.


Business planning meetings at Boloso Bombe WoMC office (June 2011)

2) Hadaro Abay Group

In the initial discussion held in October 2011, it was confirmed that the group would take care of constructing drying tables and warehouse, fencing, power installation by themselves, and JICA study team would provide support for washing (facility/equipment and necessary training).

The group wanted to start real operations as soon as possible (in 2 weeks time after the initial meeting; start operation at the beginning of Nov.). Therefore, construction of washing facility was carried out part by part in the interval of batch operations. Designing of washing system (facility) was also done part by part in manner of design-trial-improve (trial and error). Since the group had a plan to install electric power at the site, a washing system with portable high pressure washing machine was applied.

2-4. Procure/manufacture equipment, and Construct washing & drying facility

Boloso Bombe site

Boloso Bombe Primary Coop. shouldered the installation of fence (material wood and installation work) and labor for making wooden drying tables.

JICA study team finished construction/installation and procurement of all necessary facilities and equipment to start the operation at the end of October. Washing & drying work for the 1st batch started on 02 November. The following facilities and equipment were provided. See photos in Annex for details.

Concrete drying yard	170m^2 x 2
Water reservoir (pit + plastic sheet)	1 pit
Soaking pits (stone + cement) (*1)	3 units
Manual washing tables with water faucets (stone + cement)	2 units
1000 liter water tanks with steel stands	3 units
Engine pump with suction/deliver hose pipe	1 set
Bucket, basin, brush	1 lot
Plastic box	100 pcs
2-wheel cart	4 units
Pump washing device for final washing (*2)	2 units
Generator for pump washing device	1 unit
Materials for wire-mesh drying table	1 lot (75m^2)
Barbed wire for fence	1 lot

*1 Soaking pit for pre-soaking was constructed later in November.

*2 Pump washing device means “Jet-nozzle + constant pressure water” plus “water recycle system”. This device was tested in the real operation in November, and the filtering part was modified.

Constructed washing facility

Concrete floor for drying

Hadaro Tunto site

Designing and construction of washing facility was carried out part by part in manner of design-trial-improve (trial and error) in the interval between batch operations.

Many Abay Group members have skills in carpentry and masonry job, and they worked with JICA study team to install some facilities. In addition, procurement of local materials (sand/stone/concrete block/cement) and skilled labors was arranged by the executive members of the group. Supervision of facility construction was also mostly done by the executive members.

Group members were making work tables

A skilled member was making a soaking pit for tentative use

Washing & drying work for 1st batch started on 01 November with tentative washing method and facility. JICA study team finished construction/installation of final state of washing facility in late December 2011. The following facilities and equipment were provided.

2000 liter water tank with stone base	1 set
Engine pump with suction/deliver hose pipe	1 set
Portable high pressure washing machine	2 units
Soaking pits + washing floor for high pressure washing machine	2 units

Manual washing tables (wood)	4 units
Portable water supply pipe and faucets (GI)	2 set
Plastic box	75 pcs
2-wheel cart	3 units
Bucket, basin, brush	1 lot

Washing facility and High pressure washing machine

Washing facility (improved design)

2-5. Training on usage of washing & drying facility and equipment

OJT-mode of training was provided by JICA study team members in the operation of washing & drying work during Nov. and Dec. 2011. Trainees were laborers and site manager hired by the coop. or the group. In case of Abay Group, some executive members always attended the operation, so that such members also trained.

Training (operating instructions) covered: a) How to use engine/motor-driven equipment (pump and generator), b) Work procedure, c) What you should do and should not do in each work, d) Points to observe/oversee to smooth the works, e) Making of work record, f) How to setup and use Pump washing device for final washing and g) How to store the tools/equipment. (f) and g) were applied to B. Bombe only)

Training (operating instructions) at Hadaro site (Nov. – Dec. 2011)

Training (operating instructions) at Boloso Bombe site (Nov. – Dec. 2011)

2-6. Evaluate the effectiveness of facility and equipment

2-7. Further improving of facility and equipment

Troubles/failures of washing method/facility/equipment were detected in the operations by JICA Study team by close observation, and improvements were applied promptly to increase washing speed and work efficiency. The following improvements were implemented.

Boloso Bombe site

Two major improvements were applied:

1. To speedup washing work, the soaking process was changed to two-steps by constructing an additional pit for pre-soaking in November.
2. Pump washing device ("Jet-nozzle + constant pressure water" and "water recycle system") was tested (used) in the operation in November, and filtering part was modified to increase nozzle pressure and to prevent easy-clogging with ginger peels in water recycle system.

Hadaro Tunto site

1. Application of pump washing device (same with the one being used at Boloso Bombe) was abandoned and decided to use a high-pressure washing machine with the following reasons and situations.
   - Power supply was installed in the site as planned.
   - High-pressure washing machine became somewhat popular in Addis Ababa hardware shops, and there was a cheap model (Bosch AQUATAK 110, 2898 birr).
   - Washing speed is far higher than the pump washing device, and Abay Group targeted washing a large volume.

   Soak pit was modified to be fit to use high-pressure washing machine by adding washing floor.

3. Support for business operation and management

3-1. Participatory planning of business plan

Boloso Bombe Coop.

As described above, business plan was formulated in the meetings with executive board members in June – July 2011.

Harado Abay Group

Since the group is formed by ginger trader-cum-farmers, business planning was not supported (not interfered). Regarding the washing method/facility plan, discussions with the exertive members were held accordingly at site.

3-2. Prepare necessary business formats

Boloso Bombe Coop.

The cooperative had their forms/method for purchasing farm product from members. Same formats were used for ginger purchasing. A format for work record keeping was prepared by the team and instructed the site manger on usage.

Harado Abay Group

The team instructed the site manger on usage of format for work record keeping (same format with B. Bombe).

3-3. OJT-mode training on management of washing & drying operation

As described in 2.5 Training on usage of washing & drying facility and equipment, work method were instructed site managers and key laborers in the operations.

Management work such as arrangement of material purchasing, labor, purchasing of consumables, and supervision of progress were duties of the executive members. Suggestions/instructions to smooth the operation were given to the executive members accordingly. Few suggestions were given to the executive members of Abay Group since basically they knew what to do and they had their own way of doing it.

(9) Achievement of Project purpose and Expected outputs

1) Project purpose

Project purpose 1: Quality dried ginger is produced and marketed by target farmer groups

Quality dried ginger was produced by target farmers groups by using the facility/equipment designed and provided by the project. However, product made has not yet been marketed; because the groups are waiting for price increase. Hence, project purpose 1 has been achieved 50 %.

Results of sales could not be confirmed before end of the project and it could have been anticipated when planning the project; “Marketed by target farmer groups” should not have been in the project purpose.

Project purpose 2: Linkage between export-oriented traders and target farmer groups is functioning.

Activities of this purpose were not implemented. Therefore, the purpose has not been achieved.

2) Expected output

The achievement of expected output can be summarized as follows.

Table PP05-1 Achievement of Expected Output

Expected output	Achievement	Source of indicator
1. Practical washing method is identified and introduce.	- Washing method/device/facility were designed, installed and tested in the real operations, and improved. - Washing device/facility were all made with locally-available materials; except nozzles for the Pump washing device for final washing being applied to B. Bombe site. - More than 20 Qt of ginger were washed a day (Abay group).	- Observation of operation - Comment of key laborers and executive members - Project document - Business documents of farmers groups
2. Introduced washing method is utilized by the target farmers to produce quality dry ginger.	Volume of washed fresh ginger B. Bombe coop.: 13.2 ton Abay group : 225 ton Volume of product B. Bombe coop. : 2.3 ton Abay group : 60 ton	- Business documents of farmers groups
3. Effective support is provided, and farmers' capacity of business operation and management is strengthened.	- Business plan was prepared and used to request financial support. However, business plan was not endorsed by general assembly (B. Bombe coop.). - Work methods were instructed and washing & drying works were done. - However, ability of the site managers should be strengthened further more. Especially, habit of keeping work record should be formed, or batch cost control is impossible. - Executive board members understood what they had to do clearly than before by instructions given. However, way of managing operation is still not efficient / insufficient (B. Bombe coop.).	- Observation of operation - Project documents - Business documents of farmers groups
4. Effective support is provided, and linkage with traders in export marketing chains (with quality conscious) is established.	Activities were not implemented.	

3) Business results

Production Results

Table PP05-2 Production Results

	1st batch	2nd batch	3rd batch	4th batch	Total
1. Washed volume (volume of purchased material ginger)					
Boloso Bombe Coop.	44.25	63	25	--	132.25
Hadaro Abay Group	175	200	200	1675 (*1)	2,250
2. Product volume					
Boloso Bombe Coop.	N/A	N/A	N/A	--	23.41
Hadaro Abay Group	N/A	N/A	N/A	N/A	600 (*2)

*1: Volume washed in two months period (Unit : QT = 100kg)

*2: Good quality 150 QT plus lesser quality 450 QT

N/A : not available (i.e. no record in the business documents of farmers group)

Production Costs

Table PP05-3 Production Costs - Boloso Bombe Coop.

	1st batch	2nd batch	3rd batch	4th batch	Total
Material ginger (price per QT)	21,461 (485)	29,925 (475)	11,875 (475)	---	63,261
Labor - washing (breakdown)	1,530 (18 x 5 day x @17)	2,592 (18 x 8 day x @18)	972 (18 x 3 day x @18)		5,094
Labor - drying (breakdown)	680 (2 x 20 day x @17)	476 (2 x 14 day x @17)	578 (2 x 17 day x @17)		1,734
Site manager	500	500	500		1,500
Guards	500	500	500		1,500
Others					0
Sub total	24,671	33,993	14,425	---	73,089
Fuel	20 liter x @25 = 500				500
Grand total					73,589

(Unit : Birr)

Table PP05-4 Production Costs - Hadaro Abay Group

	1st batch	2nd batch	3rd batch	4th batch	Total
Material ginger (price per QT)	83,125 (475)	110,000 (550)	110,000 (550)	963,125 (575)	1,266,250
Labor - washing (breakdown)	3,000	2,000 (200QTx @10)	2,000 (200QTx @10)	16,750 (1675QTx @10)	23,750
Labor - drying (breakdown)	2,400 (4 x @600/month)	2,400 (4 x @600/month)	2,400 (4 x @600/month)	4,800 (4 x @600/month x 2 months)	12,000
Site manager	600	600	600	600 x 2 months	3,000
Guards	1800	1800	1800	1800 x 2 months	9,000
Others					0
Sub total	90,925	116,800	116,800	989,475	1,314,000
Fuel	5,700				5,700
Electricity	---				
Tap water fee	850				850
Grand total					1,320,550

(Unit : Birr)

Production Efficiency

Table PP05-5 Production Efficiency

Indicator	Boloso Bombe Coop.	Hadaro Abay Group
Drying recovery	18%	27%
Production cost per QT (fresh basis)	556 birr	587 birr
Production cost per QT (product basis)	3,143 birr	2,201 birr
Washing speed (washed volume in a day)	8 – 9 QT (*1)	28 QT (*2)

*1: 12 QT is possible to wash in a day, if works are managed well (Observation of JICA Study Team).
*2: Guess value in the 4th batch operation (1675 QT / 60 days operation)

(10) Project Evaluation

Effectiveness:

Quality dried ginger is produced by target farmer groups (project purpose 1) but not yet marketed, because the groups are waiting price increase. Market linkage support (project purpose 2) was not implemented because the groups decided to use the connections they already had. From these aspects, it is judged that the project had useless components; and the project was not very effective. When including the component of marketing support in ginger project, project period should cover up to August/September since the harvesting period is October to February.

Original and technical intent of the project was to develop the practical washing method. This intent was achieved and it is judged that the project was useful and effective.

Sustainability:

Two target farmer groups started operation at the same time but the output volume was very much different; Boloso Bombe coop. 23 QT and Abay group 600 QT. This large difference mainly came from the difference in their financial position. Boloso Bombe Coop. tried to get bank credit directly but it ended in failure, then operation did not get started again after the 3rd batch because there was no money to buy fresh ginger. It is very obvious that if no credit is provided, sustainability of the project (Boloso Bombe site) is very low (zero).

In case of Hadaro Tunto site (Abay group), sustainability is judged as high; since the members' commitment is very high as the contributed amount showed and they have marketing capacity.

Impact

A duplication of the pilot project has made by the trader-cum-farmers group in Hadaro Tunto woreda; at the place nearby the facility of Abay Group along the same water stream (See the photos below).

This new entity was inspired by the washing and drying business of Abay Group. Ginger trader-cum-farmers formed a group and built the facility during Dec. 2011 to Jan. 2012. They have washed 400 QT of ginger by mid-March 2012. This new group has been registered as primary cooperative to have legal status in the name of Hadaro primary cooperative.


(11) Recommendation

Support for securing of funds for purchasing material ginger

To sustain the project (i.e. Ginger washing business of Boloso Bombe Coop.), BoMC should make best efforts (use influence) to provide adequate amount of credit in time; and with reasonable interest rate.

Improvement to be applied by Boloso Bombe Coop.

- Change the labor fee from day basis to result basis
- Instruct farmers to remove as much soil as possible before delivery to the site
- Record keeping should be properly practiced by the site manager
- Recovery rate is very much lower than the rate of Abay group. Storage condition should be checked.

(12) Lessons Learnt

Operator of Ginger washing & drying facility in the ginger producing area

Compared with the trader group, the performance of primary cooperative was very poor. The main reason was weak financial position. If other primary cooperatives in SNNPR are also in same/similar situation, target operator of ginger washing & drying business (i.e. target entity to be supported by project-type support without operational fund support) should be determined carefully.

As the result of pilot project indicates, higher success rate can be attained when supporting the trader/trader group. Ginger exporter is supposed to be the best operator of ginger washing & drying facility; since exporter usually has better financial ability than local traders; in addition, exporter must be well-informed about the quality requirements of overseas buyers.

Other than weak financial position, it was observed that the cooperative has the following fundamental constraints.

- Leaders have weak commitment, Weak responsibility for achievement (no responsibility for non achievement)
- Leaders work voluntarily / odd job, No incentive for hard work

- Leaders are farmers not businesspersons
- Cooperative can not hire a professional (experienced) manger since business scale is too small

Considering these weak points of cooperative, possibility of forming a JV or working as subcontractor with cooperative union or private business should be explored when selecting a cooperative as target group to support, to mitigate a risk of failure.

Washing facility and equipment

- Do not use a 1000 liter water tank (white color chemical container). It is cheaper but very difficult to fix a reducing socket in outlet. Use ROTO tank.
- Water reservoir (pit) is not always necessary.
- Cleaning of soaking pit (removing of accumulated mud at the bottom) is troublesome. Drainage hole should be over 2 inches. To have smooth drainage, make inclination of bottom floor a little larger.

  Huge size of soaking pit must be troublesome/take time when cleaning the bottom and when putting water in it. 3 to 5 QT holding capacity is OK. Do not make side walls so much high; 50 cm is enough. Do not heap up ginger more than 30 cm height (too much ginger makes washing by mixing/ agitating difficult). Side walls should be strong and wide enough to keep 20-25 kg boxes.
- For the final pump washing, it is advisable to use a portable high-pressure washing machine. It makes the washing process simple and very efficient. Therefore, ginger washing facility should have an electric power supply.

Training for washing & drying work method

- Trainees will be laborers and site manager, and training will be OJT-mode. Laborers usually change day-by-day. To avoid conducting useless training, organize work groups by laborers and group leader/key worker should be fixed in advance.
- Record keeping is important for better management of operation; without proper records it is impossible to control production cost batch by batch and control recovery rate. Unfortunately, the site manager is usually a farmer and he does not know how record keeping is important and useful for business management. Therefore, not only teach how to record it but also constantly check the records made.

Project period

1 year (1 season) is too short to kick-off and to get a business off the ground. When including the component of marketing support in the project, project period should cover up to August/September.

Designing washing & drying facility

Washing method and facility layout will vary site by site. Washing method/process to apply, component of washing facility, size of drying yard and facility layout should be designed based on the target scale of business as well as based on the site conditions such as location of water source,

size/shape/vertical interval of site, access to road, etc. Especially, the facility layout should be planned to achieve the most efficient workflow, shortest material handling and adequate work space. Farmers can not design the facility properly. Also, no BoMC/WoMC expert can do it. Therefore, a professional (experienced person) should be hired for the design.

Unknown quality requirements of final users of dried ginger

During the project period including the planning stage, the team met many people participating in ginger trade in SNNPR and Addis Ababa. However, no one clearly showed us the required quality (cleanliness), instead some showed us their offer samples of dried ginger.

Last year, people said that MOT received a large offer and union would get an export license, etc. If so, buyer's requirements should be clarified and disseminated to the ginger producing areas. Depending on the required cleanliness, washing method/process can be changed: it may no need to apply pump washing to remove mud in gaps.

Table PP05-6 PDM of PP05

PROJECT SUMMARY	INDICATOR	SOURCE OF INDICATOR	IMPORTANT ASSUMPTION
OVERALL GOAL : Profit is increased by introduction of high value added marketing			
PROJECT PURPOSE : 1. Quality dried ginger is produced and marketed by target farmer groups. 2. Linkage between export-oriented traders and target farmer groups is functioned.	Produce volume, Sale results, Operating revenue	Business documents of farmers groups	
EXPECTED OUTPUT : 1. Practical washing method is identified and introduce. 2. Introduced washing method is utilized by the target farmers to produce quality dry ginger. 3. Effective support is provided, and farmers' capacity of business operation and management is strengthened. 4. Effective support is provided, and linkage with traders in export marketing chains (with quality-conscious) is established.	1. Indicators of "practical methods": - Appropriateness to local conditions (water consumption, initial cost, operational cost, maintenance) - Efficiency of applied methods (washing volume/speed, required labour, time, tiresome) 2. Washed ginger volume, Period of operation 3. - Clear responsibility / job demarcation - Production & sales plan prepared - Speed of work (work efficiency) - Practice of record keeping made - Practice of cost control made - Business formats used. 4. - Number of identified target buyers - Number of buyers made transaction - Results of sales (volume, price, frequency)	Observation of operation Comment of laborers and executive members Operation record Business documents of farmers groups Project documents Business documents of farmers groups Project documents Business documents of farmers groups	Unexpected personnel relocation of the counterparts in charge of the pilot projects No radical changes in the ginger market situation (There are buyers of Ethiopia dried ginger)

ACTIVITIES :	INPUT	PRECONDITION:
1. Determination of farmer groups to work with: 1-1. Monitor the washing activities in the target sites (during Jan-March) 1-2. Meeting with WoMCs and candidate farmer groups 2. Introduction of practical washing methods 2-1. Check the results of washing tests done by farmers group 2-2. Design and test washing methods - with still water / river water 2-3. Design the washing & drying facility to be introduced 2-4. Procure/manufacture equipment, and Construct washing & drying facility 2-5. Training on usage of washing & drying facility and equipment 2-6. Evaluate the effectiveness of facility and equipment 2-7. Further improving of facility and equipment 3. Support for business operation and management 3-1. Participatory planning of business plan 3-2. Prepare necessary business formats 3-3. OJT-mode training on management of washing & drying operation 4. Support for market linkage building; especially with traders in export marketing chain 4-1. Collect information to identify target buyers 4-2. Support farmers' canvassing and negotiation on business terms	[**FROM SNNPR**] Farmers groups (Beneficiary): 1) Land for washing place 2) Water fee (in case of using tap water) 3) Drying stands 4) A part of labour work to make the washing place BoMC & WoMC: 5) Personnel costs of the counterparts 6) Costs for periodical monitoring of farmers' activities /progress [**FROM JAPAN**] 1) Costs for making a washing facility (in case of using river water) 2) Tools/equipment for washing 3) Expenses for canvassing for sales by farmers (transportation, communication, accommodation) 4) Expenses for support activities on marketing / linkage building by officials (transportation, travel allowance) 5) Costs for meeting, workshop and training	JICA allocates necessary budget for the pilot project

Project Title : Production of "clean" dried-ginger and establishment of linkages with buyers (PP05)

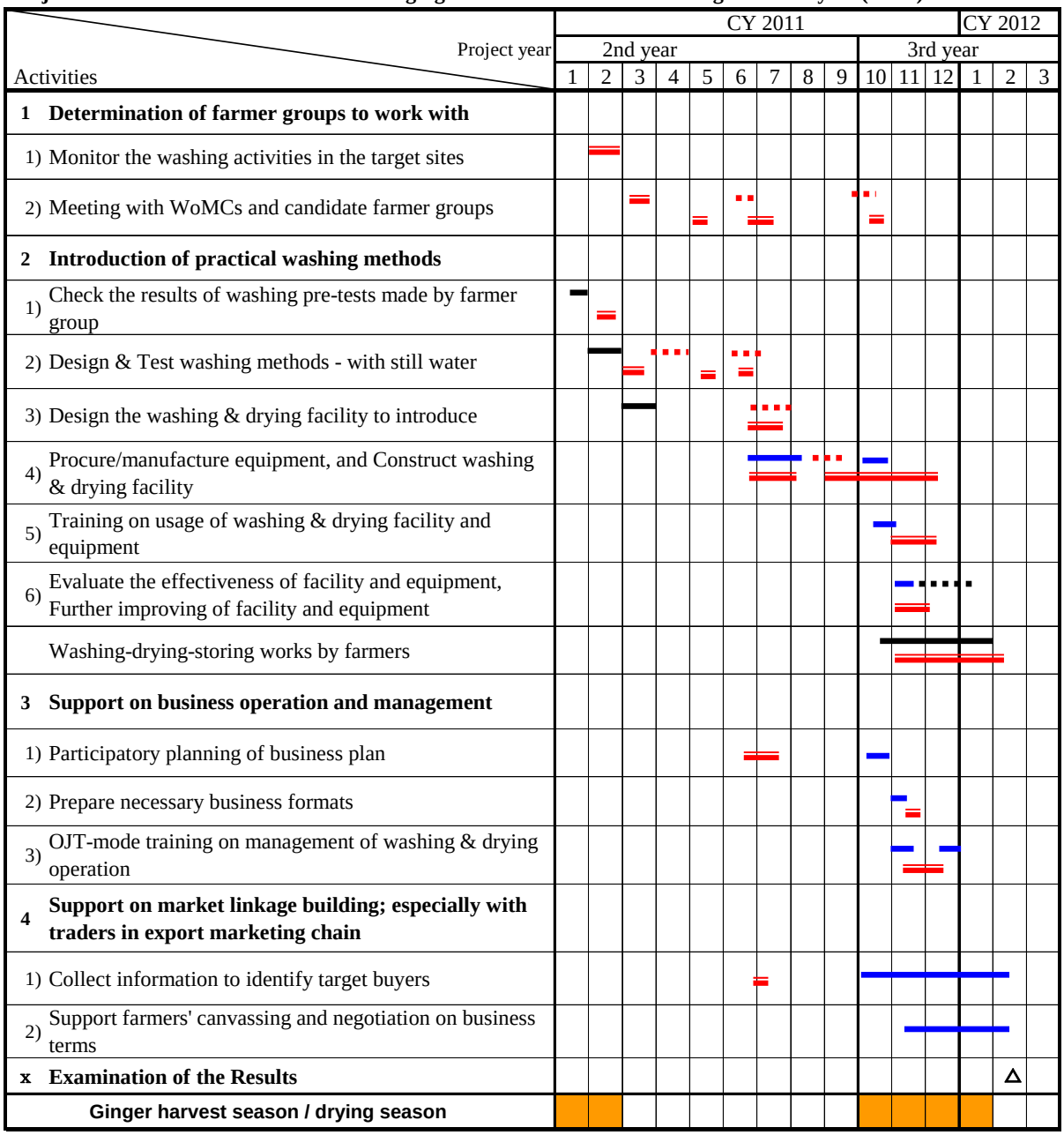


Figure PP05-1 Schedule and Progress of PP05

As of 29 Feb. 2012

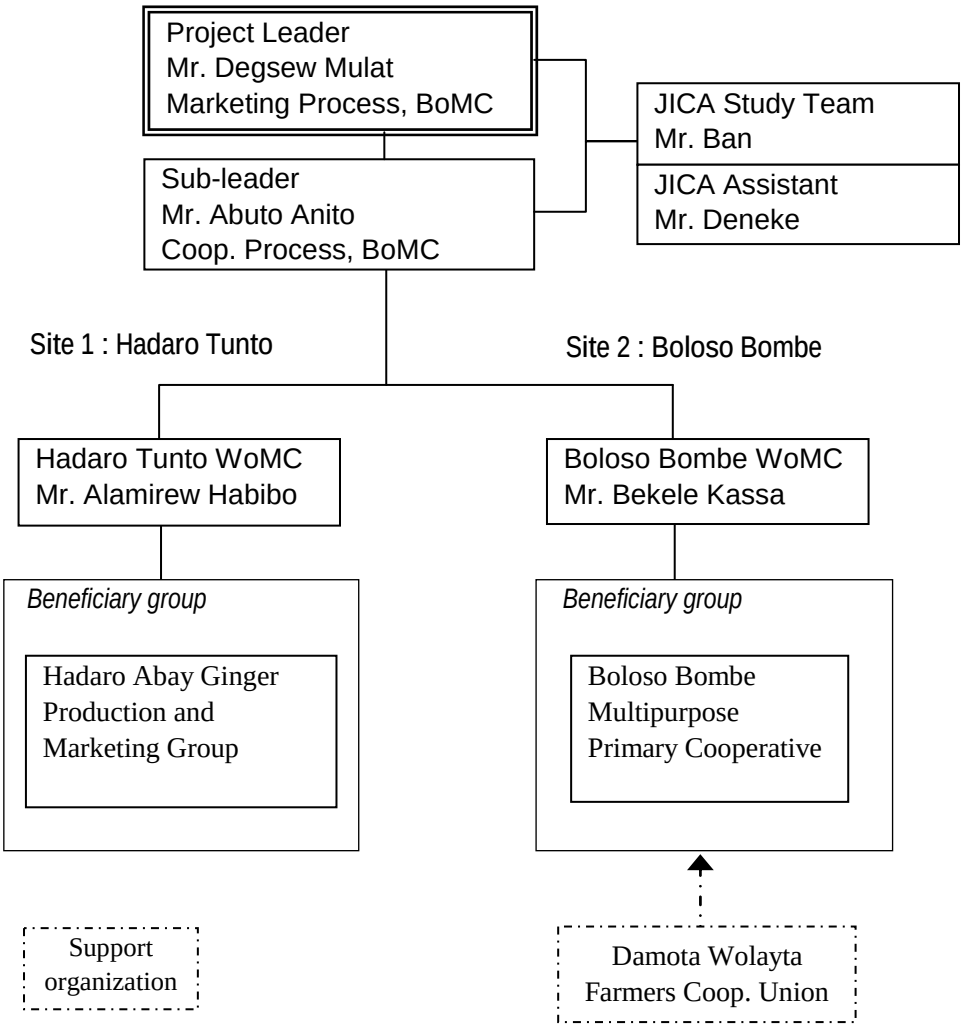
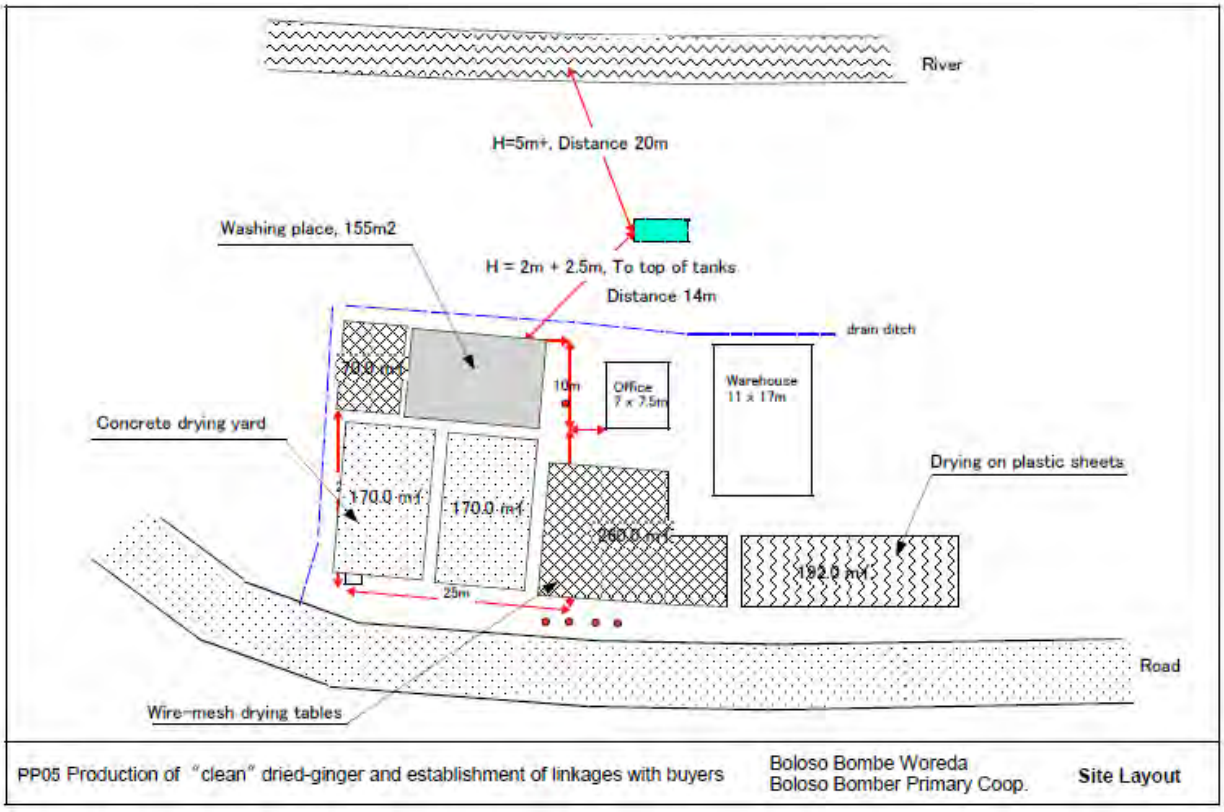


Figure PP05-2 Organization Chart for Planning and Implementation of PP05

Annex -1 : Boloso Bombe Project Site and Facility Layout Plan

Water source (river)



Annex -2 : Outline of the Business Plan of Boloso Bombe Primary Coop.

Key indicators of business scale

The cooperative has set a target production at 60 tons (dried product base) a year; in 6 months of operating period and drying period is set at 15 days.

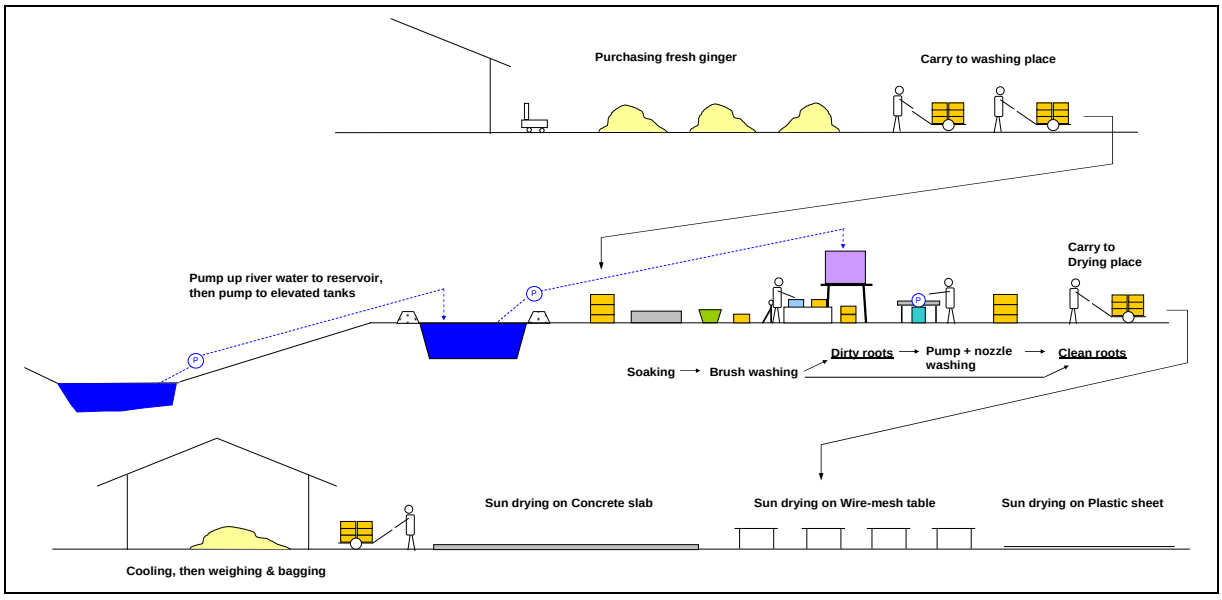
Key indicators of business scale

Target production in a year (6 months)	60 tons of dried ginger
Target process volume in a year (6 months)	240 tons of fresh ginger
Period of operation	6 months (Oct. – March)
Numbers of batch in 6 months	12 batches (*1)
Process volume per batch	20 tons of fresh ginger
Washing	5 tons per day X 4 days
Drying space required	667 m^2 (*2)

Basis for calculations:
*1: Drying period (necessary days to dry) is set at 15 days. 6 month (120days) / 15 days = 12 batch
*2: 20,000 kg / 30 kg/m^2

Washing & drying method / work process

Boloso Bombe cooperative will try to wash 5 tons of fresh ginger a day. To achieve this target, work method and process were thoroughly discussed and carefully designed. Planned process is as shown in the illustration.



Washing & drying method / work process (plan)

Initial investment (plan)

Total	189,000 Birr
To be covered by JICA Study Team	184,000 Birr
To be covered by Boloso Bombe Cooperative	about 5,000 Birr

[Facility]		
Drying facility	700 m^2	88,000 birr
Warehouse	150 m^2	(existing)
Washing facility		
Water reservoir	minimum 16 m^3	1,300 birr
Soaking pool, 1.25 x 6.2 m	2 unit	6,000 birr
Manual washing table, 1 x 5.5 x (H) 0.65 m	2 unit	9,700 birr
Other facilities (Fence & gate, etc.)	1 lot	(to be planned later)
[Equipment and Tools]		
Receiving	1 lot	8,000 birr
Washing	1 lot	58,000 birr
Material handling	1 lot	13,000 birr
Transportation cost	1 lot	5,000 birr

Operating cost

Estimated operating cost for single batch (wash and dry 200 QT (20 ton) of fresh ginger in 15 days) is 236,000 Birr.

Marketing (potential buyers)

The following potential buyers have been identified. Sales activity shall be started ahead of operation.

Washed fresh ginger : Etifruit

Washed dried ginger : Wondo Company, Damota Wolayta Union

Annex -3 : Washing method/process and facility introduced at Boloso Bombe site

Photos were taken in 16 Dec. 2011, in the 3rd batch operation

Collected fresh ginger

Putting ginger in boxes to carry and to measure volume to pit in 1st soaking pit

1st soaking pit (soaking + 1st hand washing)

2nd soaking pit (rinsing & soaking + 2nd hand washing)

Sorting (removing poor quality)

3rd hand washing + Sorting

Final washing with Nozzles + Water pump

Drying on concrete yard

Drying on wire mesh table

Checking dryness, sorting and collect dried ones

2.3 Basic Strategy 3: Improvement of Efficient Market Infrastructure to Empower Market Activities

PP06: Local Market Improvement Project in Haricot Bean Producing Area

(1) Objective of the Project

To attain the improvements of working efficiency in the trading system of farm produce through introducing the market facility in the producing area: 1) design and construct a marketplace facility and 2) establish a management system for a new facility.

(2) Target Crops

Haricot beans

(3) Beneficiaries

Haricot bean traders, farmers and municipality

(4) Project Site

Boricha woreda in Sidama zone

Site for market facility construction is Belila marketplace in Belila town. Belila marketplace is the most important marketplace for haricot bean trade in Boricha woreda. Location is shown in Figure PP06-4.

(5) PDM (Project Design Matrix)

The Project Design Matrix (PDM) for PP06 is shown in Table PP06-2 hereafter.

(6) Organization of Planning and Implementation

1) For the implementation of PP06, the organization structure was established as shown in Figure PP06-6.
2) Kick-off meeting among the Pilot Project team members was carried out in 09 February 2011.
3) Explanation on the pilot project and its implementation and confirmation has been done on February 2011.

(7) Schedule and Progress of the Project

PP06 consists of two parts, i.e. 1) design and construction of a marketplace facility and 2) establishment of a management system for the new facility. Following activities were planned and implemented. The implementation schedule and actual progress is shown in Figure PP06-5.

Design and Construction of Market Facility

1-1. Design of the draft layout of market facilities

1-2. Approval of location of marketplace to be constructed by officials concerned
1-3. Detail design of facilities including drawings, quantities and cost estimate
1-4. Preparation of tender document
1-5. Evaluation and selection of a contractor and conclusion of Contract Agreement
1-6. Supervision of construction
1-7. Handover of facility

Establishment of Market Facility Management System

2-1. Facilitation of establishing the marketplace management committee
2-2. Preparation of TOR for the management committee
3-1. Preparation of operational guideline of the market facilities
3-2. Organization of observation tour to Amhara region for the market use
3-3. Organization of workshop on the operational guideline and market use for stakeholders

Introduction of Equipment for Quality Improvement

4-1. Procurement and hand over of equipment (Bean cleaner and Moisture meter)
4-2. Preparation of operation manual
4-3. Organization of operational workshop on equipment

(8) Results of Activities

Activities were implemented / completed with the following sequence.

- Finalized design of facility and bill of quantity : End of Jan. 2011
- Started facilitating the establishment of management committee : Mid. Feb. 2011
- Concluded the Minutes of Understanding among concerned parties : 24 Feb. 2011
- Signed the contract for construction works for marketplace facility : 01 Mar. 2011
- Commenced the construction works at site : 14 Mar. 2011
- Completed the construction works : 30 June 2011
- Temporary handover of the facility to the municipality : 10 Aug. 2011
- Study tour to Amhara region for advanced management of market facility : 12-17 Nov. 2011
- Started the use of facility : 22 Nov. 2011
- Manufacturing order of bean cleaner : 02 Dec. 2011
- Evaluation meeting with management committee : 14 Feb. 2012
- Handover of bean cleaner and moisture mater : 22 Mar. 2012

Designing and Construction of Market Facility

1-1. Design of the draft layout of market facilities

The layout of market facility was made according to the transaction volume and number of traders of haricot bean in the vicinity of the Belila town. The basic concept of the facility is concrete floor, columns and beams with wooden truss for roof of galvanized corrugated steel plate. The space to be allocated for a trader is 6m x 3m and it consists of two blocks having 10 trading spaces per each block. The detail is shown in 1-3 hereunder.

1-2. Approval of location of marketplace to be constructed by officials concerned

Prior to commencement of construction, the Minutes of Understanding for the Pilot Project was concluded among BoMC, the JICA Study Team and the Belila municipality with acknowledgement of the woreda administrator.

1-3. Detail design of facilities including drawings, quantities and cost estimate

The design of the new marketplace facility was made by the JICA Study Team in collaboration with the Belila town municipality, Boricha WoMC and BoMC. Facility layout is shown Figure PP06-3. A structural outline of the marketplace facility is as follows.

Location	:	Belila town, Boricha woreda, Sidama zone
Dimensions	:	360 m^2 (180 m^2 x 2 blocks)
Architecture	:	One-story building (without walls), reinforced concrete columns and beams
Roof	:	Galvanized corrugated steel plate
Other	:	Cobble stone pavement around the building

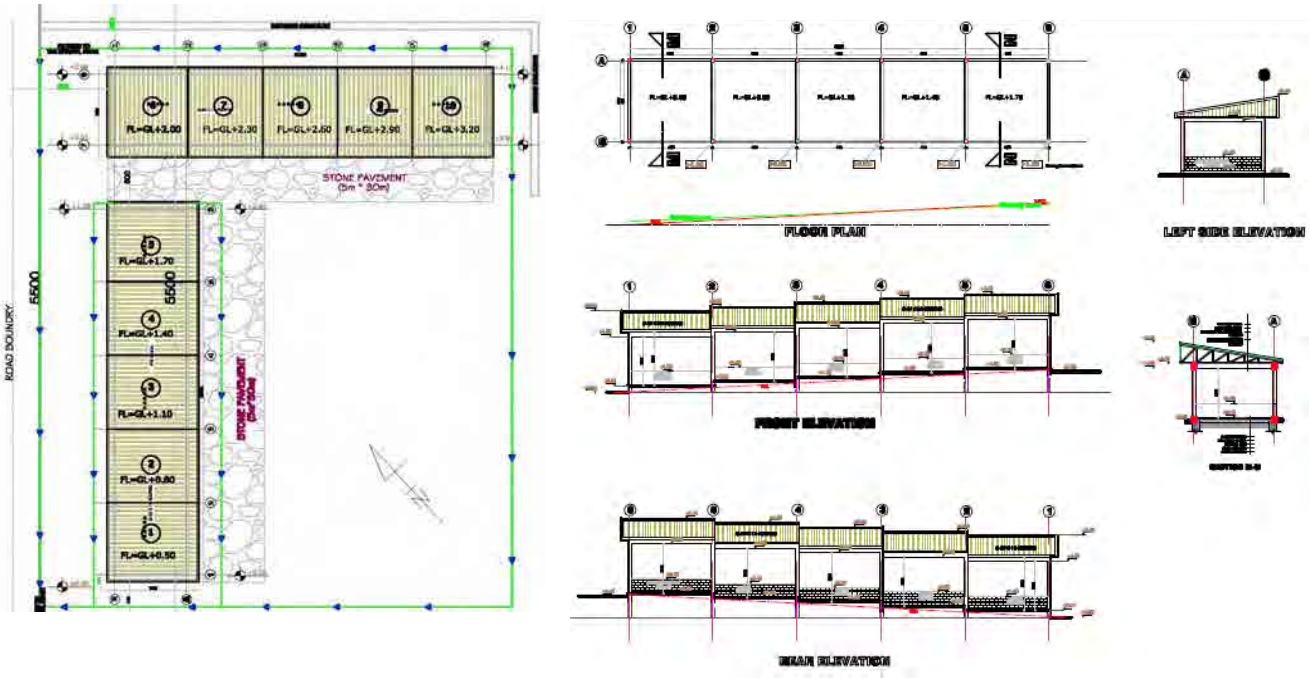


Figure PP06-1 Layout and Design of Market Facility

1-4. Preparation of tender document

The tender documents prepared are consisting of the following:

Part 1 : Instructions for Bidding

Part 2 : Form of Contract

Part 3 : Form of Bid

1. Contractor's quotation

2. Breakdown of bid price

3. Power of attorney
4. Certificate of after-completion services

Part 4 : General Conditions of Contract
Part 5 : Technical Specifications
Part 6 : Bill of Quantity
Part 7 : Drawings

1-5. Evaluation and selection of a contractor and conclusion of Contract Agreement

The construction contractor for the marketplace facility was selected through the following sequence in accordance with the "JICA procurement guideline for entrusted work for a Project".

- Selection of short-listed contractors from the long-list : 7-10 Feb. 2011
  24 contractors with Grade-6 qualification for general contractor or building contractor were long-listed. 5 contractors were short-listed for PP06.
- Distribution of bid documents to the short-listed contractors : 14 Feb. 2011
- Submission of bid by the contractors : 21 Feb. 2011
- Evaluation of bids by the JICA Study Team : 22-24 Feb. 2011
- Issuance of Letter of Award to the successful contractor : 24 Feb. 2011
- Signing of Contract : 01 Mar. 2011

General outline of the contract is as follows:

- Name of contractor : Behailuna Geremew General Contractor
- Contract price : ETB 568,107.80
- Final contract price at completion : ETB 673,165.99
- Construction period : by 30 June 2011
- Reason of increment of contract price : Design modification for additional grade beams in the floor due to ground slope

1-6. Supervision of construction

The construction was supervised by the JICA Study Team with a locally employed supervisor in collaboration with the Belila town municipality in order to maintain the quality of the facility.

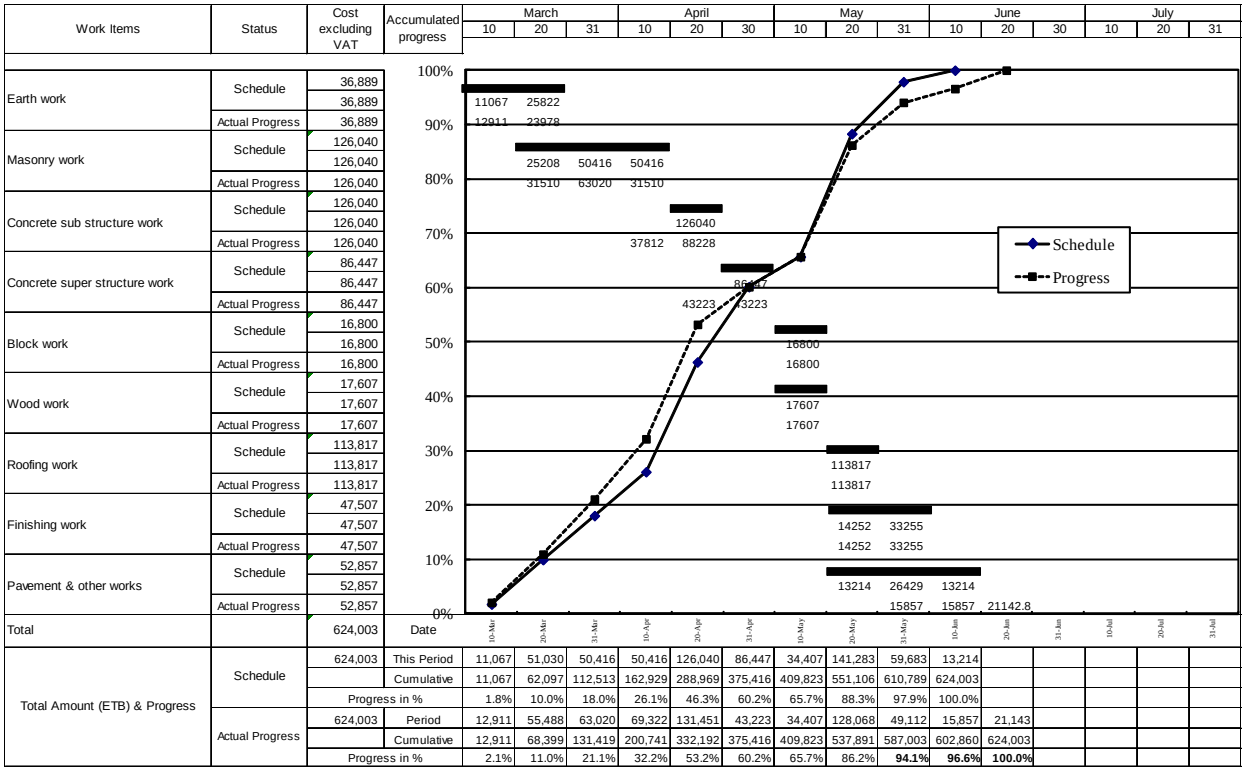
Progress of the Construction Work

Construction was executed in the following sequence according to the construction time schedule submitted by the contractor and approved by the Study Team. Construction was completed at the end of June 2011 as scheduled.

- Preparatory work and survey : Middle of March 2011
- Earth work : Middle to end of March 2011
- Masonry work for base : Beginning to middle of April 2011

- Concrete column and beam work : Middle to end of April 2011
- Roofing work : Beginning to middle of May 2011
- Finishing work : End of May to middle of June 2011
- Masonry pavement work : Middle to end of June 2011
- Mutual check by JICA Study Team & Contractor : 30 June 2011
- Issuance of Completion Certificate : 30 June 2011

The planned schedule and actual progress of the works is shown in the following Figure PP06-2.



Work Items	Status	Cost excluding VAT	Accumulated progress	March 10	March 20	March 31	April 10	April 20	April 30	May 10	May 20	May 31	June 10	June 20	June 30	July 10	July 20	July 31
Earth work	Schedule	36,889		11067	25822													
		36,889		12911	23978													
	Actual Progress	36,889																
Masonry work	Schedule	126,040			25208	50416	50416											
		126,040			31510	63020	31510											
	Actual Progress	126,040																
Concrete sub structure work	Schedule	126,040						126040										
		126,040					37812	88228										
	Actual Progress	126,040																
Concrete super structure work	Schedule	86,447							86447									
		86,447						43223	43223									
	Actual Progress	86,447																
Block work	Schedule	16,800								16800								
		16,800								16800								
	Actual Progress	16,800																
Wood work	Schedule	17,607								17607								
		17,607								17607								
	Actual Progress	17,607																
Roofing work	Schedule	113,817									113817							
		113,817									113817							
	Actual Progress	113,817																
Finishing work	Schedule	47,507									14252	33255						
		47,507									14252	33255						
	Actual Progress	47,507																
Pavement & other works	Schedule	52,857									13214	26429	13214					
		52,857										15857	15857	21142.8				
	Actual Progress	52,857																
Total		624,003	Date	10-Mar	20-Mar	31-Mar	10-Apr	20-Apr	31-Apr	10-May	20-May	31-May	10-Jun	20-Jun	31-Jun	10-Jul	20-Jul	31-Jul
Total Amount (ETB) & Progress	Schedule	624,003	This Period	11,067	51,030	50,416	50,416	126,040	86,447	34,407	141,283	59,683	13,214					
			Cumulative	11,067	62,097	112,513	162,929	288,969	375,416	409,823	551,106	610,789	624,003					
		Progress in %		1.8%	10.0%	18.0%	26.1%	46.3%	60.2%	65.7%	88.3%	97.9%	100.0%					
	Actual Progress	624,003	Period	12,911	55,488	63,020	69,322	131,451	43,223	34,407	128,068	49,112	15,857	21,143				
			Cumulative	12,911	68,399	131,419	200,741	332,192	375,416	409,823	537,891	587,003	602,860	624,003				
		Progress in %		2.1%	11.0%	21.1%	32.2%	53.2%	60.2%	65.7%	86.2%	**94.1%**	**96.6%**	**100.0%**				

Figure PP06-2 Construction Schedule and Actual Progress for PP06

Construction Sequence in Photographs

Site handover (07 Mar. 2011)

Trench excavation for foundation (16 Mar. 2011)

Stone hard core and block works (05 Apr. 2011)

Roofing works (05 May 2011)

Inside situation after roofing (30 Jun. 2011)

Fencing works（11 Jul. 2011）

Additional work (Construction of ford type ditch crossing structure)

Upon the strong request from the municipality, ford type ditch crossing structure was constructed in order to improve the access to the market facility from the main road. This additional work was done by direct management of the JICA Study Team.

Before the work
(01 Nov. 2011)

After completion of ford type ditch crossing structure
(09 Mar. 2012)

1-7. Handover of Facility

The constructed facility has been handed over to the Belila Town Municipality provisionally on August 08, 2011 and a final hand over was made on August 2012 just before the completion of the Study.

Establishment of Market Facility Management System

2-1. Facilitation of establishing the marketplace management committee

The SNNPR Government has issued the Implementation Guideline for sesame and white haricot beans marketing on July 2010 upon the issuance of "the Sesame and White Haricot Beans Marketing Regulation" (Regulation No.178/2010) by the Federal Government on 22 May, 2010. It was required to establish a management system in line with this guideline in the PP06.

Belila town municipality legally owns the land and the facilities; and municipality is responsible for overall management of the marketplace.

A Market Management Committee has been formed to support and undertake the daily management of the marketplace and new facility. The committee members are representatives from concerned bodies in Boricha woreda.

Member of the Management Committee

- Market and Cooperative Office of Boricha woreda (WoMC)
- Tax Office of Boricha woreda
- Trade and Industry Office of Boricha woreda
- Agricultural Office of Boricha woreda
- Manager of Belila Town Municipality
- Traders' Representative
- Farmers Group Representative

Organizational structure for managing the marketplace and new facility is as shown below.

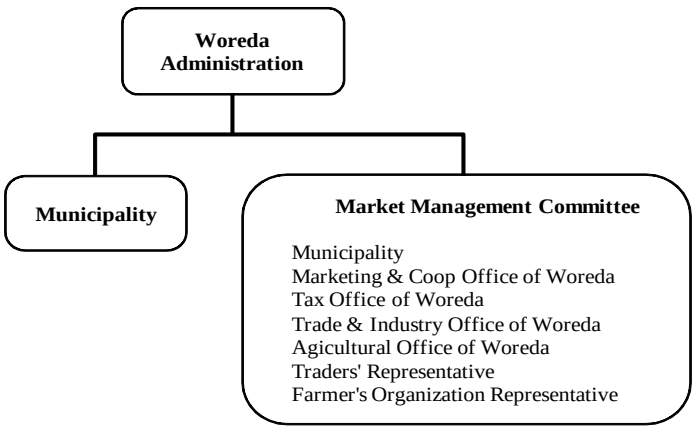


Figure PP06-3 Organization Structure for Management

2-2. Preparation of TOR for the management committee

TOR for the management committee is mainly as follows according to the said Implementation Guideline for "the Sesame and White Haricot Beans Marketing Regulation" (No.178/2010) on July 2010.

- To decide market days
- To qualify traders
- To decide facility usage fee
- Deployment of quality control persons
- Deployment of market management persons

3-1. Preparation of operational guideline of the market facilities

The draft operational guideline has been prepared in accordance with TOR and summarized as follows:

Outline of the Guideline:

1. The market facility for the haricot beans is open on Tuesday and Friday as same as the present market days.
2. Only licensed traders are allowed to deal haricot beans in the market and facility.
3. Traders shall use a calibrated and authorized balance.
4. Traders shall pay an annual tax of 1,000 Birr per allocated space.

3-2. Organization of observation tour to Amhara region for the market use

An observation tour for the existing sesame market place in Amhara region was carried out by members of the management committee of respective PP06 and PP07 for 12 to 17 of November 2011. The main purpose of the tour is to learn the current management system and actual activities of the committee members. The tour member had a meeting the committee members of Yohanes Metema sesame market and exchanged the opinions.

3-3. Organization of workshop on the operational guideline and market use for stakeholders

During the construction, the operation and management system for the new facility was studied and discussed among the Pilot Project Team and the woreda staff. The management committee, then, had a workshop on the draft Guideline to haricot bean traders for registration and licensing for haricot bean traders.

Use of the New Market Facility

The Belila town municipality has started to use the new facility from 22 November 2011 after the allocation of spaces of the new facility to 26 licensed traders by lottery.

Use of New Market Facility in Photographs

Transaction of haricot beans on a market day of Belila town (08 Dec. 2011)

Transaction of haricot beans on a market day of Belila town (08 Dec. 2011)

Haricot beans gathered on a market day of Belila town (08 Dec. 2011)

Price information board provided under PP01 of haricot bean at entrance of the market facility (08 Dec. 2011)

Introduction of Equipment for Quality Improvement

Under PP06, a bean cleaner and a moisture tester were introduced to the Belila Town for the purpose of improvement of quality of haricot beans and its dissemination.

4-1. Procurement and handover of equipment (Bean cleaner and Moisture meter)

The haricot bean cleaner was manufactured by Selam Hawassa Co. Ltd by the order and instruction of the JICA Study Team by showing the specifications. The base machine of the cleaner is general bean cleaner commonly manufactured by Selam Hawassa. Because of repeated adjustments, completion of the equipment was much delay. So, a trial operation for confirmation of a performance of equipment, a guidance of operation to users and handing over were delayed until the end of March 2012.


Trial operation and guidance before handing over (20 March 2012)

Since the equipment was procured for PP06, it was handed over to Belila Town Municipality. Initially it was considered that the equipment would be installed in the new market facility and operated by a cooperative. However, due to security reason during night time and off-market days, this plan was abandoned. The operation and management of the equipment is still under discussion by the management committee. The equipment are now stored in the warehouse of Shall Belila cooperative next to the marketplace.

Key specifications of bean cleaner and moisture tester are as follows:

a) Bean Cleaner

Function	: Removal of impurities and broken beans
Cleaning capacity	: 1,000 kg/hr on haricot bean (input)
Cleaning system	: 2 kinds of vibrating sieves and blower
Power source	: 5HP petrol engine, V-belt drive
Overall size	: 690 x 1585 x 1700 mm
Others	: Vibrating sieves are easy un-mounted for cleaning, for replacing.


b) Moisture tester

Trade name	: MINI GAC, Grain Moisture Analyzer
Measureable samples	: 20 kinds of grain and pulse
Measureable items	: Moisture, temperature and test weight

Sample type : Whole grain, no sample operation
Display : LCD
Power : 9 VDC battery

4-2. Preparation of operation manual
4-3. Organization of operational workshop on equipment

The operation manual of the equipment is under preparation. The quick guidance on operation and maintenance of above equipment were carried out at the site on 16 and 20 of March 2011 at the time of trial operations. About 20 persons were attended each time.

Since the operation and management of equipment is under discussion by the management committee, the operational workshop will be held after confirming operation method (appointed person(s) as operator) during the next field work in August 2012.

(9) Achievement of Project Purpose and Expected Output

The project output of PP06 according to the PDM shown in Table PP06-2, has been evaluated as shown in the following Table PP06-1.

Table PP06-1 Achievement of Project Purpose and Expected Output

Project Purpose	Evaluation	Source of indicator
New marketplace for haricot beans transaction is properly functioning	Accomplished in terms of : 1. Guideline is observed in the marketplace operation by stakeholders. 2. Quality of haricot beans marketed is improved. 3. Volume of haricot beans transaction in the new market is increasing compared with that in the old market.	1.1. Interview with municipality, committee, traders and users. 1.2. Observation of Study team 2.1. Interview with municipality, committee, traders and farmers. 2.2. Observation of Study team 3.1. Interview with municipality, committee, traders and farmers. 3.2. Observation of Study team

Expected Output	Evaluation	Source of indicator
Market facility for haricot bean is constructed and handed over to the municipality	Accomplished	1. Constructed facility 2. Interview to the stakeholder
Market management committee established	Accomplished	1. Market facility management committee
Operational guideline of market facility is finalized and familiarized among stakeholders	Accomplished	1. Availability of the Management guideline
Bean cleaner and moisture meter handed over to the municipality and operated	Accomplished	1. Handed over equipment

(10) Project Evaluation

In order to evaluate the effectiveness of the Pilot Project, the evaluation meeting among BoMC pilot project team, a management committee and the JICA Study team has been made. In addition, an interview survey to the other stakeholders of famers and traders has been conducted. A respective answer from respondent is shown in Table PP06-3 hereafter and summarized as follows:

a) Effectiveness and benefits due to new facility for stakeholders:

Points appreciated by the management committee / municipality

- Since transaction must be done within designated space by licensed traders, illegal traders and false mixture with other grains have remarkably decreased. Previously, there was no way to clampdown on illegal traders and false mixture.
- So, proper transactions between traders and farmers have started. Previously, farmers sometime were forced to sell products at cheap price by traders.
- Since licensed traders are obliged to use a calibrated balance, unfair transactions with farmers are reduced.
- Since all transactions are now undertaken within the facilities with roof and floor, the likelihood of the bulk of haricot beans to be mixed with foreign materials such as mud, twigs has become less, and thus its quality is improved.
- Price information board (PP01) is very useful for farmers to benefit from a fair transaction.
- More farmers bring products to the market than before due to foregoing reasons.
- Newly introduced facility use tax on traders brings economical benefit to the woreda.

Points appreciated by farmers who sell their products at the new facility (7 farmers)

- This facility is useful for keeping out sunshine, rain and dust.
- Transaction can be done with licensed traders with fair price.
- The price information board is very useful. Previously, expect for large-scale farmers with own

network, personal communication with other farmers was the only means available for most farmers to know the market price.

- The occurrence of unfair / forced transaction by traders is decreased because the public is now aware that haricot beans transactions should be done with legal licensed traders and in the designated area.
- A calibrated balance authorized by the Market Committee (MC) is reliable.
- Fewer foreign materials such as mud and twigs are now found in the bulk of haricot beans, thus its quality is increased.

Points appreciated by licensed traders at the new facility (6 traders)

- This facility is useful for keeping out sunshine, rain and dust.
- Since the transaction started in the new facility, a direct linkage between farmers and traders has been established, removing broker/middlemen out of the transaction.
- Quality of haricot beans becomes high due to reduced mud, dust and other foreign materials in the bulk, so sometime haricot beans can be resold at higher price because of better quality.

b) Adverse effect due to new facility for stakeholders:

There is no response of adverse effect due to this new facility from the management committee, municipality and farmers but a few traders frankly expressed their dissatisfaction over new regulations while some are inimical opinions against farmers.

- Introduction of new facility use tax on traders.
- Mandatory calibration of balance

c) Matters to be improved on new facility by all stakeholders:

- Damaged parts of the facility should be repaired.
- Since space for transaction is too small, it should be expanded.
- Toilets and trash disposal are necessary.
- Lack of concern on practice management of the facility by the committee.

As the results, evaluations to the Pilot Project PP06 are summarized according the following four aspects:

Effectiveness:

In view of actual transactions of haricot beans taking place in the new facility and voices of stakeholders/users, it is obvious that a provision of market facility brings various benefits to stakeholders especially in aspect of fare-trade practice for farmers, quality improvement, and sanitary improvement of foods. However, structural quality of the facility needs to be improved. Optimum size of facility according to the transaction volumes and number of traders and required cost for expansion is subject to a further study. Overall, the construction of market facility is verified as an effective approach to empower market activities in a rural community.

Efficiency:

Although the new facility has been completed and was ready for use in July 2011, harvesting of the haricot beans was not on time. Therefore the management committee was established before starting a transaction of the haricot bean on November, so there is no effect to substantial efficiency of the new market facility management due to time lag between the completion and establishment of management committee. Since the woreda had no budget for management of the facility due to no budgetary allocation in FY2011, a watchman was not employed. It affects the proper management of the facility regarding safety and sanitary aspects. In addition, delay in manufacture and supply for grain cleaner by Selam Hawassa Business Group PLC hampers timely training on quality improvement of haricot bean using the facility.

Impact:

The Boricha woreda is now planning an expansion of the market facility for other representative commodities such as maize and this fact is a concrete impact by this pilot project. With the governmental and/or regional budget shortage for deployment of this kind of market facility, a collaboration with other programs which has a budget for infrastructure construction is very useful. Actually, AGP is in the process of constructing seven (7) new market facilities in six (6) woredas in four (4) zones in SNNPR. The JICA Study Team has provided all data on the construction of facilities such as drawings, bill of quantities, specifications etc. for PP06 and PP07 to AGP from the beginning of the AGP's process. They also have provided a workshop on the PP06 and PP07 experiences to staff from all woredas and zones concerned above. The workshop consisted of 1) management aspect, 2) technical aspect which includes i) planning, ii) design, iii) construction and iv) experiences of PP06 and PP07, 3) experience sharing by the management committee of Belila market facility management committee, and 4) site visit to the Belila market facility on the market day. A total of 49 participants gathered in 2 days at the workshop and through group discussion in the final session they tried to form their plans on target commodity and management.

Sustainability:

The use tax of the new facility is revenue of the Boricha woreda and it is not utilized for maintenance and management of this facility directly. The key point for sustainability of the facility is how to secure the necessary budget for management and periodical maintenance cost. Proper management for the new facility is expected because the management committee has been established in due manner.

(11) Recommendation

With regard to the management of market facilities, the following are recommendations are given:

- Since there are many irrelevant persons who come in the market facility during market day, they may harm the facility in short time because of their lower sense of public morality. When rain comes, it is a concern that many persons may enter the facility under the roof in order to avoid the rain. In this context, it is very important to manage the facility considering the culture and customs of the area and sustainability of the facility.

- Notwithstanding that we know the woreda has no budget allocated to the management of this facility this fiscal year, the management committee should be involved on the management of the facility in practical actions such as instruction for cleaning, clampdown on illegal traders etc.
- It is a concern that illegal traders will increase inside or outside of the facility, if legal watchmen / guards are not deployed for a long time. The increment of illegal traders in the facility makes this market facility management system meaningless.
- The management committee shall modify the established guidelines as required according to the actual problems faced during the management of the facility.

(12) Lessons Learnt

1) Entity for execution of construction and management of market facility

- An executing entity for construction of market facility is the respective woreda and its management responsibility is with municipality office; however, capability and experience of both entities in these aspects are not enough. So, strong support by BoMC for them is indispensable for proper construction and management of market facility.
- At present, AGP shows its interest in extending budget for the construction of market facilities in SNNPR. So, further collaboration with AGP and BoMC is very important in order to make use of the results of the pilot project.

2) Planning and design

- Planning of facility shall be done in accordance with the transaction volumes of target product and the number of traders. The size of the booth shall be decided according to the transaction volume per trader.
- It is also important to decide the size of facility based on not only total size of facility but also size of each booth/space taking into consideration the budget availability.
- Planning of access line to a facility is very important by considering future increase of the transaction volumes and the number of traders.

3) Contractor’s capability

- Contractor’s capability in the region seems poor in terms of workmanship, especially in a remote area. A responsible person for a contractor must be stationed on site in order to uphold the quality of construction works. In order to keep the quality of construction, stationing of a responsible person for the contractor is the minimum requirement.

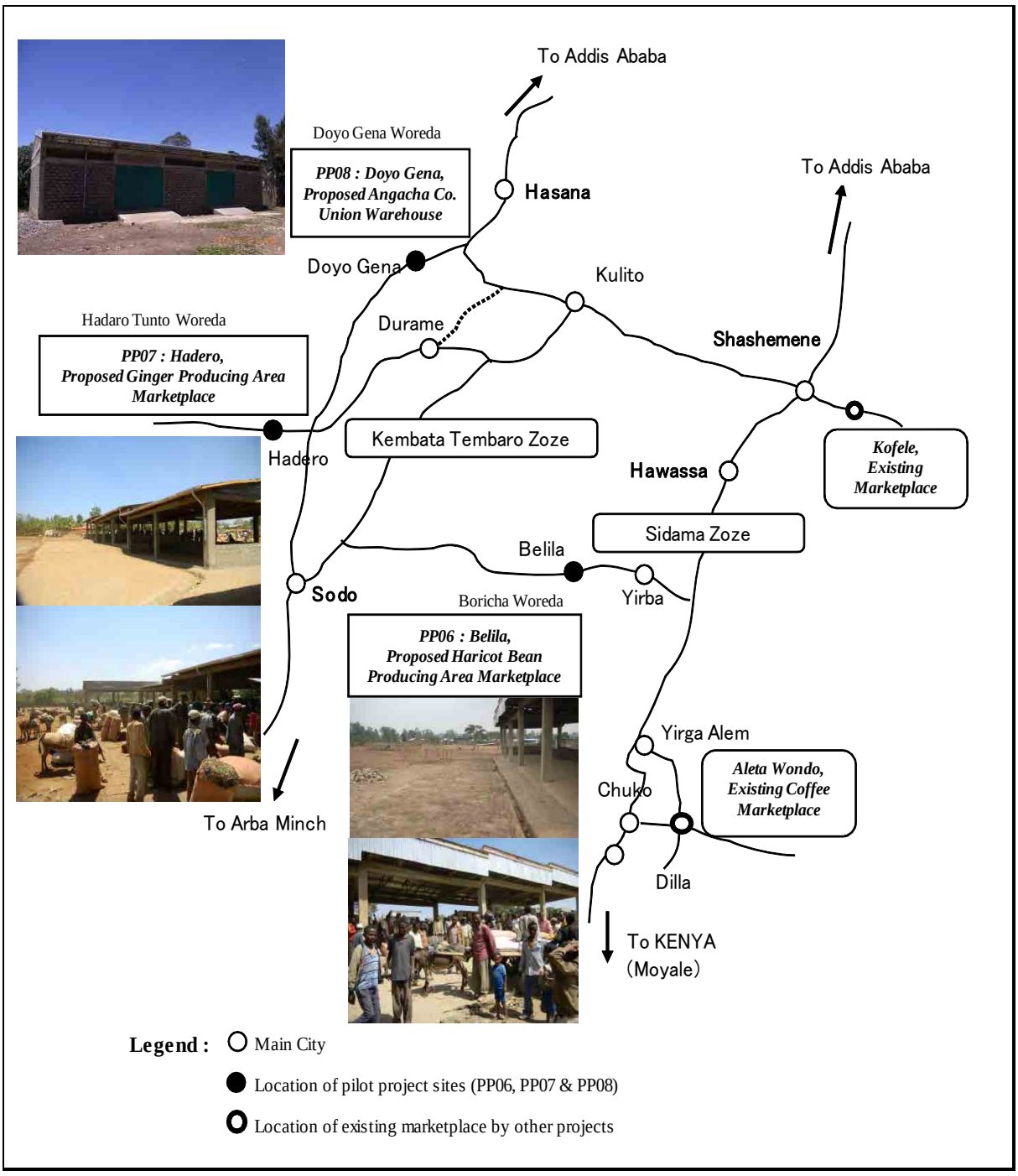


Figure PP06-4 Locations of New Facilities under Pilot Projects (PP06, PP07 & PP08)

Table PP06-2 PDM of PP06

PROJECT SUMMARY	INDICATOR	SOURCE OF INDICATOR	IMPORTANT ASSUMPTION
OVERALL GOAL : Effective market infrastructure to empower market activities is improved.			
PROJECT PURPOSE : New marketplace for haricot beans transaction is properly functioned.	1. Guideline is observed in the marketplace operation by stakeholders. 2. Quality of haricot beans marketed is improved. 3. Volume of haricot beans transaction in the new market is increasing compared with that in the old market.	1.1. Interview with municipality, committee, traders and users. 1.2. Observation of Study team 2.1. Interview with municipality, committee, traders and users. 2.2. Observation of Study team 3.1. Interview with municipality, committee, traders and users. 3.2. Observation of Study team 3.3 Transaction record	Market prices of grain do not slump.
EXPECTED OUTPUT : 1. Market facility for haricot beans transaction is constructed and handed over to the municipality 2. Marketplace committee is established and operational according to TOR. 3. Operational guideline of market place is finalized and familiarized among stakeholders. 4. Bean cleaner and moisture meter handed over to the municipality are operated.	1.1. Constructed facilities 1.2. Level of satisfaction of the stakeholder over the constructed facility 1.3. Frequency of committee meetings 1.4. Activities conducted by committee 3.1. Finalized guideline 3.2. Level of awareness of stakeholders on the guideline 4.1. Equipment handed over 4.2. Operation manual	1.1. Constructed facilities 1.2. Interview to the stakeholder 2.1. Interview with municipality, committee, traders and users. 2.2. Minutes of meetings 3.1. Finalized guideline 3.2. Interview with municipality, committee, traders and users. 4.1. Equipment handed over	

ACTIVITIES :	INPUT :	PRECONDITION :
1-1. Design of the draft layout of the haricot beans market place 1-2. Approval of location of market place to be constructed by officials concerned (Memo of Understanding) 1-3. Detail design of facilities including drawings, quantities and cost estimate 1-4. Preparation of tender document. 1-5. Evaluation and selection of a contractor and conclusion of Contract Agreement 1-6. Supervision of construction 1-7. Organization of handover ceremony 2-1. Facilitation of the establishment of market place committee 2-2. Preparation of TOR for the committee 3-1. Preparation of operational guideline of the market facilities 3-2. Organization of observation tour to Amhara region for the market use 3-3. Organization of workshop on the operational guideline and market use for stakeholders 4-1. Procurement and hand over of equipment 4-2. Preparation of operation manual 4-3. Organization of operational workshop on equipment	[**FROM SNNPR**] 1) Labor cost of union staffs 2) Machines/instrument for training (provided by WFP) [**FROM JAPAN**] 1) Expert (quality improvement) 2) Instructor (daily allowance, lodging expense, transportation cost) 3) Training cost (room charge, transportation cost) 4) Development cost of teaching materials 5) Development cost of poster and samples 6) BoMC personnel (daily allowance, transportation cost)	JICA allocates necessary budget for the pilot project

Table PP06-3 Results of Interview Survey PP06

Market Committee / Woreda administrator / Municipality manager

Respondent	Advantage	Disadvantage	Points to be improved
Market Committee / Woreda administrator/ Municipality manager	- Transaction can be done within designated space by licensed traders. Illegal traders remarkably have decreased. Previously, there was no way to clampdown illegal traders - So, proper transactions between traders and farmers have stared. Previously, farmers sometime were forced to sell products with cheap price. - Price information board (PP01) is very useful for farmers for proper transaction. - More farmers bring products to the market than before due to foregoing reasons. - Newly introduced facility use tax by traders bring economical benefit to the municipality	- No disadvantages are observed by use of the facility.	- Sanitary facilities such as toilet & trash disposal are necessary. - Additional stone pavement is desirable for less dust and mud. - The drainage culvert at entrance is to be improved. - Monitoring for management of facility is not done due to no budget. - No guard-man is employed due to no budget.

Farmers

Respondent	Advantage	Disadvantage	Points to be improved
Farmer 1 : landowner of 4 ha, 1 ha of haricot beans, sells to traders and Union	- This facility is useful to keep out rains and dust. - The price information board helps to decide a trading price but he has own price network.	- No disadvantage is considered.	- No specific item
Farmer 2 : landowner of 2 ha, 0.5 ha of haricot beans, sell to traders in a market	- Keep way from dust and rain. - Transaction can be done with licensed traders with proper price. - The price information board is very useful. Previously, there was no way to know current price but farmers' private conversation. - Unfair / forcing transaction by traders is decreased because of legal licensed traders. - A balance authorized by the Market Committee (MC) is relievable. - Fencing is good for fair transactions. - Generally, satisfaction in this facility.	- No disadvantage is considered.	- More lager space is desirable. - Improvement of entrance.

Respondent	Advantage	Disadvantage	Points to be improved
Farmer 3 : landowner of 2 ha, 1 ha of haricot beans, sell to traders in a market	- Keep out from sunshine, dust and rain. - Transaction can be done with licensed traders with proper price. - The price information board is very useful. Previously, there was no way to know current price but farmers' private conversation. - With deceasing illegal traders, forcing / unfair trade is decreasing. - Quality of haricot bean has been improved	- No disadvantage is observed.	- Distribution of improved seed is expected.
Farmer 4 : No private information, just come for watching the facility	- He is able to know current price in the Market because transactions are made in the designated space. - Keep out from dust and sunshine.	- No idea.	- No idea.
Farmer 5 : 5-6 ha of haricot beans cultivation intercropping with maize, sell to traders in a market (5 QT /market beforehand and it is increasing)	- Reduce dust and trash in haricot bean. - Cheating by traders is minimized because of balance testing by MC. - Because of less brokers, benefit of farmers is increasing. - Facility helps in protecting from dust, sunshine and rain.	- No disadvantage is observed.	- Stone pavement is to be repaired.
Farmer 6 : 2 ha of haricot beans cultivation intercropping with maize, sell to traders in a market (2QT for this market day)	- Reduce dust and trash in haricot bean. - This facility brought better price for farmers from licensed traders by reducing illegal brokers.	- No disadvantage is observed.	- No idea
Farmer 7 : 2 ha of haricot beans cultivation intercropping with maize, sell to traders in a market (4 QT for every market day)	- Because of less brokers, benefit of farmers is increasing. - Cheating by traders is minimized because of balance testing by MC.	- No disadvantage is observed.	- More lager space is desirable for larger supply of haricot beans - Strict control of illegal traders working inside the facility by MC.

Traders

Respondent	Advantage	Disadvantage	Points to be improved
Trader 1	- Facility is good as awning.	- No answer	- I know Woreda manages the facility. - Number of traders seems reducing after the facility is open.
Trader 2	- Facility is good for awning.	- Facility use tax is expensive. - Balance testing by MC bothers me. (This is benefit for farmers)	- Business is difficult due to price of haricot beans is in slump. - Because of no car, I am only reseller of haricot beans (broker).
Trader 3	- Haricot beans can be resold with higher price because of better quality. - Reducing of illegal brokers is good for licensed traders.	- No answer	- I know MC and its training. Various languages are required for a training. - Keeping records and buying from every one even small farmers. - More lager space is desirable.
Trader 4 : He has no records on transaction volume and he handle about 10 QT per market day	- Keep out from dust. - Calibration of balances by MC is good. - Misleading of grains is reducing due to decreasing of illegal brokers. - Quality of haricot beans is getting better.		- A person from Woreda who is in charge of market place does not know about MC and guideline. - Facility is damaged, such as floor, entrance culver etc. - Quality control equipment of grains such as sieve and moisture tester is necessary.
Trader 5 : Transaction volume is about 50-55 QT of haricot beans per market day	- This facility made brokers reduce and established direct supply chain from farmers to traders. - Transactions in the facility reduced dust and trash in grains.		- I know person of member of MC but he does not know guideline. - In general this much stock of haricot beans because of low buyers / low market access or link.
Trader 6 :	- Keep out from sunshine, rain and dust. - Reduction of dust and trash contents in grains	- Reduce of transaction volume from 50 QT/market to 20 QT/ market.	- I have not received any advice and visit from MC. - I don’t know MC and guideline.

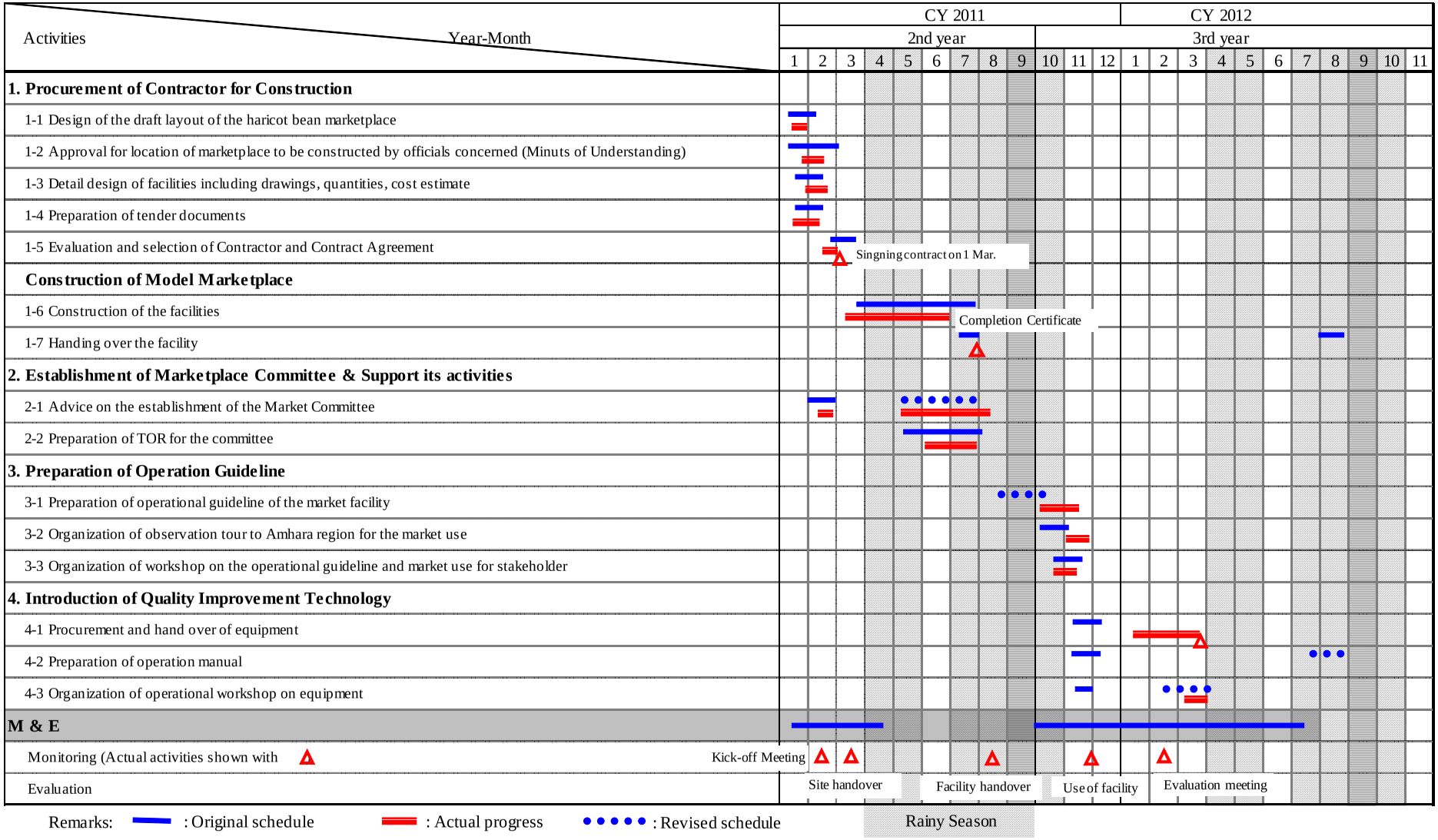


Figure PP06-5 Schedule and Progress of PP06

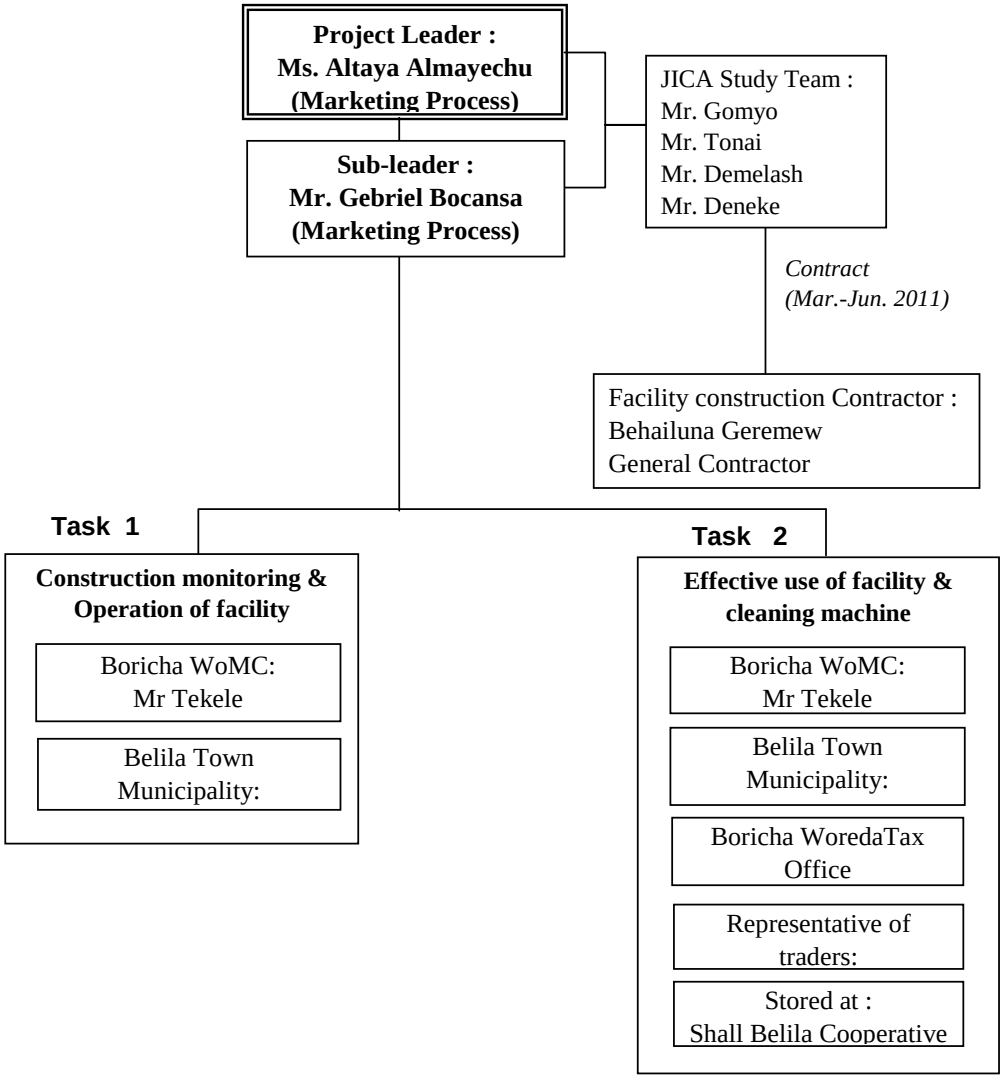


Figure PP06-6 Organization Chart for Planning and Implementation of PP06

PP07: Local Market Improvement Project in Ginger Producing Area

(1) Objective of the Project

To attain the improvements of working efficiency in the trading system of farm produce through introducing the market facility in the producing area: 1) design and construct a marketplace facility and 2) establish a management system for a new facility.

(2) Target Crops

Ginger

(3) Beneficiaries

Ginger traders, farmers and municipality

(4) Project site

Hadero Tunto woreda in Kembata Tembaro zone

Site for market facility construction is Hadero marketplace at Hadero town. Hadaro marketplace is the most important marketplace for ginger trade in Kembata Tembaro zone. Location is shown in Figure PP06-4 in the previous section for PP06.

(5) PDM (Project Design Matrix)

The Project Design Matrix (PDM) for PP07 is shown in Table PP07-2 hereafter.

(6) Organization of Planning and Implementation

1) For the implementation of PP07, the organization structure was established as shown in Figure PP07-9.
2) Kick-off meeting among the Pilot Project team members was carried out in 09 February 2011.
3) Explanation on the pilot project and its implementation and confirmation has been done on February 2011.

(7) Schedule and Progress of the Project

PP07 consists of two parts, i.e. 1) design and construction of a marketplace facility and 2) establishment of a management system for the new facility. Following activities were planned and implemented. The implementation schedule and actual progress is shown in Figure PP07-8.

Design and Construction of Market Facility

1-1. Design of the draft layout of market facilities
1-2. Approval of location of marketplace to be constructed by officials concerned
1-3. Detail design of facilities including drawings, quantities and cost estimate
1-4. Preparation of tender document

1-5. Evaluation and selection of a contractor and conclusion of Contract Agreement
1-6. Supervision of construction
1-7. Organization of handover ceremony

Establishment of Market Facility Management System

2-1. Facilitation of establishing the marketplace management committee
2-2. Preparation of TOR for the management committee
3-1. Preparation of operational guideline of the market facilities
3-2. Organization of observation tour to Amhara region for the market use
3-3. Organization of workshop on the operational guideline and market use for stakeholders

(8) Results of Activities

Activities were implemented / completed with the following sequence.

- Finalized design of facility and bill of quantity : End of Jan. 2011
- Started facilitating the establishment of management committee : Mid. Feb. 2011
- Concluded the Minutes of Understanding among concerned parties : 24 Feb. 2011
- Signed the contract for construction works for marketplace facility : 01 Mar. 2011
- Commenced the construction works at site : 07 Mar. 2011
- Completed the construction works : 30 June 2011
- Signing on Contract Amendment No.1 for time extension : 14 June 2011
- Mutual check for quantity executed for contract termination : 29 July 2011
- Signing of Termination Agreement : 01 Aug. 2011
- Signing of Contract for the remaining works : 08 Aug. 2011
- Signing of Contract Amendment No.1 (time extension) for the remaining work : 19 Oct. 2011
- Study tour to Amhara region for advanced management of market facility : 12-17 Nov. 2011
- Inauguration ceremony of the facility : 29 Nov. 2011
- Signing of Contract Amendment No.2 for the remaining work (final quantity) : 01 Dec. 2011
- Temporary handover of the facility to the municipality : 05 Dec. 2011
- Issuance of Completion certificate of construction works : 30 Dec. 2011

Designing and Construction of Market Facility

1-1. Design of the draft layout of market facilities

The layout of market facility was made according to the transaction volume and number of traders of ginger in the vicinity of the Hadero town and limitation of budget of PP07 as well. The basic concept of the facility is concrete floor, columns and beams with wooden truss for roof of galvanized corrugated steel plate. The space to be allocated for a trader is 6m x 3m and it consists of two blocks having 28 trading spaces for big block and having 10 for small block. The detail is shown in 1-3 hereunder.

1-2. Approval of location of marketplace to be constructed by officials concerned

Prior to commencement of construction, the Minutes of Understanding for the Pilot Project was concluded among BoMC, the JICA Study Team and the Hadero municipality with acknowledgement of the woreda administrator.

1-3. Detail design of facilities including drawings, quantities and cost estimate

The design of the new marketplace facility was made by the JICA Study Team in collaboration with the Hadaro town municipality, Hadaro Tunto WoMC and BoMC. The final structural outline of the marketplace facility is as follows:

Location	:	Hadero town, Hadero Tunto woreda, Kembata Tembaro zone
Dimensions	:	684 m^2 (504 m^2 x 1 block and 180 m^2 x1 block)
Architecture	:	One-story building (without walls), reinforced concrete columns and beams
Roof	:	Galvanized corrugated steel plate
Other	:	Cobble stone pavement around the building

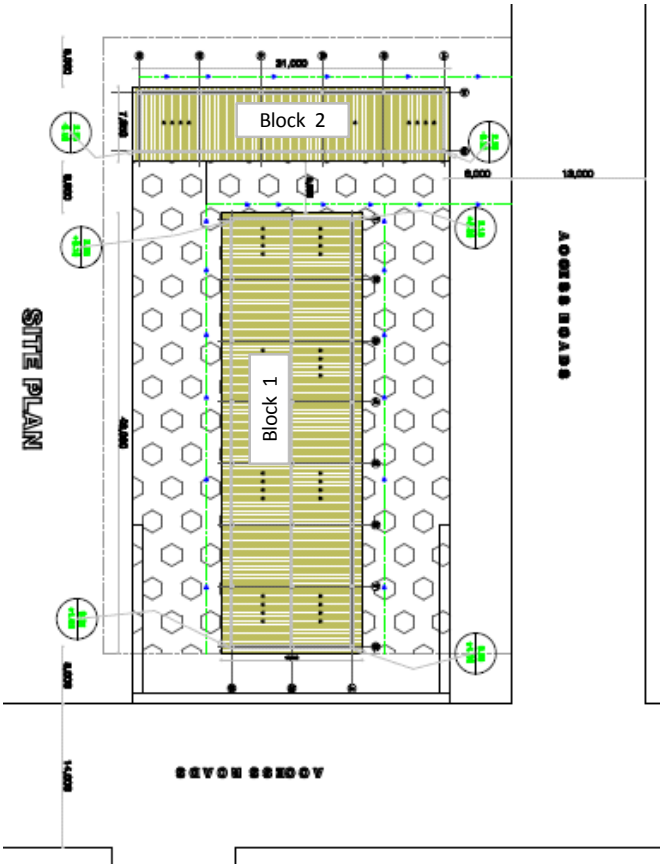


Figure PP07-1 Layout of Market Facilities (Block 1 and Block 2)

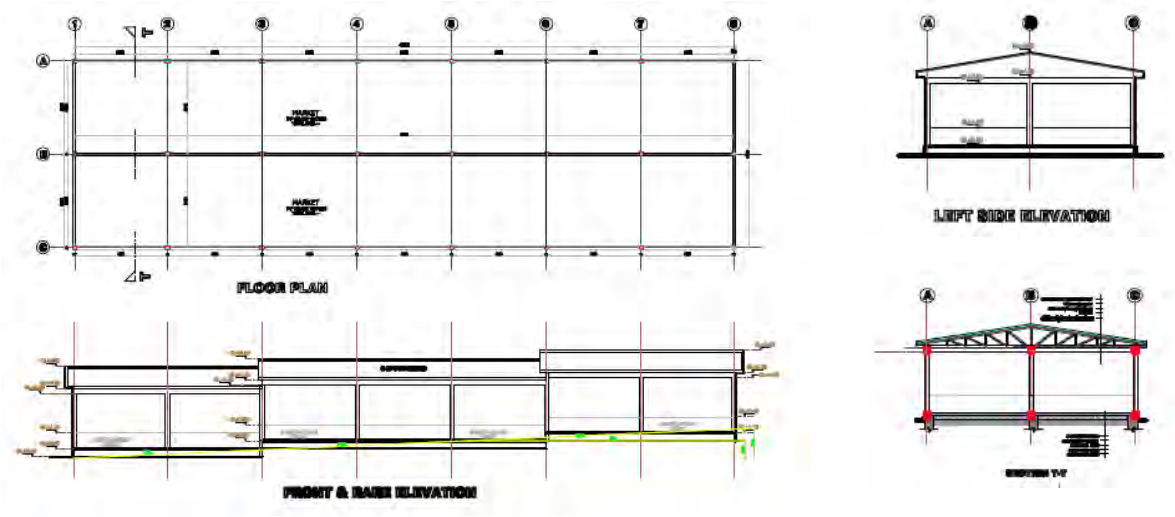


Figure PP07-2 Design of Market Facility (Block 1)

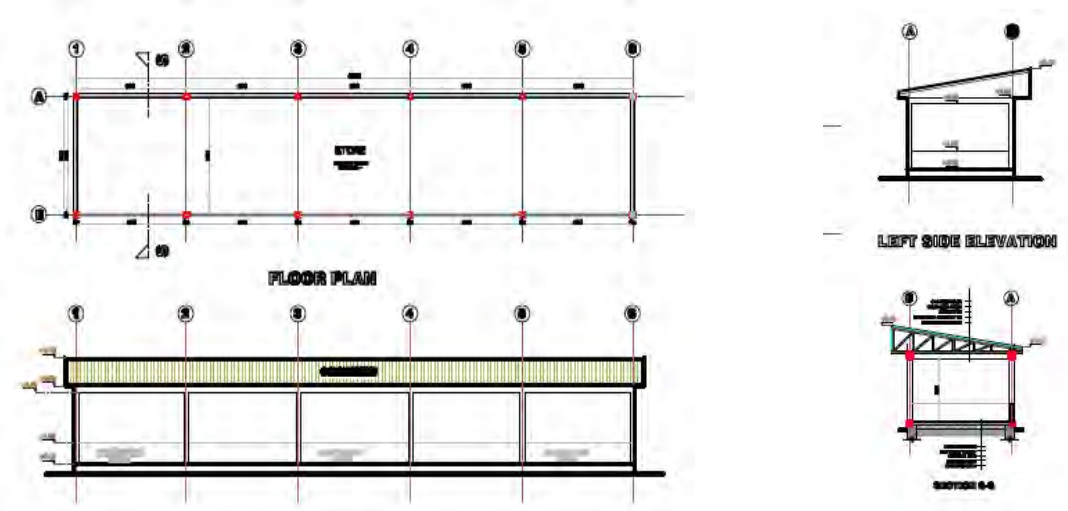


Figure PP07-3 Design of Market Facility (Block 2)

1-4. Preparation of tender document

The tender documents prepared are consisting of the following:

Part 1 : Instructions for Bidding

Part 2 : Form of Contract

Part 3 : Form of Bid

1. Contractor's quotation
2. Breakdown of bid price
3. Power of attorney
4. Certificate of after-completion services

Part 4 : General Conditions of Contract

Part 5 : Technical Specifications

Part 6 : Bill of Quantity

Part 7 : Drawings

1-5. Evaluation and selection of a contractor and conclusion of Contract Agreement

The construction contractor for the marketplace facility was selected through the following sequence in accordance with the "JICA procurement guideline for entrusted work for a Project".

- Selection of short-listed contractors from the long-list : 7-10 Feb. 2011
  24 contractors with Grade-6 qualification for general contractor or building contractor were long-listed. 5 contractors were short-listed for PP07
- Distribution of bid documents to the short-listed contractors (5 contractors) : 14 Feb. 2011
- Submission of bid by the contractors : 21 Feb. 2011
- Evaluation of bids by the JICA Study Team : 22-24 Feb. 2011
- Issuance of Letter of Award to successful contractor : 24 Feb. 2011
- Signing of Contract : 01 Mar. 2011

General outline of the contract is as follows:

- Name of contractor : Maquaninto Bekele General Contractor
- Contract price : ETB 812,382.73
- Final contract price (including remaining works) : ETB 1,061,273.79
- Construction period (including remaining works) : by 30 November 2011
- Reason of Increment of contract price : Design modification for additional grade beams in the floor due to ground slop

1-6. Supervision of construction

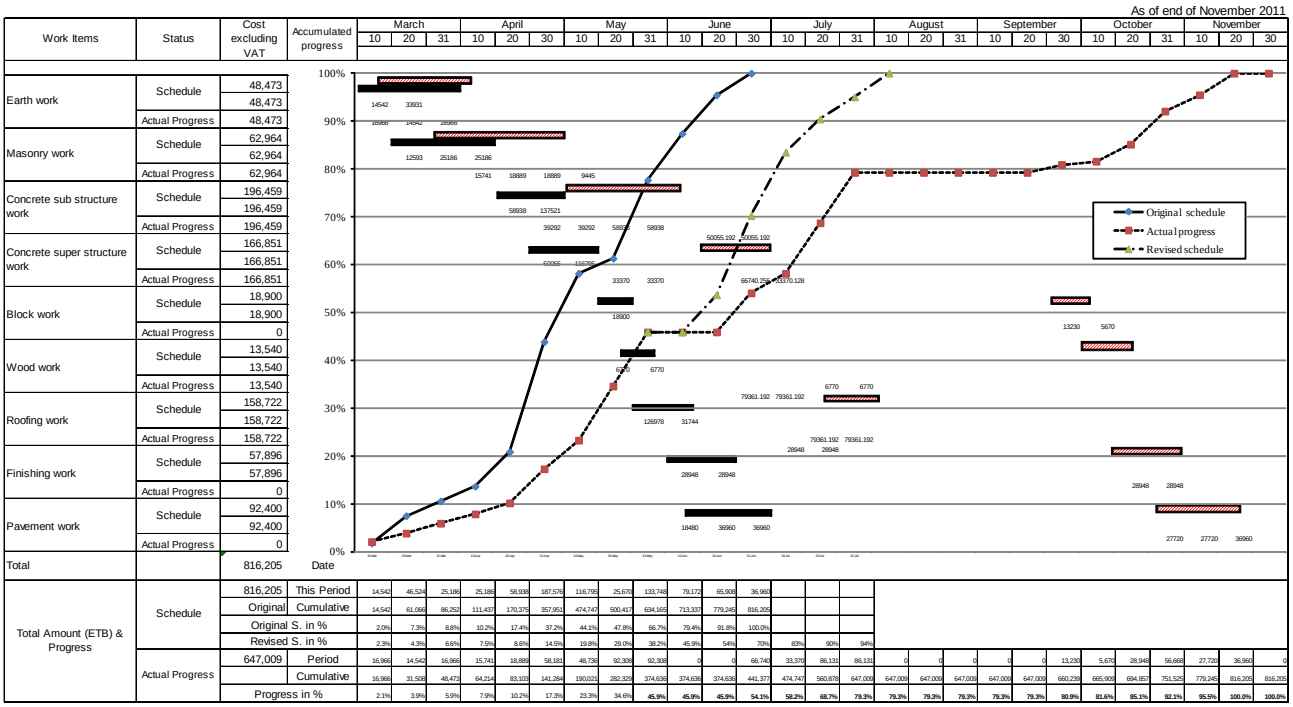
The construction was supervised by the JICA Study Team with a locally employed supervisor in collaboration with the Hadaro town municipality in order to maintain the quality of the facility.

Progress of the Construction Work

The construction was executed in the following sequence. The planned schedule and actual progress of the works is shown in the Figure PP07-4.

- Preparatory work and survey : Middle of Mar. 2011
- Earth work : Middle of Mar. to begin Apr. 2011
- Masonry foundation work : End of Apr. to begin May 2011
- Concrete slab and column work : Middle May to middle June 2011
- Contract Amendment No.1 for time extension : 14 June 2011
- Concrete beam work : Beginning to end of July 2011
- Roofing work : Middle to end July 2011
- Mutual check for termination : 29 July 2011
- Signing of Termination Agreement : 01 Aug. 2011
- Signing on a new contract for the remaining work : 08 Aug. 2011

- Execution of the remaining works : Aug. to Nov. 2011
- Mutual check for final quantity : 26 November 2011
- Certificate of completion of the works : 30 December 2011



Work Items	Status	Cost excluding VAT
Earth work	Schedule	48,473
		48,473
	Actual Progress	48,473
Masonry work	Schedule	62,964
		62,964
	Actual Progress	62,964
Concrete sub structure work	Schedule	196,459
		196,459
	Actual Progress	196,459
Concrete super structure work	Schedule	166,851
		166,851
	Actual Progress	166,851
Block work	Schedule	18,900
		18,900
	Actual Progress	0
Wood work	Schedule	13,540
		13,540
	Actual Progress	13,540
Roofing work	Schedule	158,722
		158,722
	Actual Progress	158,722
Finishing work	Schedule	57,896
		57,896
	Actual Progress	0
Pavement work	Schedule	92,400
		92,400
	Actual Progress	0
Total		816,205

Total Amount (ETB) & Progress				Mar 10	Mar 20	Mar 31	Apr 10	Apr 20	Apr 30	May 10	May 20	May 31	Jun 10	Jun 20	Jun 30	Jul 10	Jul 20	Jul 31	Aug 10	Aug 20	Aug 31	Sep 10	Sep 20	Sep 30	Oct 10	Oct 20	Oct 31	Nov 10	Nov 20	Nov 30
	Schedule	816,205	This Period	14,542	46,524	25,186	25,186	58,938	187,576	116,795	25,670	133,748	79,172	65,906	36,960															
			Original Cumulative	14,542	61,066	86,252	111,437	170,375	357,951	474,747	500,417	634,165	713,337	779,245	816,205															
			Original S. in %	2.0%	7.3%	8.8%	10.2%	17.4%	37.2%	44.1%	47.8%	66.7%	79.4%	91.8%	100.0%															
			Revised S. in %	2.3%	4.3%	6.6%	7.5%	8.6%	14.5%	19.8%	29.0%	38.2%	45.9%	54%	70%	83%	90%	94%													
	Actual Progress	647,009	Period	16,966	14,542	16,966	15,741	18,889	58,181	48,736	92,309	92,309	0	0	66,744	33,370	86,131	86,131	0	0	0	0	0	13,230	5,670	28,948	56,668	27,720	36,960	0
			Cumulative	16,966	31,508	48,473	64,214	83,103	141,284	190,021	282,329	374,638	374,638	374,638	441,377	474,747	560,878	647,009	647,009	647,009	647,009	647,009	660,239	665,909	694,857	751,525	779,245	816,205	816,205
			Progress in %	2.1%	3.9%	5.9%	7.9%	10.2%	17.3%	23.3%	34.6%	45.9%	45.9%	45.9%	54.1%	58.2%	68.7%	79.3%	79.3%	79.3%	79.3%	79.3%	80.9%	81.6%	85.1%	92.1%	95.5%	100.0%	100.0%

Figure PP07-4 Construction Schedule and Actual Progress for PP07

The contractor failed to complete the works by the designated date of the original contract, although the construction period had been extended for about one month from the original date, and the contract was terminated. The main reasons for this failure are poor management of the construction works without supervision by a qualified engineer at site and delayed supply of construction materials to the site by the Contractor. The remaining works consist of 1) block work, 2) finishing by sand cement screed for bottom floor, 3) stone pavement around the facility.

The JICA Study Team intended to complete the 2nd year study period by mid-August and resume its operation for the 3rd year at the beginning of October 2011. In view of this, the present contract was terminated on July 29 with about 80% of the required work completed.

The new contract for the remaining works was concluded in 08 August. It was expected that the remaining work would be completed before the commencement of the 3rd year study period in October so that the planned activities of PP07 would be implemented without any delay. Actually, however, the work was completed at the end of November 2011 as shown in the above Figure PP07-4.

Construction Sequence in Photographs

Survey and staking out (03 Mar. 2011)

Trench excavation for foundation (15 Mar. 2011)

Masonry foundation works (07 Apr. 2011)

Hard core for floor slab (20 May 2011)

Overview of Block 2 (28 Nov. 2011)

Overview of Block 1 (02 Feb. 2012)

1-7. Handover the Facility

The inauguration ceremony for the facilities constructed by PP05, PP07 and PP08 was carried out with attendance of the Head of BoMC, JICA Ethiopia office representative, Hadero Tunto woreda administrator, farmers group and other stakeholders and public neighborhood on 29 November.

Tape cutting at Inauguration by Mr. Nurdin, Director of BoMC & Mr. Shinkawa, representative of JICA Ethiopia (29 Nov. 2011)

Participants to Inauguration (29 Nov. 2011)

The constructed market facility has been handed over to the Hadaro Town Municipality provisionally on 05 Dec. 2011 and a final hand over was made on August 2012 just before the completion of the Study.

Establishment of Market Facility Management System

2-1. Facilitation of establishing the marketplace management committee

The SNNPR Government has issued the Implementation Guideline for sesame and white haricot beans marketing on July 2010 upon the issuance of "the Sesame and White Haricot Beans Marketing Regulation" (Regulation No.178/2010) by the Federal Government on 22 May, 2010.

The Hadero Tunto woreda has established the Management Committee for the new facility, which consists of the following members and drafted the management guideline of the facility based on the said Implementation Guideline.

Member of the Management Committee

- Market and Cooperative Office of Hadero Tunto woreda (WoMC)
- Tax Office of Hadero Tunto woreda
- Trade and Industry Office of Hadero Tunto woreda
- Manager of Hadero Town Municipality
- Traders' Representative

Organizational structure for managing the marketplace and new facility is as shown below.

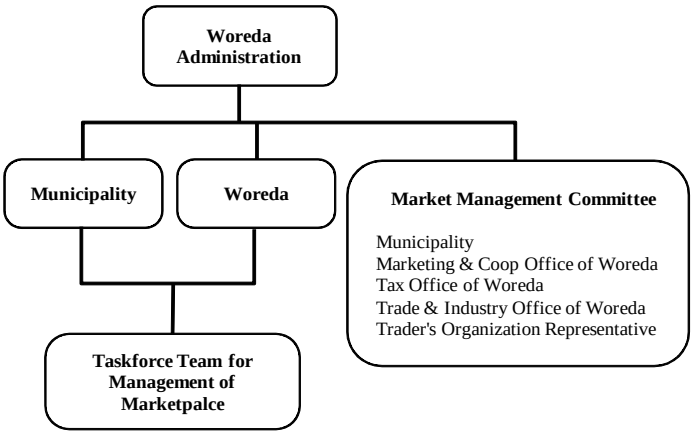


Figure PP07-5 Organization Structure for Management

2-2. Preparation of TOR for the management committee

TOR for the management committee is mainly as follows according to the said Implementation Guideline for sesame and white haricot beans marketing on July 2010.

- To decide market days
- To qualify traders
- To decide facility usage fee
- Deployment of quality control persons
- Deployment of market management persons

3-1. Preparation of operational guideline of the market facilities

The draft operational guideline has been prepared in accordance with TOR and summarized as follows:

Outline of the Guideline:

1. The market facility for the ginger is open on Wednesday and Saturday as same as the present market days.
2. Only licensed traders are allowed to deal haricot beans in the market and facility.
3. Traders shall use a calibrated and authorized balance.
4. Traders shall who use the new facility pay an annual tax of 3,400 Birr per allocated space.

3-2. Organization of observation tour to Amhara region for the market use

An observation tour for the existing sesame market place in Amhara region was carried out by members of the management committee of respective PP06 and PP07 for 12 to 17 of November 2011. The main purpose of the tour is to learn the current management system and actual activities of the committee members. The tour member had a meeting the committee members of Yohanes Metema sesame market and exchanged the opinions.

3-3. Organization of workshop on the operational guideline and market use for stakeholders

During the construction, the operation and management system for the new facility was studied and discussed among the Pilot Project Team and the woreda staff. The management committee, then, had a workshop on the draft Guideline to haricot bean traders for registration and licensing for haricot bean traders.

Use of the New Market Facility

The Hadero town municipality has started to use the new facility since January 2012 after the allocation of space of the new facility to 19 licensed traders selected through qualification evaluation. Upon the completion of the new facility, the management committee shifted a ginger trading area to this area from the old marketplace where various commodities are being dealt within the same area.

Use of New Market Facility in Photographs

Transaction of ginger at outside the facility
(04 Jan. 2012, on a market day)

Inside the facility : Fewer traders are using it
(04 Jan. 2012, on a market day)

Backside of Block 1 : No trader uses booth
(29 Feb. 2011, on a market day)

Transaction in Block 2 : Fewer traders use booth
(29 Feb. 2011, on a market day)

The new facility is not used properly as shown in the photographs. It is discussed in (10) Project Evaluation and (11) Recommendation, hereafter.

(9) Achievement of Project Purpose and Expected Output

The project output of PP07 according to the PDM shown in Table PP07-2, have been evaluated as shown in the following Table PP07-1.

Table PP07-1 Achievement of Project Purpose and Expected Output

Project Purpose	Evaluation	Source of indicator	Remarks
New marketplace for ginger transaction is properly functioning.	1. Guideline is observed in the marketplace operation by stakeholders: **Accomplished** 2. Quality of ginger marketed is improved: **Accomplished** 3. Volume of ginger transaction in the new market is increasing compared with that in the old market: **Not identified**	1.1. Interview with municipality, committee, traders and users. 1.2. Observation of Study team 2.1. Interview with municipality, committee, traders and users. 2.2. Observation of Study team 3.1. Interview with municipality, committee, traders and users. 3.2. Observation of Study team 3.3. Transaction record	Increment of transaction volume of ginger is not identified because of shortage of number of trading booths
Expected Output	**Evaluation**	**Source of indicator**	**Remarks**
Market facility for haricot bean is constructed and handed over to the municipality	Accomplished	1. Constructed facility 2. Interview to the stakeholder	
Market management committee established	Accomplished	1. Market facility management committee	
Operational guideline of market facility is finalized and familiarized among stakeholders	Accomplished	1. Availability of the Management guideline	Guideline is draft level.

(10) Project Evaluation

In order to evaluate the effectiveness of the Pilot Project, an evaluation meeting among BoMC pilot project team, a management committee and the JICA Study team was organized. In addition, an interview survey to the other stakeholders of farmers (4 farmers) and traders (3 traders) was conducted. The results of the interview survey are shown Table PP07-3 hereafter and it confirms that the facility is effective against dust, sunshine and rain. Because the survey findings were more or less the same as what was discussed in PP06, They will not be repeated in this chapter. However, a few booths are in use at present, notwithstanding that every booth has been allocated to 19 traders (including 3 associates) by the management committee. The reasons are:

a) The number of booths in the facility is much fewer than the number of traders dealing with ginger in the area.

b) Initially, the facility was designed to allocate a booth of 6m x 3m per trader. But later the space was found too small, given the transaction volume of each trader.
c) In this context, the management committee decided to allocate a space of 6m x 6m for one trader, so the total number of available booths goes from 19 to 38.
d) The total number of licensed traders is 220, while the number of booths with 6m x 6m size is only 19. So, so many traders are forced to make transactions outside the facility.
e) The space between facility blocks, block 1 and block 2, is not big enough for unloading and loading of products. So, block 2 is not utilized effectively.
f) Access lines to the facility blocks was not properly designed, as a result, the back side of block 1 is not fully utilized (see photo above).

The evaluation of the Pilot Project PP07 is summarized according to the following four aspects:

Effectiveness:
Although the effectiveness of the market facility is verified for keeping out dust and rain and other reasons as discussed in the Pilot Project PP06, this Pilot Project PP07 derives various lessons in view of planning and designing. With a proper improvement of the constructed facility, its effectiveness will be enhanced. The suggested improvement plan is given in the next “Recommendations”.

Efficiency:
Since the ginger harvesting starts the end of October normally, the delay in construction of facility affected the starting time of use of new facility. The discontinuation of the expert of the JICA Study Team during the starting time of use of the facility clogged up the facility for the betterment of use.

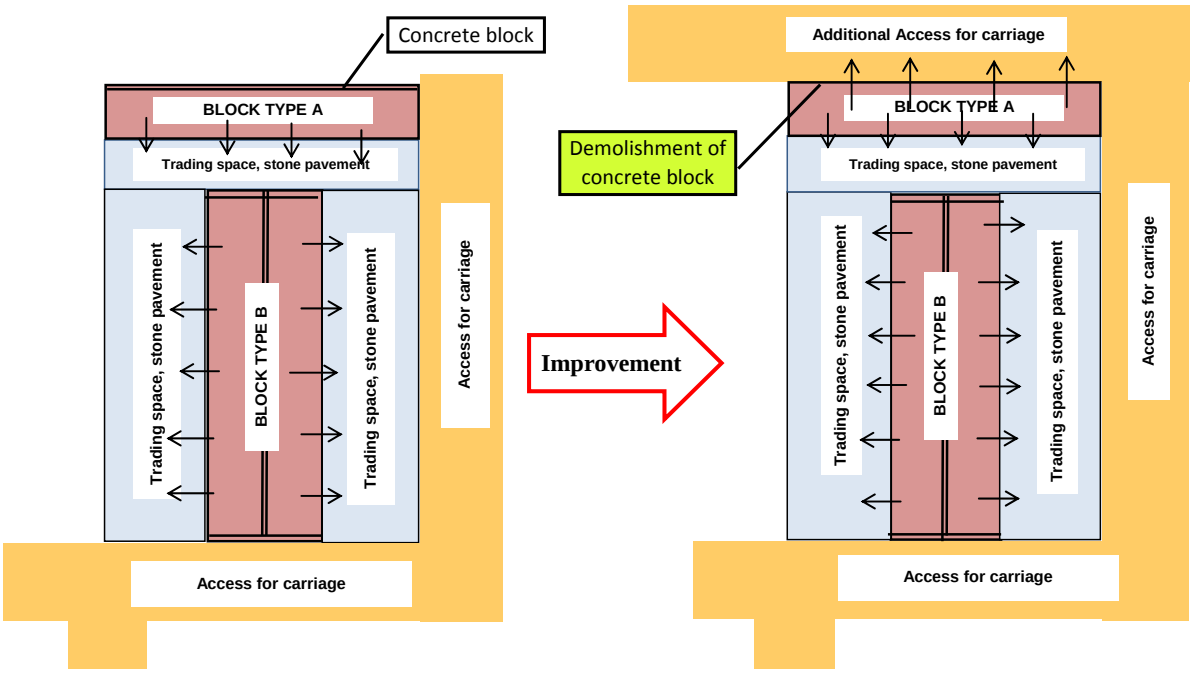
Impact:
The strengthening of this new ginger market area has been launched by woreda by providing lighting system for night trading, as well as sanitary facilities such as toilets and shower room, which are under process for construction.

Sustainability:
The facility use tax collected from traders is a revenue of Hadero Tunto woreda and will not be utilized for maintenance and management of this facility. The key point for sustainability of the facility is how to secure the necessary budget for management and periodical maintenance. The proper management of the new facility is expected to be undertaken by the management committee that was established in due manner.

(11) Recommendation

1) Improvement plan of the constructed facility for more effective use
   - Access line shall be provided to the back side of block 2

- Concrete blocks shall be demolished to make open space for loading/unloading ginger from the back side.



Existing **Proposed Improvement Plan**

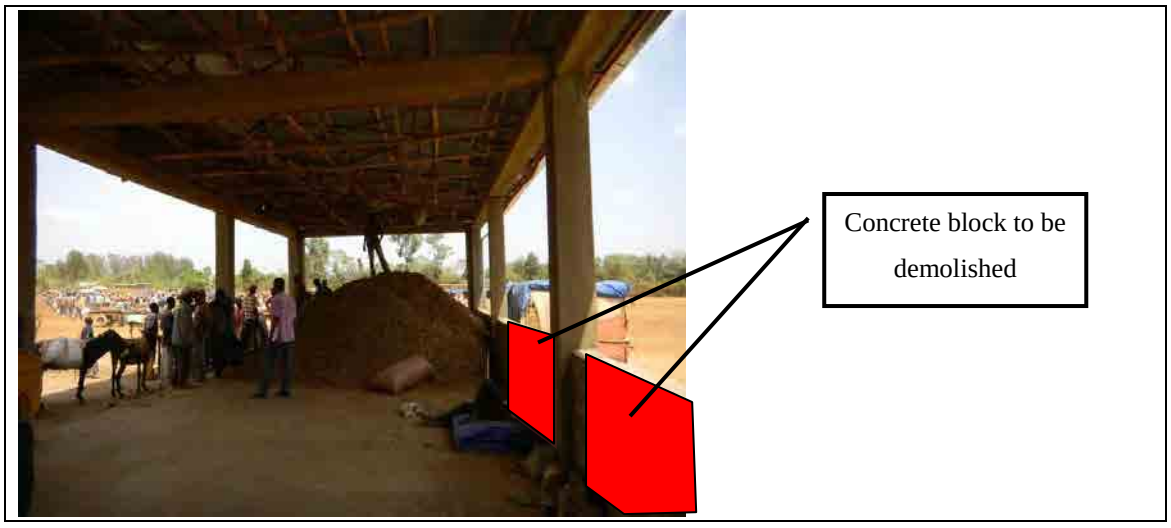


Figure PP07-6 Improvement Plan for Effective Use

2) Further extension plan

- Further extension plan is suggested as shown in the following Figure PP07-7.

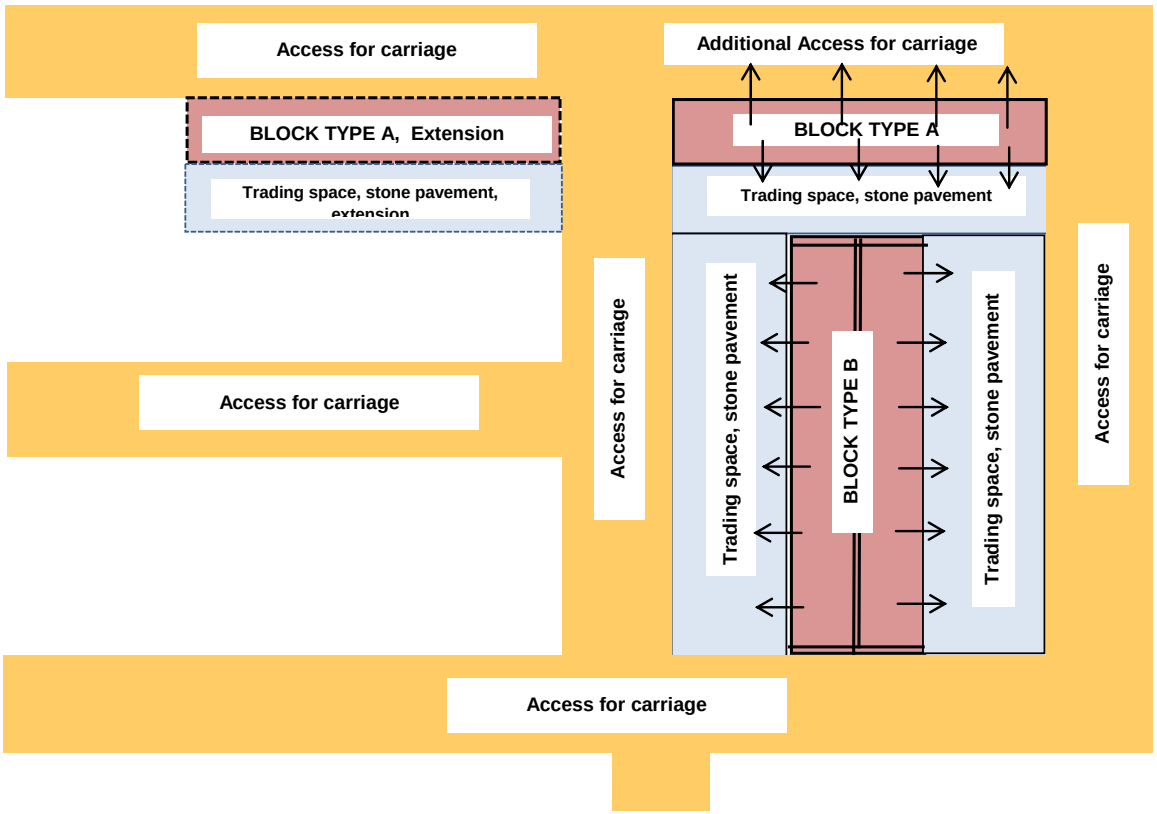


Figure PP07-7 Suggested Further Extension Plan

3) Management of market facility

- Since there are many irrelevant persons who come in the market facility during market day, they may harm the facility in short time because of their less sense of public morality. When rain comes, it is a concern that many persons may enter the facility under the roof in order to avoid rain. In this context, it is very important to manage the facility considering the culture and custom of the area and sustainability of the facility.
- Notwithstanding that we know the woreda has no budget allocated to the management of this facility this fiscal year, the management committee should be involved in the management of the facility in practical actions such as instruction for cleaning, clampdown on illegal traders etc.
- It is a concern that the number of illegal traders will increase, if an official watchman / guard isn't deployed for a long time. The increment of illegal traders in the facility makes this market facility management system weak.
- The management committee shall modify the prepared guidelines as required according to the actual problems facing during the management the facility.
- The price information board installed by PP01 should be used as much as possible to facilitate fair trade practice between farmers and traders.

(12) Lessons Learnt

Every lesson and learning discussed in the previous chapter for PP06 is applicable to this PP07 as well. The important lessons from this PP07 are those related to planning and design of facilities as follows:

- Planning of facility shall be in accordance with the transaction volumes of target product and number of traders. The size of the booth shall be decided according to the transaction volume per trader.
- It is also important to optimize the size of facility taking into consideration not only total size of facility but also size of each booth/space and available budget.
- Planning of access line to a facility should be done by considering future increase in the transaction volume and the number of traders.

Table PP07-2 PDM of PP07

PROJECT SUMMARY	INDICATOR	SOURCE OF INDICATOR	IMPORTANT ASSUMPTION
OVERALL GOAL : Effective market infrastructure to empower market activities is improved.			
PROJECT PURPOSE : New marketplace for ginger transaction is properly functioned.	1. Guideline is observed in the marketplace operation by stakeholders. 2. Quality of ginger marketed is improved. 3. Volume of ginger transaction in the new market is increasing compared with that in the old market.	1.1. Interview with municipality, committee, traders and users. 1.2. Observation of Study team 2.1. Interview with municipality, committee, traders and users. 2.2. Observation of Study team 3.1. Interview with municipality, committee, traders and users. 3.2. Observation of Study team 3.3. Transaction record	Market prices of grain do not slump.
EXPECTED OUTPUT : 1. Market facility for ginger transaction is constructed and handed over to the municipality 2. Marketplace committee is established and operational according to TOR. 3. Operational guideline of market place is finalized and familiarized among stakeholders.	1.1. Constructed facilities 1.2. Level of satisfaction of the stakeholder over the constructed facility 2.1. Frequency of committee meetings 2.2. Activities conducted by committee 3.1. Finalized guideline 3.2. Level of awareness of stakeholders on the guideline	1.1. Constructed facilities 1.2. Interview to the stakeholder 2.1. Interview with municipality, committee, traders and users. 2.2. Minutes of meetings 3.1. Finalized guideline 3.2. Interview with municipality, committee, traders and users.	

ACTIVITIES :	INPUT :	PRECONDITION :
1-1. Design of the draft layout of the ginger market place 1-2. Approval of location of market place to be constructed by officials concerned (Memo of Understanding) 1-3. Detail design of facilities including drawings, quantities and cost estimate 1-4. Preparation of tender document. 1-5. Evaluation and selection of a contractor and conclusion of Contract Agreement 1-6. Supervision of construction 1-7. Organization of handover ceremony 2-1. Facilitation of the establishment of market place committee 2-2. Preparation of TOR for the committee 3-1. Preparation of operational guideline of the market facilities 3-2. Organization of observation tour to Amhara region for the market use 3-3. Organization of workshop on the operational guideline and market use for stakeholders	[**FROM SNNPR**] 1) Labor cost of union staffs 2) Machines/instrument for training (provided by WFP) [**FROM JAPAN**] 1) Expert (quality improvement) 2) Instructor (daily allowance, lodging expense, transportation cost) 3) Training cost (room charge, transportation cost) 4) Development cost of teaching materials 5) Development cost of poster and samples 6) BoMC personnel (daily allowance, transportation cost)	JICA allocates necessary budget for the pilot project

Table PP07-3 Results of Interview Survey PP07

Market Committee / Woreda administrator / Municipality manager

Respondent	Advantage	Disadvantage	Points to be improved
Market Committee / Woreda administrator / Municipality manager	- The facility is much useful during rainy season. - Quality of ginger dealing in the facility becomes better because of free from mud and dust. - The facility is useful for protection from robbery and loss of ginger. - Buyers apt to trust from traders in the facility for purchase ginger. - Facility use tax is increased.	- Idling space at backside block 1 is useless for trading	- Access line must be kept for passing cars and animal cart. - Space between block is not enough for transportation, unloading and loading ginger. It must be improved. - Space for one trader of 6m x 3m is not enough. MC changed to 6mx 6m for one trader. - Quality of construction especially stone pavement is not good and subject to repair. - MC has paid ETB140,000 for provision of lighting system and sanitary facilities.

Farmers

Respondent	Advantage	Disadvantage	Points to be improved / other information
Farmer 1 : landowner of 2 ha, supplies about 10-20 QT/market day	- He is able to know current price in market place of ginger. - The facility is good against rain, especially dry ginger - Drying quality is improving in connection with the facility.	- No disadvantage is considered.	- No specific item
Farmer 2 : landowner of 1 ha for ginger, supply about 20 QT/market day	- Reduction of dust and trash in ginger. - A balance authorized by the Market Committee (MC) is relievable. - Keep out from sunshine and rain.	- No disadvantage is considered.	- To decide trading price, he shows a sample to several traders and select better price.

Respondent	Advantage	Disadvantage	Points to be improved / other information
Farmer 3 : landowner of 1 ha, supply 17 QT/market day on an average	- Easy control from dust and mad. - Keep out from rain. - Keep out from robbery.	- No disadvantage is observed.	- No information on price board.
Farmer 4 : landowner of 1.5 ha, supply 5-6 QT/market day on an average	- Keep out from dust, sunshine and rain.	- No idea.	

Traders

Respondent	Advantage	Disadvantage	Any other comments
Trader 1	- The facility provides minimum dust and sunshine. - The facility is effective during rainy reason. - The facility helps to make better quality of ginger.	- No answer.	- Packing of ginger is done in night time, so lighting system is needed. - Recording of transaction volume is made using ticket system. -
Trader 2	- Quality improvement ginger is expected by transaction in the facility.	- There is no fence to protect from robbery. - There is no toilet.	- Transaction volumes are recorded every market day by means of ticket system and noted on a book at finishing time, normally in night time.
Trader 3	- The facility provides minimum dust and sunshine. - The facility is effective during rainy reason.	- Transaction in two different places, i.e. in the facility and open space, is not good.	- He doesn't know MC and management guideline. - There is no advice on quality by MC. - The facility need to construct in the center of the marketplace.

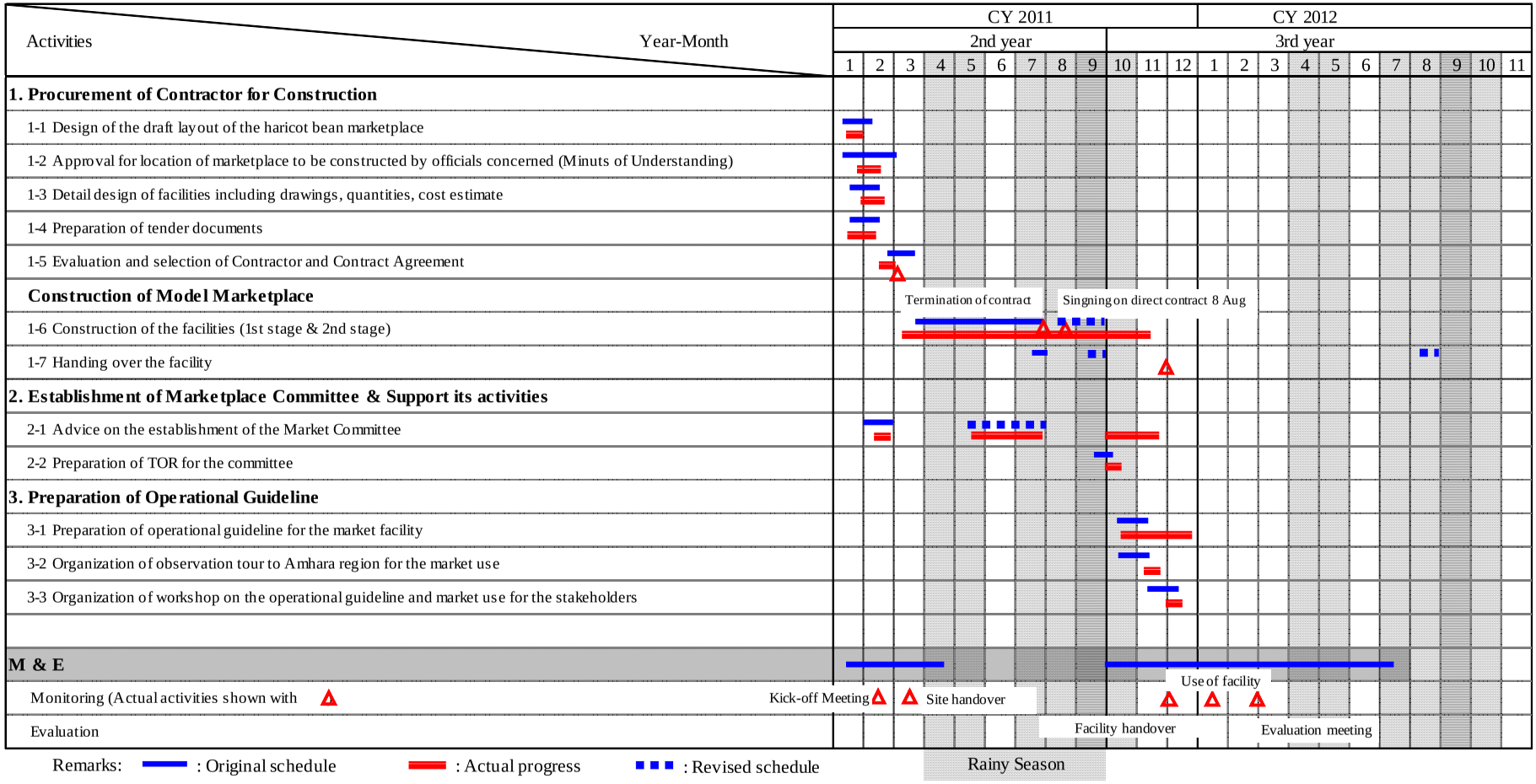


Figure PP07-8 Schedule and Progress of PP07

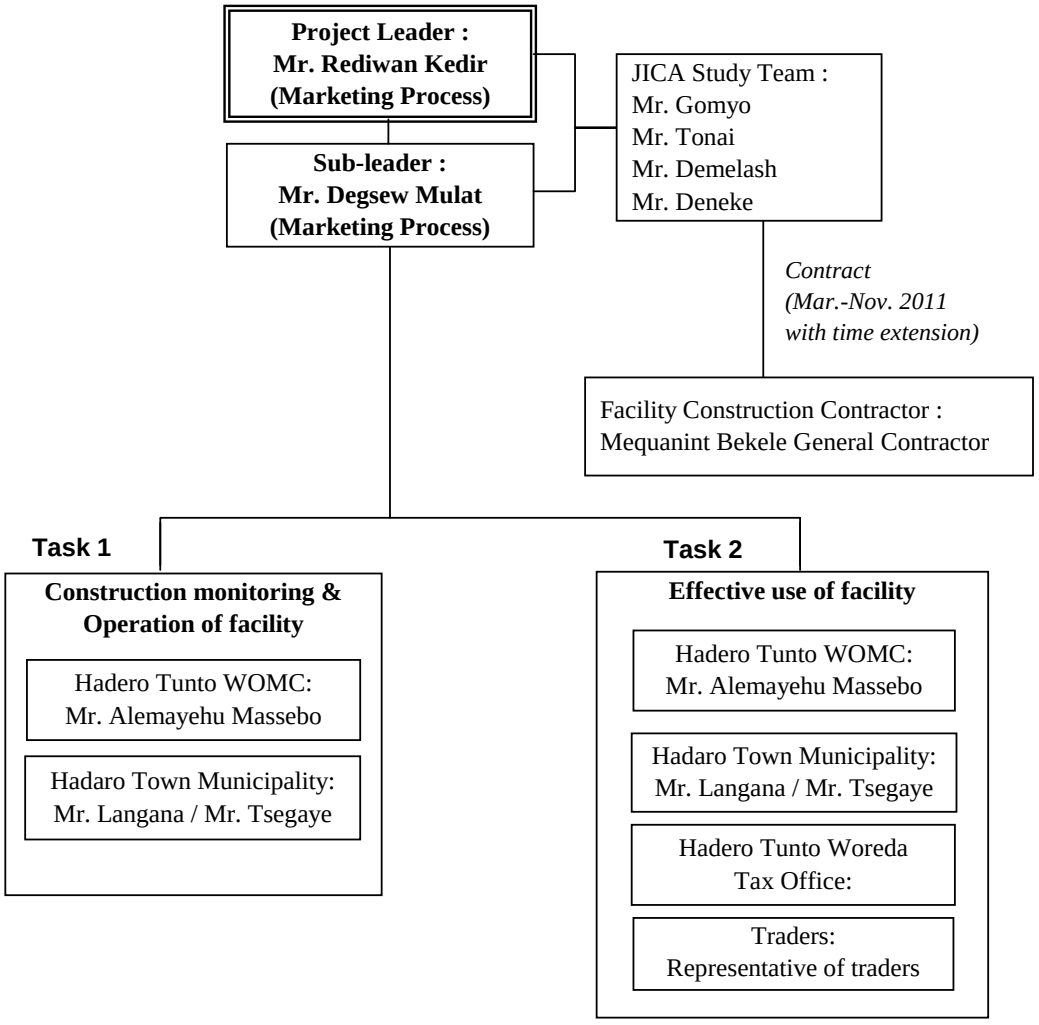


Figure PP07-9 Organization Chart for Planning and Implementation of PP07

PP08: Standard Warehouse Construction and its Ideal Management

(1) Objective of the Project

Popularization of standard warehouse and training of ideal warehouse management

(2) Target Crops

Maize, Haricot bean and Wheat

(3) Beneficiaries

Primary cooperatives, Cooperative Unions, ZoMC, WoMC

(4) Project Site

Area covered by 9 Cooperative Unions of WFP /P4P participants.

Site for standard warehouse construction is Doyo Gena woreda in Kembata Tembaro zone; at the site of Angacha Union. Location is shown in Figure PP06-4 in the previous section for PP06.

(5) PDM (Project Design Matrix)

The Project Design Matrix (PDM) for the PP08 is shown in Table PP08-3 at the end of this section.

(6) Organization of Planning and Implementation

1) Organization Chart for Planning and Implementation is shown in the Figure PP08-5. The team leader and sub-team leader for the PP08 were officially nominated from the Cooperative Process and Marketing Process of BoMC at the Steering Committee. Other members were selected from 6 ZoMCs and 1 Special woreda which covered the zones/special woreda where the WFP/P4P targeted 9 cooperative unions were located.
2) The trainings were implemented together with PP02 because the targeted 9 unions of the PP08 training of warehouse management are the same as the targeted 9 unions of PP02 training of quality control.
3) According to the field study of the present warehouses owned by the targeted unions, only Angacha Union at Doyo Gena Wereda in Kembata Tembaro zone didn't have own warehouse. It was also found that Angacha Union had a construction plan of new warehouse. In this context, the JICA Study Team proposed Angacha Union that JICA supported the construction cost of the new warehouse with concrete brick wall for the union and Angacha Union agreed to show the newly constructed warehouse to anybody for the purpose of the dissemination of a model of standard warehouse.
4) Prior to the warehouse construction, the minutes of understanding on standard warehouse construction for PP08 was exchanged to confirm the duties among BoMC, Angacha Union and JICA Study Team on 24 February, 2011.

(7) Schedule and Progress of the Project

Two category of activities; i.e (i) design and construct a standard (model) warehouse in order to show the proper design criteria of warehouse and (ii) provide training of ideal warehouse management to the WFP/P4P targeted union and primary coops in order to disseminate proper warehouse management were planned.

1) Schedule

- Construction of standard warehouse was planned to be completed in the 2nd year study.
- Training schedule was planned as below, which was implemented together with PP02.

  First stage : Implementation of 1st training (Jan. 2011 to July 2011)

  Second stage : Implementation of 2nd training (Sep. 2011 to Feb. 2012)

2) Activities plan

Following activities were planned and implemented. The schedule and actual progress is shown in Figure PP08-4.

1-1. Establishment of construction committee
1-2. Preparation of rough layout plan
1-3. Preparation of detailed design of warehouse
2-1. Preparation of bid documents
2-2. Evaluation and selection of contractor
2-3. Signing of contract
2-4. Construction of the warehouse
3-1. Selection of trainers
3-2. Preparation of training contents
3-3. Implementation of training
4-1. Preparation of manual, poster and check sheet

(8) Implementation and Result of the Pilot Project

The activities of PP08 were divided into two parts; (i) warehouse construction and (ii) training of warehouse management. Results of each activity were as follows.

1) Warehouse construction

1-1. Establishment of construction committee

Angacha Union established a warehouse construction committee in on the middle of February, 2011. This committee engaged in discussions and decision making with JICA Study Team. It also had the roles such as handling the procedures of landownership transfer, budget management and supervision of attached facility construction (office, guard house, toilet), securing the security during the construction period.

1-2. Preparation of rough layout plan

The design of standard warehouse was worked out by the JICA Study Team after due consultation among Doyo Gena Municipality, ZoMC of Kembata Tembaro ZoMC and Angacha Union. At first, rough layout was designed by the JICA Study Team and Angacha Union decided the final site plan after some discussions.

1-3. Preparation of detailed design of warehouse

After decision of the site plan, JICA Study Team worked out the detailed design of warehouse. The structural outline of the warehouse facility is as follows;

Storage capacity	:	500 tons
Dimensions	:	24.0 m x 11.0 m = 264 m^2
Architecture	:	One-story building with brick wall, reinforced concrete columns and beams
Roof	:	Folded iron roofing sheet (EGA500)
Other	:	Attached facility such as office, guard house and toilet were constructed by the Union budget

Considering the climate condition and architectural circumstances in SNNPR and referring the WFP's warehouse standard and existing warehouses, the specifications / conditions to be equipped in the standard warehouse (model warehouse) for grain storage were determined as follows;

- Concrete brick wall
- Reinforced concrete column and beam
- Floor is more than 30cm above the ground level
- Reinforced concrete floor
- Galvanized iron roof
- Two doors
- Wall openings for ventilation and lighting
- Roof gutter and drainage ditch
- Adequate access way (working passage) in warehouse
- Store space for PP bags, etc. (min. 2 m x 3 m with ceiling)
- Easy access with truck (proper site layout)

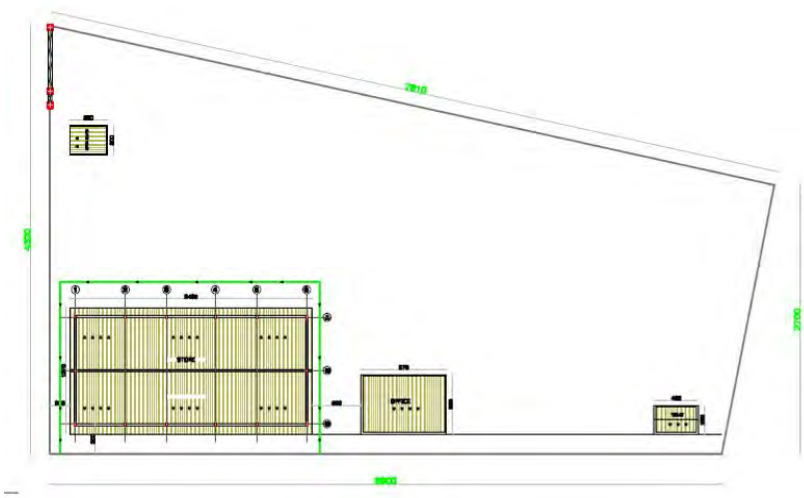


Figure PP08-1 Site Layout

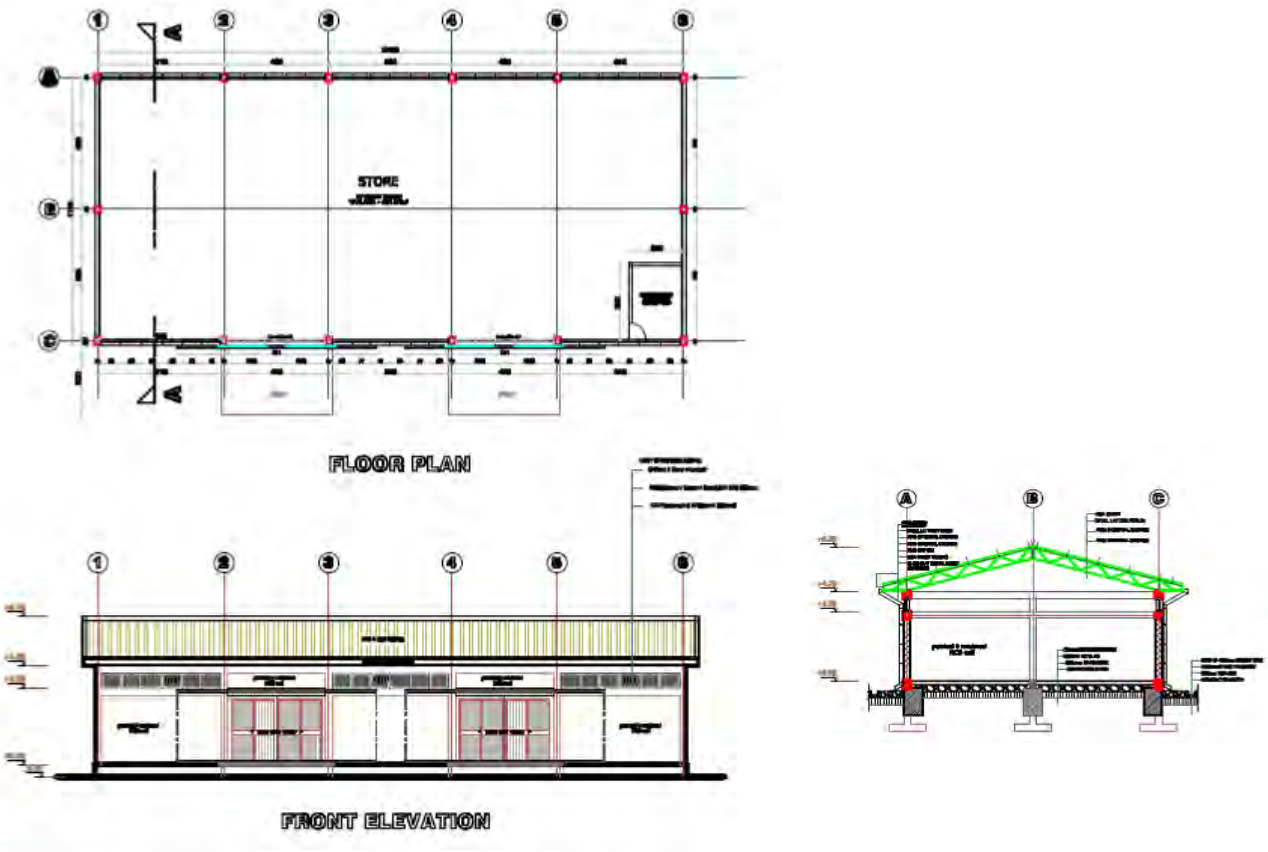


Figure PP08-2 Design of the Warehouse

2-1. Preparation of bid documents

After the detailed designing of warehouse, the bid documents were prepared. The JICA Study Team implemented the bid of PP08 together with PP06 and PP07.

2-2. Evaluation and selection of contractor

The construction contractor for the warehouse was selected through the following sequence in accordance with the "JICA procurement guideline for entrusted work for a Project".

- Selection of short-listed contractors from the long-list : 7-10 Feb. 2011
  24 contractors with Grade-6 qualification for general contractor or building contractor were long-listed. 5 contractors were short-listed for PP08.
- Distribution of bid documents to the short-listed contractors : 14 Feb. 2011
- Submission of bid by the contractors : 21 Feb. 2011
- Evaluation of bids by the JICA Study Team : 22-24 Feb. 2011
- Issuance of Letter of Award to the successful contractor : 24 Feb. 2011
- Signing of Contract : 01 Mar. 2011

2-3. Signing of contract

The evaluation of bids of 5 contractors was done and the contractor was decided. General outline of the contract is as follows:

- Name of Contractor : Yonas Legesse Building Contractor
- Contract Price (Part 1: the JICA Study Team side) : ETB 525,325.89
- Final Contract Price (Part 1: JICA Study Team side) : ETB 551,124.28
- Construction Period : 29 July 2011 (with extension)

The relevant facilities such as an office, a guard house and toilets were constructed with the Union's own budget. The same contractor for the warehouse constructed such facilities under the different contract.

2-4. Construction of the warehouse

The construction of standard warehouse was completed at the end of July 2011 as scheduled. The construction was supervised by the JICA Study Team with a locally employed supervisor in order to maintain the quality of the facility.

The progress on the construction works was as follows. The planned schedule and actual progress of the works is shown in the following Figure PP08-3.

The contract period was initially until 11 July 2011, and it was extended until 29 July 2011 due to the delay of procurement of the building materials. Another contract amendment was made on 29 July 2011 according the final bill of quantities at the end of construction works.

Progress of the construction works

- Preparatory work and survey : Middle of Mar. 2011
- Earth works : Middle of Mar. to begin Apr. 2011
- Masonry foundation works : Middle to end Apr. 2011
- Block wall works : Beginning to end May 2011
- Concrete column and beam works : End of May to middle June 2011
- Trussing work : End of Jun. 2011
- Contract Amendment No.1 for time extension : 08 July 2011
- Concrete floor slab works : Beginning to middle of July 2011
- Roofing works : Middle of July 2011
- Mutual check for final quantity : 28 July 2011
- Contract Amendment No.2 for final quantity : 29 July 2011
- Issuance of Completion Certificate : 30 July 2011

As of end of July 2011

Work Items	Status	Cost excluding VAT	Accumulated progress	March 10	March 20	March 31	April 10	April 20	April 30	May 10	May 20	May 31	June 10	June 20	June 30	July 10	July 20	July 31
Earth work	Schedule	29,060		8718	20342													
		29,060		8718	20342													
	Actual Progress	29,060																
Masonry work	Schedule	18,900						13230	5670									
		18,900					9450	9450										
	Actual Progress	18,900																
Concrete sub structure work	Schedule	111,147			22229	33344	33344	22229										
		111,147				33344	33344	33344	11115									
	Actual Progress	111,147																
Concrete super structure work	Schedule	61,068						12214	12214	12214	12214	12214						
		61,068						12214	12214	12214	12214		12214					
	Actual Progress	61,068																
Block work	Schedule	52,560											26280	26280				
		52,560										2048	10512					
	Actual Progress	52,560																
Trussing work	Schedule	65,285											16321	32642	16321			
		65,285												19585	19585	26114		
	Actual Progress	65,285																
Roofing work	Schedule	47,136											11784	23568	11784			
		47,136														14141	23568	9427.2
	Actual Progress	47,136																
Finishing works	Schedule	53,570													37499	16071		
		53,570												26785	26785			
	Actual Progress	53,570																
Fencing works	Schedule	18,080											7232	10848				
		18,080										3616	5424	5424	3616			
	Actual Progress	18,080																
Total		456,805	Date	40612	40622	40633	40643	40653	31-Apr	40673	40683	40694	40704	40714	31-Jun	40734	40744	40755
Total Amount (ETB) & Progress	Schedule	456,805	This Period	0	8,718	42,571	33,344	46,574	40,113	12,214	12,214	12,214	73,831	93,338	65,604	16,071		
			Cumulative	0	8,718	51,289	84,633	131,207	171,320	183,534	195,747	207,961	281,792	375,130	440,734	456,805		
		Progress in %		0.0%	1.9%	11.2%	18.5%	28.7%	37.5%	40.2%	42.9%	45.5%	61.7%	82.1%	96.5%	100.0%		
	Actual Progress	456,805	This Period	0	8,718	20,342	42,794	42,794	45,558	23,328	12,214	57,878	15,936	64,008	49,986	40,255	23,568	9,427
			Cumulative	0	8,718	29,060	71,854	114,648	160,205	183,534	195,747	253,625	269,561	333,569	383,555	423,810	447,378	456,805
		Progress in %		0.0%	1.9%	6.4%	15.7%	25.1%	35.1%	40.2%	42.9%	**55.5%**	**59.0%**	**73.0%**	**84.0%**	**92.8%**	**97.9%**	**100.0%**

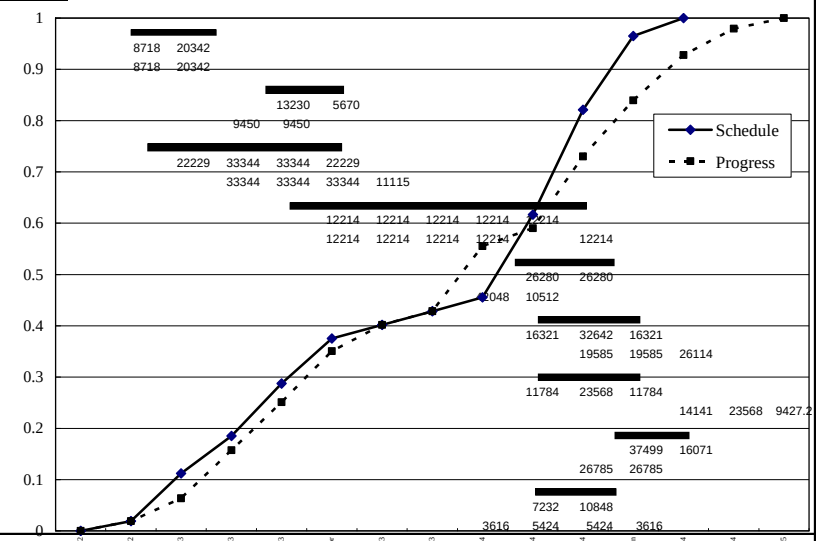


Figure PP08-3 Construction Schedule and Actual Progress for PP08

Construction Progress in Photographs:

Site handover (10 March 2011)

Foundation excavation (23 March 2011)

Masonry foundation works (07 April 2011)

Block and top tie beam works (09 June 2011)

Roofing works (08 July 2011)

General view after completion (21 Oct. 2011)

Minor repairs and improvement of the fence

After issuance of the completion certificate, some defects were found in the warehouse such as;

i) Damage to mortar sand screed for floor,
ii) Damage of wire mesh of ventilation opening,
iii) Water leaking from roof, and
iv) Water leaking from bottom guide of sliding door.

Since it was in the warranty period, the contractor was responsible for repair of these defects. Upon the order by the Study Team, the contractor repaired i), ii) and iii). However, iv) wasn't repaired by the contractor and JICA Study Team repaired it.

The barbed wire fence with steel poles was installed around the site by the Study Team. The union reinforced the fence by adding wood poles to very secure against serious robbery; because there is another canvas warehouse constructed by WFP.

Mortar sand screed floor to be repaired

WFP's canvas warehouse and warehouse of PP08

Reinforced fence by union

Painting lines in the warehouse

2) Training of warehouse management

3-1. Selection of trainers

Four experts in the filed of post-harvest technology were selected as the trainers of the 1st training implemented in July 2011. Two trainers of TOT of the 2nd training (implemented on 15 and 16 Dec. 2011) were also selected from WFP and BoMC; one was the expert of warehouse management from WFP and the other was the expert of quality control from BoMC. The trainers of the 2nd training implemented from Dec. 2011 to Feb. 2012 were the WoMC staffs who participated the TOT.

3-2. Preparation of training contents

The development of teaching materials, selection of the participants, selection of training venues, arrangement of field tour to large warehouse and equipment for practices were conducted during Feb. and June 2011.

Following 7 topics were determined for the contents of the 1st training (PP02 & PP08).

1. Quality
2. Quality Standard
3. Quality Control and Pest Control
4. Post-harvest Loss
5. Warehouse Management
6. Inspection
7. Fumigation

Above seven topics, pest control, post-harvest loss, warehouse management, inspection, and fumigation are the topics for warehouse management training. The technical contents of each topic to be understood / acquired by participants are as follows;

<u>Pest Control:</u>

1. Storage pest : kinds and ecology of pest (incl. rat / mouse)

2. Method of pest control
3. Expellant
4. Actual examples

Post-harvest Loss:

1. What is post-harvest loss?
2. How/when it happened?
3. Method of loss reduction
4. Actual examples

Warehouse Management

1. First-in First-out management
2. Importance of access way (working passage) in warehouse
3. Importance of ventilation
4. Record keeping - entering and dispatching from warehouse
5. Stacking with pallets
6. Importance of cleaning

Inspection:

1. Difference of quality inspection and pest inspection
2. Method of pest inspection
3. Adequate stacking method for pest inspection
4. Actual example

Fumigation:

1. Merit and demerit (hazardous nature)
2. Kinds of fumigation chemicals: dosage and exposure time
3. Method of fumigation with phosphine tablet and plastic sheets.
4. Actual examples of phosphin fumigation

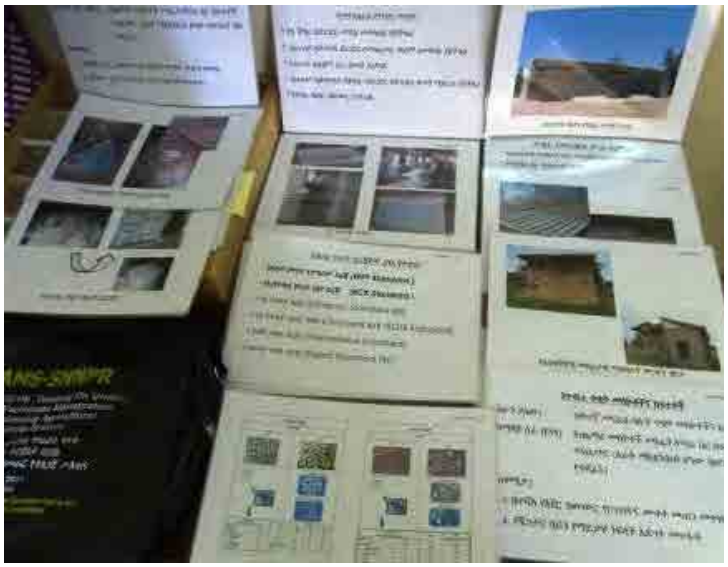
Power points for lecture were prepared for each topic and handouts were distributed to the participants in the 1st training.

The 2nd training was conducted by cascade system based on the lesson learned from the 1st training. Training participants were primary coops only. Therefore, the training contents were narrowed down to three topics; warehouse management, quality control and renovation of existing warehouse. Training period also reduced from 3 days to 1 day. The picture-card type teaching material in Amharic was developed in consideration of the education level of the participants. The picture-card type teaching material has pictures/illustrations in the front side and important points to be explained by the trainer are described in reverse. As may as pictures/illustrations were used for easy comprehension by farmers.

The developed poster and picture-card materials are shown as below photos.
The poster for warehouse management was prepared in addition to other 3 kinds of poster (quality

control, quality standard of maize and quality standard of haricot bean). These posters were distributed to the participated unions and coops.

Poster of Warehouse Management



Picture-card teaching materials in Amharic

3-3. Implementation of Training

As stated previously, the PP08 warehouse management training was implemented together with PP02 quality control training because the participants (targeted 9 unions) were same.

The 1st training (3 days) was implemented to the participants of 9 unions and 49 coops at three venues (Hawassa, Butajira and Hosana) in July 2011.

The 2nd training was conducted cascade system (2 steps method) based on the lesson learned from the 1st training. TOT (2 days) was implemented in Dec. 2011 at first step, and then WoMC staffs participated the TOT implemented the training to the primary cooperatives with the picture-cards during Dec. 2011 to Feb. 2012.

Results of the training including the details of the participants, programs, etc. are described in the section of PP02. To avoid overlap, description about the result of PP08 training of warehouse management is curtailed.

<u>Training of warehouse management to Angacha Union</u>

The JICA Study Team provided the additional warehouse management training to Angacha Union to make the built warehouse a real model for warehouse designing and proper warehouse management. All 14 committee members of the Union and union staff were obligate to participate the training in order to make the given knowledge on proper warehouse management is a part of the accepted truth, and to make the proper management in place.

The trainers were the post-harvest experts of WFP and JICA Study team. The management works such as ventilation, inspection, cleaning, first-in first-out, keep access ways, stack on wooden pallet, record keeping were explained and presented.

Training of warehouse management to committee members of Angacha Union

Inside of the warehouse at a time of training

Stack Card (Storage record)

Stacking on wooden pallets

4-1. Preparation of manual, poster and check sheet

The trainer's manual for primary cooperative training which shows how to use the picture-card type teaching material, how to explain the important technical points, etc. was prepared.

The poster of warehouse management was developed and distributed to the participated unions and coops together with the posters of quality control and quality standards.

The format of stack card for keeping the storage record was prepared by PP Team. According to the interviews to the participants, half of the trained unions and coops had started to use the stack card to record the weight, date of storage-in and storage-out.

(9) Achievement of Project Purpose and Expected Output

1) Project Purpose

Purpose 1: Design of standard warehouse is adopted by unions and primary coops.

Some primary cooperatives have applied (plan to apply) the "Two doors" and "Wall openings for ventilation" on their existing wood & mad made warehouses. However, it is far from achievement of the purpose 1. Since the cooperatives have financial constraint, financial supports are needed to

build the standard warehouse.

Purpose 2: Warehouse management of target coop is improved.

According to the result of interviews to the participants, more than half of the coops have started the improvement of warehouse management after the training. Therefore, the purpose 2 has been achieved.

2) Expected Output

The achieved results of the expected output are summarized as follows.

Table PP08-1 Achievement of Expected Output

Expected output	Achievement	Source of indicator
1. Design of standard warehouse is approved by BoMC.	1-1. Design of standard warehouse of various capacities was not developed. 1-2. BoMC recognized the design of 500 ton warehouse.	1.1. Design of warehouse (drawings, etc.) 1.2. Project document
2. Standard warehouse is constructed and handed over to a beneficial union.	2-1. Warehouse was constructed as scheduled and handed over to the union.	2.1. Design of warehouse (drawings, etc.) 2.2. Project document
3. Target coops' understanding over proper warehouse management is enhanced.	3-1. Training using new warehouse conducted 4 times. 3-2. Trained to 49 coops members and 22 union members. 3-3. More than half of trained coops started the improvement activities.	3.1. Training record 3.2. Participants list
4. Manual, poster and check sheet are developed and utilized by target coops.	4-1. Manual as power points handout was developed and distributed 58 unions and coops. Picture-card material was developed and distributed to 8 WoMC and 2 ZoMC. 4-2. Manual was utilized at 8 WoMC and Posters and check sheet are utilizing at 58 unions and coops.	4.1. Developed materials 4.2. Delivery sheet 4.3. Interview to coops 4.4. Observation of Study team

To check the training results, interviews to WoMC experts (trainers) and unions/coops members (participants) were conducted. The result of interview to the 2nd training participants (11 respondents) is as follows. More than half of respondents said that their cooperatives started the improvement of warehouse management.

Table PP08-2 Interview Results of Improvement of Warehouse Management

Question: Have the under-mentioned improvement activities of warehouse management implemented at your coops?	Under planning	Implementing	Have no plan
(1) Ventilation	4	6	1
(2) Pest inspection	4	6	1
(3) Cleaning plan	5	4	1
(4) Record keeping	3	6	1
(5) Access line painting	5	1	2
(6) Pallet/plastic sheet	4	6	1
(7) First-in First-out	5	3	2
(8) Neat Stacking	1	8	1

Note: Figures in above table are the numbers of coops.

(10) Project Evaluation

Effectiveness:

According to the interview to the participants, more than half of the cooperatives have improved the existing warehouse managements on ventilation, cleaning and inspection, etc. Also, they put the stack card on each stacks for record keeping of storage. Improvement activities of warehouse management at the targeted cooperatives can be seen after training. So, it is evaluated that PP08 training has the effectiveness.

Efficiency:

Picture-card type teaching materials developed for 2nd training (cascade type training) have the merit of easy teaching for trainer and easy understanding for trainee because of the explanations of only important and essential points with a lot of photos and illustrations. This picture-card type materials can be used anywhere without electricity, personal computer and projector.

Sustainability:

BoMC shall lead the training for the dissemination of the design and proper warehouse management. However, due to the budgetary limitation, this will be a constraint for PP08 sustainability. The focal person of the beneficiary union of PP08 received the warehouse management training twice under PP02, so he has capability to maintain the proper management and disseminate it to primary cooperative members.

(11) Recommendation

Although application of the design and construction of this Pilot Project PP08 for unions and/or primary cooperatives seems difficult due to availability of their budget, improvement of management for the existing warehouse according to the training carried out under PP08 is very effective for quality control and reducing warehouse storage losses. So, the training of focal persons for warehouse manager of unions and/or primary cooperatives is recommended to be continued and construction of

standard warehouse of PP08 is set as a target one.

(12) Lessons Leant

1) Contractor's capability

- Through the implementation of PP06, PP07 and PP08, it is learnt that the technical capability of grade-6 level contractors are very weak. Further, their sense of responsibility for their duty is very low.
- The responsible person for a contractor must be stationed on site in order to uphold the quality of construction works.
- In order to secure a remedy within the warranty period in a contract for construction, retention money shall be kept for the whole period for it, as much as possible.

2) Implementation system of training

- The counterparts of pilot project did not fully take part in the training program due to their own busy work in BoMC. Project counterparts should be selected from the capable persons in charge.
- To use WoMC staff as trainer in the cascade system, the head of WoMC shall be involved as one of the project members.
- It is preferable that anybody who is interested can attend the training instead to select the participants by unions and coops.

3) Teaching materials

- Teaching materials should be developed according to the educational level and knowledge level of the participants. Also, a local language should be used in training as much as possible. The picture-card type teaching materials with laminated film of water-proof should be developed for other topics of post-harvest technology for low-educated farmers. The materials should use a lot of pictures and illustration for easy understanding for farmers.

4) Training time and duration

- Timing of training is very important. Most appropriate time for training on warehouse management is between harvesting and marketing. Training participants will be able to implement what they learned in the training immediately and feel its benefit right away.
- Less than 2-day duration of training is acceptable for low educated farmers.

Table PP08-3 PDM of PP08

PROJECT SUMMARY	INDICATOR	SOURCE OF INDICATOR	IMPORTANT ASSUMPTION
OVERALL GOAL： Profit increased by reduction of post-harvest loss during storage in warehouse			
PROJECT PURPOSE： 1. Design of standard warehouse is adopted by unions and primary coops. 2. Warehouse management of target coops is improved.	1. No. of coops, which plans to construct or renovate their warehouse in accordance with PP08 designed warehouse. 2. No. of coops, which implement warehouse management activities recommended by PP08 training	1.1. Interview with coops 1.2. Observation of JICA Team / CP 2.1. Interview with coops 2.2. Observation of JICA Team / CP	
EXPECTED OUTPUT： 1. Design of standard warehouse is approved by BoMC. 2. Standard warehouse is constructed and handed over to a beneficial union. 3. Target coops' understanding over proper warehouse management is enhanced. 4. Manual, poster and check sheet are developed and utilized by target coops.	1.1. Developed design of standard warehouse of various capacities 1.2. Recognition of BoMC 2.1. Constructed warehouse 3.1. No. and contents of training using the constructed warehouse. 3.2. No. of training participants from target coops 3.3. Understanding of participants on the training 4.1. No. and contents of materials developed and distributed to target coops 4.2. No. of target coops which utilizes the materials.	1.1. Design of warehouse (drawings, etc.) 1.2. Project document 2.1. Certificate of completion 2.2. Certificate of handover 3.1. Training records 3.2. Attendance sheets 3.3. Participants' evaluation on training 4.1. Developed materials 4.2. Delivery records 4.3. Interview with coops 4.4. Observation of JICA Team / CP	

ACTIVITIES :	INPUT :	PRECONDITION :
1-1. Establishment of construction committee 1-2. Preparation of rough layout 1-3. Preparation of detailed design 2-1. Preparation of bid documents 2-2. Evaluation and selection of bidders 2-3. Signing of contract 2-4. Construction of a warehouse 3-1. Appointment of lecturers 3-2. Preparation of training contents 3-3. Implementation of training 4-1. Preparation of manual, poster and check sheet	[**FROM SNNPR**] 1) Share of construction cost of office, guardhouse and toilet. 2) Manpower cost of staffs [**FROM JAPAN**] 1) Share of construction cost of warehouse and fence 2) Expert (warehouse management, fumigation, quality control) 3) Manual development of warehouse management and operation	JICA allocates necessary budget for the pilot project.

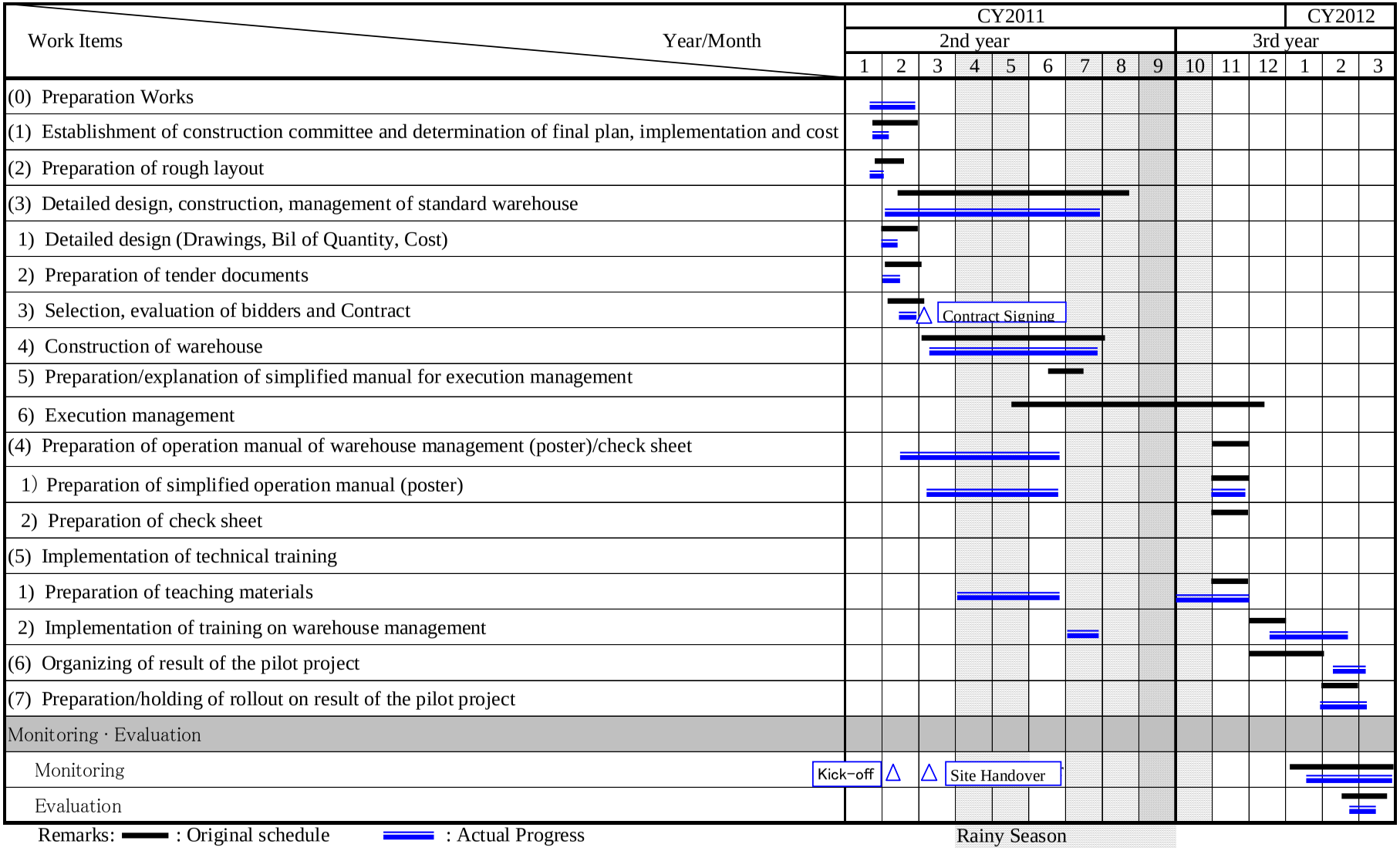


Figure PP08-4 Schedule and Progress of PP08

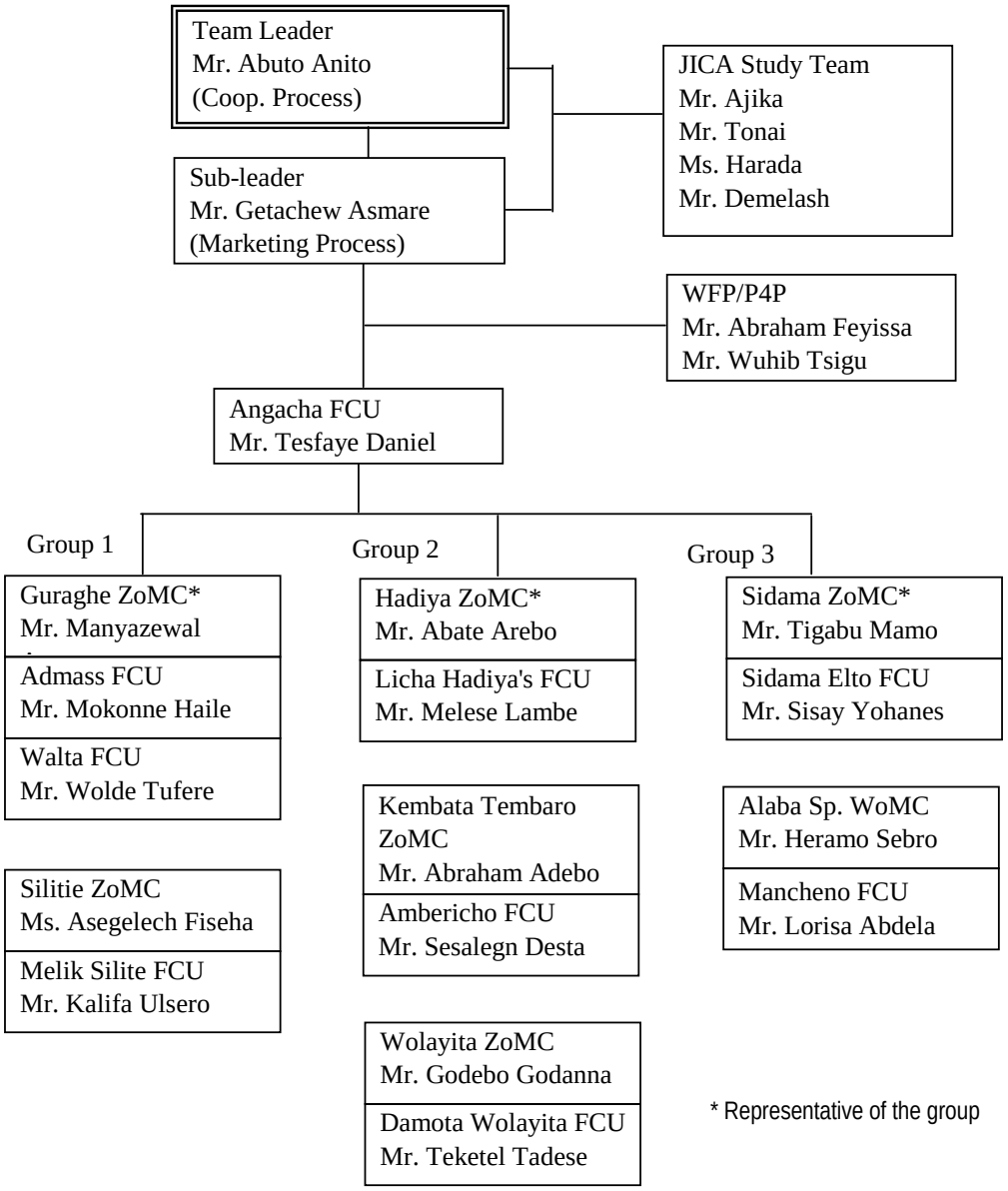


Figure PP08-5 Organization Chart for Planning and Implementation of PP08

2.4 Basic Strategy 4: Catch up and Adjustment to the Institutional System of Agricultural Marketing

PP09 : Comparison Test for ECX Wheat and Non-ECX Wheat

(1) Objective of the Project

Promotion of Cereal Quality Marketing of ECX:

In the case of wheat, the flour millers rather prefer to purchase wheat from cooperative unions, local traders and wholesalers than purchase from ECX. Many of the millers equip with cleaner to improve quality of material wheat. Therefore, there are no incentives for them to purchase high quality wheat with high price.

At this moment, any definitive information (data) which show the advantage of using ECX wheat doesn't exist. Therefore, flour recovery of different quality of wheat; one conformable to ECX standard and another non-conformable to ECX standard, would be collected by the test. Obtained test data could be utilized to encourage the utilization of ECX wheat by flour millers.

(2) Target crops

Wheat

(3) Beneficiaries

ECX, Flour millers

(4) Project Sites

Hawassa City

(5) PDM (Project Design Matrix)

Refer to Table PP09-2 at the end of this section.

(6) Organization for Planning and Implementation

1) ECX and JICA Study Team were agreed to conduct the comparison test at a modern flour mill in Hawassa on 14 Feb. 2012.
2) Flour mill owner agreed to do the comparison test at his mill.
3) The test was conducted on 25 July and 27 July, 2011 with the procedures/methods that the Study Team had designed and ECX had agreed.

(7) Progress and Schedule of the Project

The following activities were planned to implement during the period from Feb. 2011 to Feb. 2012. The implementation schedule and actual progress are shown in Figure PP09-2.

1-1. Selection of flour mill
1-2. Preparatory conference with ECX and flour mill
1-3. Preparation of materials wheat and quality inspection before test
1-4. Preparation of field note
1-5. Confirmation of test methodology
1-6. Implementation of test
1-7. Preparation of test result report
2-1. Assist ECX for utilization of test results

(8) Results of the Activity

1-1. Selection of flour mill

JICA Study Team recommended doing the test at Addis Flour Factory, which was a newly constructed medium-sized flour factory in Hawassa, and ECX agreed. The machine component of Addis Flour Factory is shown in following photos. Processing flow is shown in FigurePP09-1.

Cleaner, Beater, Destoner & Hydrator

Roller mills unit

Sifter

1st & 2nd Flour & Bran

1-2. Preparatory conference with ECX and flour mill

Preparatory conference was held on 14 February, 2011 by ECX, flour mill and JICA Study Team.

The ECX agreed to conduct the comparison test with the method designed/proposed by JICA Study Team. Schedule, materials procurement, official witness, cost share, etc were discussed.

The test method was as follows;

Purpose of the Comparison Test

Obtain flour recovery data of different quality of material wheat; one conformable to ECX standard (ECX wheat), and another non-conformable to ECX standard (non-ECX wheat).

Method of the Comparison Test

Following 4 samples were setup.

Table PP09-1 Setup Samples for the Comparison Test

	Sample-1	Sample-2	Sample-3	Sample-4
Type of material wheat	Non-ECX Hard Wheat (100%)	ECX Hard Wheat (100%)	Non-ECX Hard Wheat (60%) + Non- ECX Soft Wheat (40%)	ECX Hard Wheat (60%) + Non-ECX Soft Wheat (40%)
Test volume	10 QT （1,000kg）	10 QT （1,000kg）	25 QT （2,500kg）	25 QT （2,500kg）
Grade by ECX Quality Standard	Off grade	1st grade	Off grade	-----

Comparisons between ECX wheat and non-ECX wheat were made by following two ways.

Comparison between Sample-1 and Sample-2 : Hard wheat
Comparison between Sample-3 and Sample-4 : Mixed materials (hard wheat 60% + soft wheat 40%)

In Ethiopia, mixture of hard and soft wheat is commonly used for bakery flour. I this test, popular mix ration (hard 60% + soft 40%) was applied for Sample-3 and Sample-4.

Measurements

1) Weight, bulk density and moisture content of material wheat.
2) Moisture contents of wheat after 3-hour damping[1]; before milling.
3) Weight and moisture contents of 1st flour, 2nd flour and wheat bran.
4) Weight of impurities and dust to be collected at predetermined sampling points (5-1 to 5-9 in Figure PP09-1)

[1] Damping means the moisture adjustment of material wheat to make milling easier; by adding water and by keeping in tanks.

Measured items were listed as follows.

1. Fed wheat	: weight, moisture content	4. Bran	: weight
2. 1st flour	: weight, moisture content	5. Impurities	: weight
3. 2nd flour	: weight, moisture content	6. Wheat after damping	: moisture contents

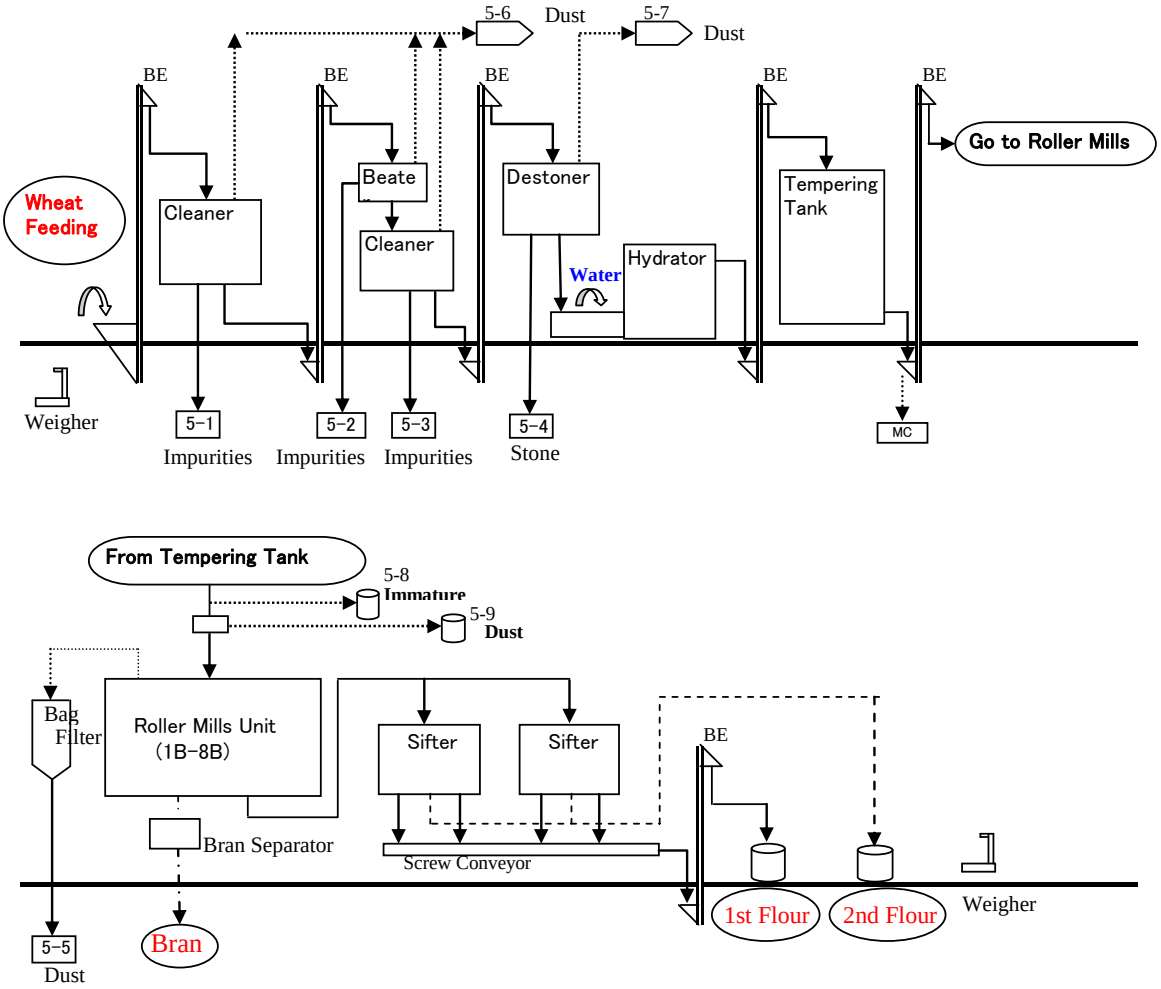


Figure PP09-1 Flow Chart of Addis Flour Factory

1-3. Preparation of material wheat and quality inspection before test

Preparation of wheat materials

JICA Study Team procured all necessary material wheat for the comparison test, because ECX was not able to allocate the budget for the test.

The JICA Study Team procured ECX hard wheat from Angacha Cooperative Union at Doyo Gena town and Non-ECX hard wheat at Sheshamane marketplace. The Non-ECX soft wheat was procured from the Addis flour factory.

Quality inspection before test

The quality inspector of ECX collected the samples to check the quality grade (conformity to ECX standard) prior to the test. The results of grade inspection were reported to Study Team by ECX.

1-4. Preparation of field notes

JICA Study Team prepared fields notes to record the measured figures such as moisture contents of materials and weight of samples in the test.

1-5. Confirmation of works of test methodology

Prior to the test, test method and work procedures were confirmed by technical staffs of Addis Flour Factory and JICA Study Team.

1-6. Implementation of test

The comparison test was conducted at Addis Flour Factory on 25-27 July, 2011 according to the predetermined test method.

Sampling by ECX inspector

Feeding work into intake hopper

Milling work during test

Adjustment of milling machine

1-7. Preparation of analysis report of comparison test

Test results

Obtained data were summarized in Table PP09-2.

Table PP09-2 Obtained Test Data (Flour recovery data of each sample)

	Sample-1		Sample-2		Sample-3		Sample-4	
	Non-ECX Hard		ECX Hard		Non-ECX Hard + Non-ECX Soft		ECX Hard + Non-ECX Soft	
Input weight (kg)	1,000.0		1,000.0		2,500.0		2,500.0	
Moisture content before feeding (%wb)	11.1		14.1		11.8		13.6	
Bulk density (g/liter)	755.0		820.0		752.0		763.0	
Moisture content after damping (%wb)	15.7		16.2		16.6		16.1	
Actual weight	Kg	%	Kg	%	Kg	%	Kg	%
(1) 1st flour	655.0	64.8	608.0	63.5	1,762.0	68.1	1,834.0	72.4
(2) 2nd flour	111.0	11.0	150.0	15.7	165.0	6.4	154.0	6.1
Sub-total: (1) + (2)	766.0	75.8	758.0	79.2	1,927.0	74.5	1,988.0	78.5
(3) Bran	225.0	22.3	197.0	20.6	610.0	23.6	523.0	20.6
(4) Impurity	20.1	2.0	2.7	0.3	50.3	2.0	23.4	0.9
Total: (1)+ (2)+ (3)+ (4)	1,011.1	100.0	957.7	100.0	2,587.3	100.0	2,534.4	100.0

The following results were derived from the above data.

Comparison 1: Comparison between Sample-1 and Sample-2 (Hard wheat)

- Total flour recovery (1st flour plus 2nd flour) of ECX Hard was 79.2% and Non-ECX Hard was 75.8%. ECX Hard was 3.4% higher.
- Rates of bran were 22.3% for Non-ECX Hard, and 20.6% for ECX Hard. ECX Hard was 1.7% lower.
- Rates of impurity were 2.0% for Non-ECX Hard, whereas ECX Hard was only 0.3%.
- Reason for lower bran rate in ECX Hard was supposed due to less mixture of immature grains.

Comparison 2: Comparison between Sample-3 and Sample-4 (Mixed materials)

- Total flour recovery was 4.0% higher in Sample-4 which contains 60% of ECX Hard wheat.
- Rates of bran were 23.6% for Sample-3. Sample-4 which contains 60% of ECX Hard was 20.6%; 3.0% lower.
- Rates of impurity were 2.0% for Sample-3. Sample-4 which contains 60% of ECX Hard was 0.9%; 1.1% lower.

Based on the obtained data in this test, the flour recovery of ECX wheat was 3.4 – 4.0% higher than Non-ECX wheat. Differences in the impurity rate were significant.

Comparison of prospective profit

Prospective profits in flour business when using Sample-3 and Sample-4 as material wheat are calculated. Following assumptions are adopted in the calculation.

1) Milling volume : 100,000qt
2) Buying price of material wheat
   ECX hard wheat : 760 birr/qt
   Non-ECX hard wheat : 740 birr/qt
   Non-ECX soft wheat : 720 birr/qt
3) Selling price of flour : 960 birr/qt
4) Selling price of bran : 200 birr/qt

Table PP09-3 Comparison of Prospective Profit

		Sample-4: ECX Hard + Non-ECX Soft	Sample-3: Non-ECX Hard + Non-ECX Soft	Difference (4 – 3)
Expenditure	Material wheat cost	74,400,000	73,200,000	1,200,000
Income	Sales of flour	75,360,000	71,520,000	3,840,000
	Sales of bran	4,120,000	4,720,000	-600,000
Profit		5,080,000	3,040,000	2,040,000

Note: Operation costs (electricity, labor, taxes and others) are not included in the calculation.

Trial calculation of prospective profits indicates that Sample-4 which contains 60% of ECX Hard wheat is more profitable (ETB2.04 million) than Sample-3.

2-1. Assist ECX for utilization of test results

JICA Study Team summarized the test data and prepared the analysis report. The report was submitted to ECX, and JICA Study Team explained the economical advantage of ECX wheat (higher recovery and profit) to ECX person in charge.

ECX is now considering making a poster with the obtained test data to promote the ECX auction of wheat.

(9) Achievement of Project Purpose and Expected Output

The project purpose of PP09 is “Promotion activities based on test results is carried out by ECX”. Since no promotion activity has been made by ECX, the project purpose has not yet achieved. The achievement of expected output is summarized as follows.

Table PP09-4 Achievement of Expected Output

Expected output	Achievement	Source of indicator
1. Result of the comparison test obtained.	1. The flour recovery of ECX wheat is 4.0% higher than Non-ECX wheat.	Project documents Analysis report
2. Result of the comparison test understood by the concerned ECX staff.	2. One ECX manager understood the superiority of ECX wheat by the test result.	Project documents

The expected outputs were achieved, but higher management of ECX has not approve to make poster (do not care to utilize the obtained test data). A push by JICA Study Team may not be strong enough. Setting of the project purpose may be too optimistic / not realistic.

Table PP09-5 PDM of PP09

PROJECT SUMMARY	INDICATOR	SOURCE OF INDICATOR	IMPORTANT ASSUMPTION
OVERALL GOAL : Practical Master Plan	1. Implementation of comparison test 2. Preparation of advertisement	Final report of master plan	Approval by the cabinet of SNNPR Collaboration with ECX
PROJECT PURPOSE : Promotion activities based on the obtained results of comparison test carried out by ECX	1. At least one promotional material	1. Questionnaire to ECX 2. Questionnaire to ECX, cooperative unions and traders	Approval by Steering Committee
EXPECTED OUTPUT : 1. Results of the comparison test obtained 2. Results of comparison test understood by concerned ECX staff	1. Test data 2. Number of staff in market development section who understand the results of comparison test.	1. PP9 project file 2. PP9 project file	Unexpected personnel relocation of the counterparts in charge of the pilot projects
ACTIVITIES : 1-1. Selection of Flour Mill 1-2. Preparatory conference with ECX and flour mill. 1-3. Preparation of material wheat materials and quality inspection before test 1-4. Preparation of field note 1-5. Confirmation of test methodology 1-6. Implementation of test 1-7. Preparation of test result report 2-1. Assist ECX for utilization of test results	**INPUT :** **［FROM SNNPR］** 1) Quality inspection of ECX wheat and non-ECX wheat for test 2) Application cost of test result by ECX **［FROM JAPAN］** 1) Procurement of wheat; hard & soft (material cost, transportation) 2) Service charge for flour mill (incl. electricity, labor cost) 3) Technical assistance on application of test result by ECX.		**PRECONDITION :** JICA allocates necessary budget for the pilot project

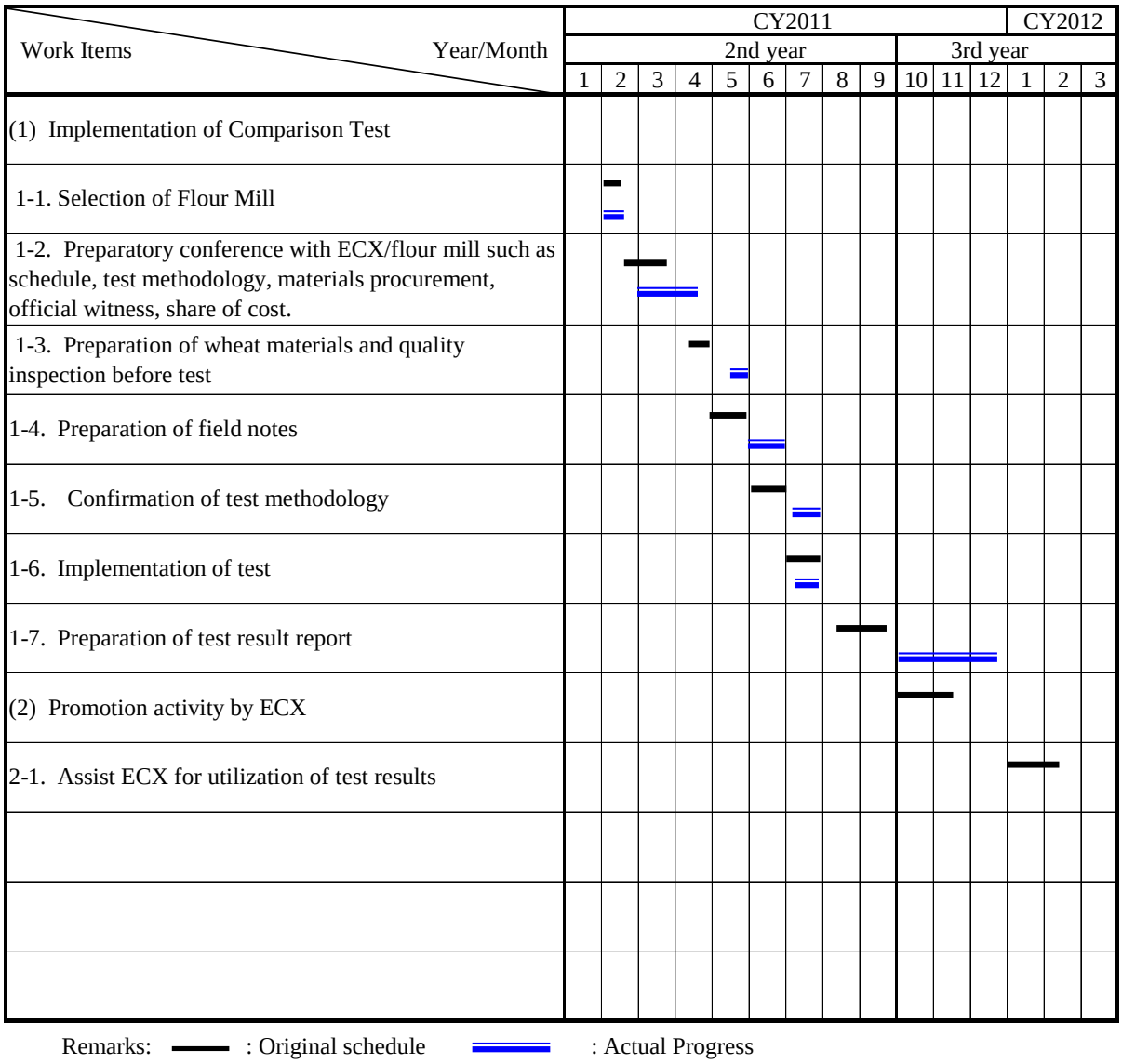


Figure PP09-2 Schedule and Progress of PP09

PP10 : Empowerment of Civil Servants' Understanding of Market Improvement through Monitoring the Pilot Projects

(1) Objective of the Project

The objective of PP10 is “to understand the degree of farmers' awareness of marketing mechanisms and to analyze the results of the pilot projects”.

This pilot project aimed to review and analyze the progress and results of the other pilot projects from crosscutting viewpoints of crops, regions, etc. A baseline survey and an end-line survey were conducted at the pilot project’s sites, and then the activities of the other pilot projects have been monitored by PP10. In addition, newsletters have been written to be issued for public relations. It is expected that the counterparts will be able to develop their capacity for research, analysis, reporting, and presentation through the implementation process of this pilot project.

(2) Target Crops

Cereals, pulses, vegetables, fruits, root crops and others.

(3) Beneficiaries

BoMC, ZoMC, WoMC

(4) Project Sites

All target areas of the pilot projects.

(5) PDM (Project Design Matrix)

The project design matrix of PP10 is attached at the end of this section. The six expected concrete outputs and the activities to realize those outputs are listed in the matrix. Most indicators were reviewed in the project files.

(6) Organization for Planning and Implementation

PP10 serves as the overall technical committee of the pilot projects consisting of the project leaders. Under the supervision of the steering committee, PP10 supports and monitors the actual players in the pilot projects. The team leader of PP10, Mr. Abraham Demissie, was appointed based on his management skills which are required for the position. The organization structure is shown in Figure PP10-6.

(7) Schedule and Progress of the Project

1) Schedule

The Main Activities and Monitoring Flow is illustrated in Figure PP10-4. The Flow shows the cross relations among the pilot projects and how a synergy effect was assumed at the beginning. Figure

PP10-5 illustrates the time schedule of project activity.

2) Activities

In order to accomplish the six expected outputs, the following activities were formulated in the project design matrix (PDM).

(8) Results of Activities

Expected output 1: Master efficient monitoring system of on-going projects

1-1. Formulate the monitoring team consisting of the counterparts in charge of the other pilot projects and establish a secretariat office at BoMC.
1-2. Develop a monitoring method and procedures and exchange minutes of memorandum.

The organization structure of the PP10 was formulated as well as each pilot. One expert was nominated as the team leader of PP10 in the first stage. However, since the leader would be required to administer and supervise the 10 pilot projects, an expert who lacks managerial experience would not be suitable. Consequently, a new team leader was appointed who is the process owner of the Marketing Core Process.

A monitoring method and procedures were introduced by the JICA Study Team. The counterparts were expected to write the minutes of memorandum, but they were too busy so the JICA Study Team took charge of the report writing and filing work.

Expected output 2: Compare the people's livelihoods and their market awareness before and after the pilot projects

2-1. Design the household survey (target sites, sample number, scheduling, etc.)
2-2. Prepare a questionnaire (contents: expenditure/income, education, types of cash crops, awareness of loss, quality, price, etc.)
2-3. Conduct household survey
2-4. Data input, compiling, data cleaning, analysis and reporting

A baseline survey (household survey) was conducted in order to understand the current condition of livelihoods in the target areas of the pilot projects, and it was completed on time in April 2011. The survey report was compiled by the JICA Study Team in cooperation with the local consultant; Tobor Development Consultants PLC.

The sample number of target farmer households was 600, and the enumerators successfully collected 600 cases at the designated sites. Table PP10-1 indicates the number of respondents by target zone, woreda and kebele. Due to the time shortage and the designated purpose of the baseline survey, which

was to learn about the backgrounds of the inhabitants of the pilot projects' sites, the sampling was not conducted by the method of pure random sampling. The project numbers, PP01 to PP08, are stated on the right side of the table. In addition, the map of the survey sites and the project sites are shown in Figure PP10-1.

"Road access" on the table means the distance from the kebele center to a paved road, and it is categorized by whether the distance is less than 10 km or more than 11 km. The JICA Study Team fixed the criterion of road access in order to avoid skewing the target kebeles to only the accessible ones, and also to discern the differences between the accessible and isolated kebeles.

Table PP10-1 Number of Respondents by Target Zone and Target Pilot Project

	Zone	Woreda	Kebele	Road Access <10km	Road Access >11km	Total	Target PP
1	Silitie	Selti	Ansha Beso		25	25	PP02:QC training
			Boze Sebola	25		25	
		Wulbarag	Amburicho Gembo		25	25	
			Fuge Acheraye	25		25	
	Sub-total			50	50	100	
2	Hadiya	Lemo	Haysse	25		25	PP02:QC training
			Shurimo		25	25	
		Misrak Badawacho	Amburiso		25	25	PP01:AMIS
			Wiera Lalo	25		25	PP02:QC training
	Sub-total			50	50	100	
3	Kembata Tembaro	Doyo Gena	Hawara	25		25	PP02:QC training
			Wonjela		25	25	PP08:Warehouse
		Hadaro Tunto	Amalaka		28	28	PP01:AMIS
			Hadaro	22		22	PP05:Ginger PP07:G-Market
	Sub-total			47	53	100	
4	Wolayita	Boloso Bombe	Bombe G/mahiber	25		25	PP01:AMIS
			Kuto Ambe		25	25	PP03:Fruits Harvest PP05:Ginger
		Kindo Koysha	Moliticho	25		25	PP01:AMIS
			Sorto		25	25	PP04:Cassava
	Sub-total			51	49	100	
5	Sidama	Boricha	Gonowa Bulano		25	25	PP01:AMIS
			Shelo Aberie	25		25	PP06:HB-Market
		Dale	Halile		25	25	PP03:Fruits Harvest
			Shoye	25		25	
	Sub-total			50	50	100	
6	Gamo Gofa	Kucha	Kuto	25		25	PP04:Cassava
			Shochora		25	25	
		Mirab Abya	Delbo	25		25	PP03:Fruits Harvest
			Umo Lante		25	25	
	Sub-total			50	50	100	
Ground Total				322	278	600	

Source: JICA Study Team

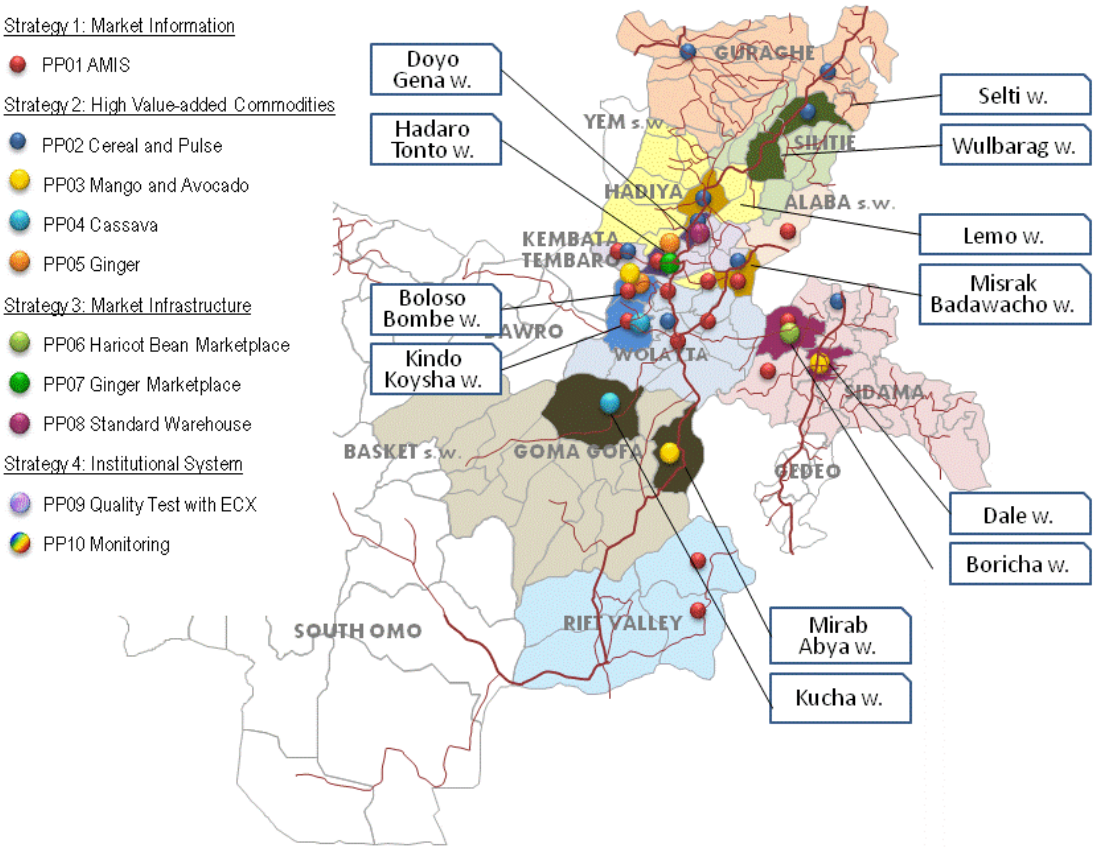


Figure PP10-1 Map of the Survey Sites

The results of the analysis were compiled as a report titled “Baseline Survey for The Pilot Projects of SAMS-SNNPR”. It was attached to the Interim Report (2). The reports were delivered to all team leaders of the pilot projects for reference at the second team leader meeting on June 27, 2011. Understanding the livelihoods of inhabitants at the project target sites is very important, not only for formulation of suitable projects and action plans but also for optimal implementation of those plans and for effective accomplishment of the policy goals.

The end-line survey to grasp the impact of the pilot projects was conducted during Feb. and March 2012. The survey area of the end-line survey was same area with the baseline survey. However, the number of sample households was reduced to 120, and the survey focused to figure out the impact and recognition of the pilot projects. The end-line survey report being prepared by the local consultant was attached to the Progress Report (3).

Expected Output 3: Master how to maximize the synergy effect through regular meetings and newsletters

3-1. Report on performance of each pilot project by counterparts in charge, every 2 months

3-2. Publish newsletters by using the field information from each pilot project

1) Bimonthly regular team leaders' meetings

Six scheduled bimonthly regular meetings of the pilot projects' team leaders were finally held after some postponements due to team leaders' conflicting assignments.

Table PP10-2 Records of Team Leaders' Meetings

	Original schedule	Actual date of the meeting	Number of participants	
			Leaders & sub	JICA Study Team
1st team leader meeting	March, 2011	10:00-2hr Feb. 25, 2011	6	3 (1)
2nd team leader meeting	May, 2011	13:30-3hr, June 27, 2011	9	7 (4)
3rd team leader meeting	July, 2011	9:20-4hr, July 27, 2011	10	8 (3)
4th team leader meeting	Oct, 2011	9:00-3.5hr, Oct. 27, 2011	6 + 1	7 (2)
5th team leader meeting	Dec. 2012	9:00-3.5hr, Dec. 27, 2012	6	3 (3)
6th team leader meeting	Feb. 2012	9:00-1 hr, March 1, 2012	5	5 (1)

Note: The number in () is the number of JICA assistants out of the JICA Study Team
Source: JICA Study Team

Reporting the progress of pilot projects was done by responsible team leaders and/or local assistants of the JICA Study Team in charge. Most reports were presented by using PowerPoint (digital) slides shown on the wall through an LED projector. The presentations were sometimes cut off due to trouble with the projector. Handouts were prepared prior to the meetings in the event of unstable electric conditions.

The contents of the presentations have room for improvement. Since the purpose of the team leader meetings is to review the progress of each pilot project, the reports should focus on (i) the actual schedule compared with the original schedule, (ii) the current situation of the pilot project including problems to be faced, solved problems and improved devices in the process of the verification study, (iii) next steps and issues to be improved. Due to the time constraints, most team leaders tend to ask the JICA assistants to prepare the presentation materials and even ask the JICA assistants to make the presentations. If the team leader is not involved enough, he did not even attend the meetings.

Although the PP10 team leader‘s attitude of involvement in the PP10 and the other PPs was positive, his role was not fulfilled due to the tough schedule of his regular work, such as meetings, site visits, long-term trainings and traveling to foreign countries. However, his authority was helpful for gathering the members to the meeting, and he was regarded as the best person to supervise the overall activities as the manager.

Since most team leaders of the pilot projects are individual experts, the ownership as team leaders had not yet been fostered in general, however the leader of PP10 stresses the importance of ownership to handle the pilot projects and mandates the leaders to take responsibility.

Some of the team leaders of the PPs did not recognize that the implementation of the pilot projects was part of the on-the-job training programs provided by the JICA Study Team. Positive attitudes toward

learning Japanese management skills and development techniques were seldom observed in the field through the pilot projects. Most counterparts seemed to be satisfied with their skills and did not recognize any need for improvement, just helping the JICA Study Team when they had spare time. In contrast, the younger generation showed more flexibility in training than the managerial class.
The JICA Study Team reconsidered the on-the-job training program according to the positions of the counterparts as to whether they were willing to improve their skills through the program. Making compromises with the realities of BoMC's condition in mind was significant for project implementation to avoid problems.

Time management in the discussions at the meetings was not properly controlled and topics sometimes digressed. It was observed that the reports presented at the beginnings of meetings get a lot of questions and comments, and then the reports presented at the end need to be shortened due to the time limitation. The participants should consider the time limitations of the meetings and focus on important, practical issues to be solved; otherwise it is difficult to reach any concrete, positive solutions from the discussions.

On the other hand, the discussions at the meeting served as valuable opportunities for the counterparts to learn about technical issues from the Japanese experts. The JICA Study Team was able to use the meeting times to discuss important technical matters that are helpful for the counterparts to properly execute their assignments.

2) Newsletters
Five newsletters composed of four A4 pages were issued almost on schedule. These newsletters will be attached at the end of the final report as one of the appendices.

The contents of the newsletters were discussed among the JICA Study Team members and approved by the team leaders of the pilot projects. Some articles were written by the counterparts in charge as expected, but most of them were written by the JICA Study Team. The topics of each newsletter are listed as follows.

<u>Volume 1, issued in March 2011</u>

1. What is SAMS
2. Holistic Spiral Model
3. Our Projects
4. Voices
5. Today's Proverb

<u>Volume 2, issued in June 2011</u>

1. Go Go SAMS
2. How to Get Information!? (PP01)
3. Let's Reduce Damage to Mango/Avocado! (PP03)
4. The Other Projects

5. Faces
6. Today's Proverb

Volume 3, issued in August 2011

1. Tough Trail to the SAMS' Goal
2. Let's Sell Our Distinctive "Haricot Bean" to the Marketplace (PP06)
3. Ginger is Booming Now (PP07)
4. Too Much Post-Handling Loss (PP08)
5. The Other Pilot Projects
6. Voices
7. Today's Proverb

Volume 4, issued in October 2011

1. SAMS Bears Up Against Difficulty
2. New Machines Developed by Local Material Are Now Active! (PP04)
3. This is the Advanced Technology for High Value-Added Ginger (PP05)
4. The Other Pilot Projects
5. Voices
6. Today's Proverb

Volume 5, issued in February 2012

1. SAMS Turns Final Corner
2. Practical Skills for Quality Control are Transferred To the Real Players! (PP02/ PP08)
3. Events for Information Sharing
4. The Other Pilot Projects
5. Voices
6. Today's Proverb

The newsletters were delivered to related agencies in SNNPR, central governments, and international organizations. Most of the first newsletters were distributed to the woredas' officers at the conference in Hawassa, SNNPR. There was some confusion with the first delivery of newsletters, but the list and procedure for delivery was improved with the second newsletter. The actual delivery list of the newsletters is stated in Table PP10-3.

Table PP10-3 Actual Delivery List of the Newsletter Vol. 2

No	Targets Delivered	Amharic (1000)	English (200)	Method of Delivery
1. Regional Government Organizations				
	Marketing & Cooperatives Bureau	15	15	in person
	Agriculture Bureau	10		in person
	Trade, Industry & Urban Dev. Bureau	5		in person
	BoFED	3		in person
	Other regional government organizations	84		in person
	Trade Fair at Hawassa University, via. Mr. Zerihum / BoMC Communication officer	20	50	in person
	Sub Total	**137**	**65**	

No	Targets Delivered	Amharic (1000)	English (200)	Method of Delivery
2. Zone / S.Woreda				
	14 zones	724		Postal Mail
	8 Special woredas	40		Postal Mail
	Sub Total	**764**	**0**	
3. Other organizations				
	Self Help - Hawassa	0	10	in person
	WFP -Hawassa	0	10	in person
	SNV - Hawassa	0	10	in person
	JICA - A.A.	50	50	in person
	OVOP team, JICA mission for OVOP Project	0	4	in person
	Sub Total	**50**	**84**	
4. Additional distribution to other organizations				
	World Bank - A.A Dr. Achim Fock	1	1	by post
	FAO - A.A. Mr. Christian Grassini	2	1	by post
	WFP - A.A Mr. Enrico Pausilli	2	1	by post
	USAID - A.A Mr. Daniel Moore	2	1	by post
	EGTE - A.A. Mr. Gebere / Marketing Officer	2	1	by post
	SASAKAWA - A.A. Ms. Tokusue	2	1	by post
	Ethiopian Spice Extraction Factory Mr. Fikru / Manager, Commercial Dept.	1	1	by post
	Ministry of Finance & Economic Development, External Resource Mobilization & Management Mr. Asnakech / Bilateral Cooperation Seniro Expert	3	2	by post
	Agricultural Marketing Directrate, Mr. Assefa Mulugeta / Director, Ministry of Trade and Industry	3	2	by post
	Fintrac (USAID-ATEP), Mr. Petros	1	1	by post
	IFAD/AMIP - Hawassa, Mr. Shimekit	2	1	in person
	ECX -A.A. Mr. Fekadu Tilahun, Manager, Production Development Dept.	2	1	by post
	Sub Total	**23**	**14**	
	Ground Total	**974**	**163**	
	Remaining	**26**	**37**	

Source: JICA Study Team

Expected Output 4 Evaluate the results of the pilot projects at the sites (Study Tours)

4-1. Design study tours targeting the cooperative members and local staff

4-2. Execute cooperatives' study tour (observation trip, workshop)

4-3. Execute counterparts' study tour (observation trip, workshop, reporting)

1) Study Tours Targeting Beneficiaries Carried by each PP

The detailed explanation was recorded at the section of each pilot project, but the following study tours targeting the beneficiaries were carried out by the pilot projects' initiatives.

- Study Tour on market information system in Tigray Region and Oromia Region (PP01)
- Study Tour to warehouses in Oromia Region (PP02, PP08)
- Study Tour to African Juice Factory and fruit buyers in Nararette and Addis Ababa (PP03)

- Experience Sharing Tour from Offa woreda to Kindo Koysha woreda (PP04)
- Study Tour by Ambericho union and primary coops to PP05 ginger washing & drying business
- Study Tour to marketplaces in Amuhara Region (PP06, PP07)

Two site trips for exchanging information among the relating agencies were carried out under the initiative of PP10.

November 10th – 11th	Study Tour for introduction of pilot projects of SAMS for BoMC's managers and concerned staffs
November 29th	Inauguration of construction projects: market facilities at Hadaro marketplace and warehouse at Doyo Gana in Kabata Tembaro and introductions of SAMS' activities

3) Study Tour for Mutual Understanding of SAMS (Nov. 10 – 11)

The pilot projects of SAMS were formulated by the holistic approach under the four strategies, which aim to create synergy effects among the projects. In order to accelerate the effectiveness, the SAMS members planned occasions of information sharing and carried out several study tours and an inauguration of construction. The project members visited other projects to refer their outputs and experiences. Most study tours conducted by each PP were travels among the pilot projects' sites but a few were out of SNNPR.

Study Tours of the counterparts organized by PP10 were executed as planned and by using the timing of the construction completion, namely PP01 AMIP, PP05 ginger washing place, PP07 marketplace, PP08 warehouse and PP04 value added cassava. The route of the Counterparts' Study Tour is shown in below. The number of participants was 17, which consist of 6 SAMS counterparts, 8 guest from BoMC and 3 from JICA study team.

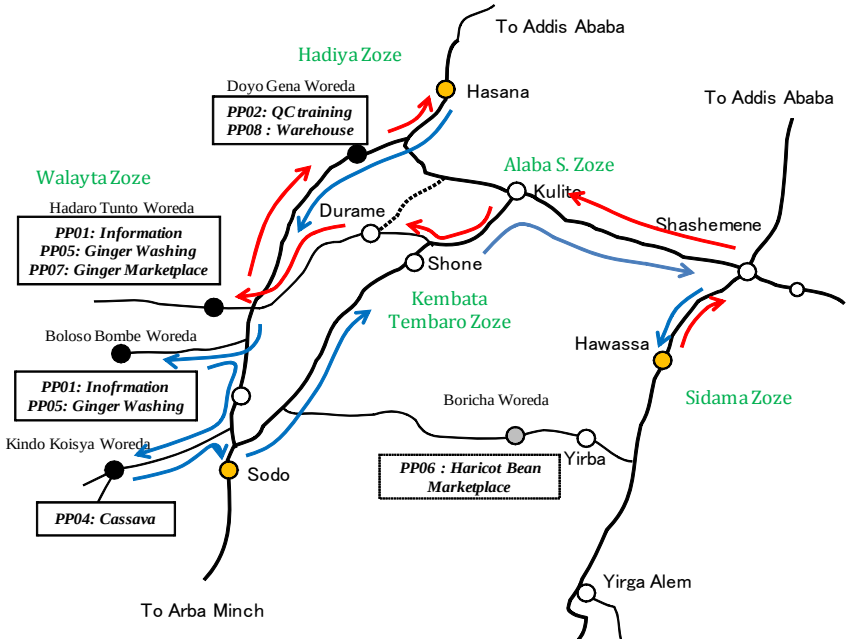


Figure PP10-2 Route Map of the Counterparts' Study Tour

A team leader of PP01 explains the procedure of data collection and distribution. (PP01)

Participants observe the bulletin board with posted market price information (PP01)

The sub-leader of PP07 answers questions from other participants at the ginger marketplace at Hadaro Tundo, Kambata Tambaro zone.

The ginger marketplace is under construction. This type of specialized roofed wholesale marketplace is a first in SNNPR. (PP07)

Participants ask questions to the beneficiaries about their activities at Hadaro Tunto. (PP05)

Ginger washing and drying is actively on-going at Hadaro Tunto. (PP05)

Warehouse of Angacha Union constructed with the technical and financial support of SAMS-SNNPR (PP08)

Group photo of the participants at the warehouse of Angacha Union at Doyogana town, Kambata Tambaro zone. (PP08)

The team leader explains the activities of ginger marketing at Boloso Bombe in Walayta zone. (PP05)

Due to the rain and shortage of drying space, the wahing activities were not observed at Boloso Bombe. (PP05)

Discussion with the head of WoMC at Boloso Bombe. (PP01, PP03, PP05)

A participant tries to cut the cassava with the new cassava cutter developed by SAMS (PP04)

Beneficiaries explain about their activities at the Kindo Koysha, Walayta zone.(PP04)

3) Inauguration of PPs (Nov. 29)

The PP10 formulate the inauguration to show the progress of the pilot projects. The inauguration was broadcast on TV on December 2nd, 2011.

The beneficiaries' study tours were executed under the individual PPs' initiatives. The details were introduced in the applicable sections of each pilot project.

Expected Output 5 Participatory Conference (Strengthen the presentation skills of the staff)

5-1. Prepare presentation materials by counterparts and cooperatives in charge under the guidance of JICA Study Team
5-2. Arrange venue, invite related agencies, print materials, etc.
5-3. Issue certificates to the cooperatives and the counterparts in charge from JICA Study Team

The Participatory Conference was held on March 8, 2012, in the time of the period of verification study. The main purpose of the Participatory Conference is as follows:

1) To review the concept of SAMS-SNNPR taking holistic approach
2) To accelerate synergy effects among the participants by exchanging experiences
3) To encourage both counterparts and local actors to keep working toward their goals of SAMS
4) To verify the good and bad practices in order to formulate action plans of the Master Plan

The program schedule is shown in the following table:

Table PP10-4 The Time Table of the Conference

Contents	Start	End	In charge
Registration	8:30 -	9:00	
Coffee & Tea Service			
1st Session : SAMS			
Opening remarks	9:00 -	9:15	Mr. Nuredin, BoMC
Review of the SAMS' concept	9:15 -	10:00	Mr. Akutsu Mr. Deneke
Introduction of the participants	10:00 -	10:10	Mr. Talemos
2nd Session			
PP01:Agricultural Marketing Information System (AMIS)	10:10 -	10:50	Mr. Mandera
PP02 / PP08: Quality Control	10:50 -	11:30	Mr. Redwan, BoMC WFP Angacha Union
Lunch	11:30 -	13:00	
3rd Session			
PP03: Improvement of Harvesting and Handling Practices of Mango / Avocado	13:00 -	13:40	Mr. Abraham Woreda Officer and farmers groups
PP04: Improvement of Dried Cassava	13:40 -	14:20	Mr. Demissie, BoMC Woreda officers and farmers groups
PP05: Production of Clean Dried Ginger and establishment of Linkages with Buyer	14:20 -	15:00	Mr. Deneke Farmers groups
Coffee Break	15:00 -	15:15	
4th Session			-
PP06: Marketplace Improvement Project in Haricot Bean Area	15:15 -	15:45	Ms. Alitaya Balila municipality
PP07: Marketplace Improvement Project in Ginger Production Area	15:45 -	16:15	Mr. Redwan
5th Session			
Question and Answer	16:15 -	16:45	
Announcement of Awards	16:45 -	17:00	
Closing Remarks	17:00 -	17:15	Ms. Yasuda
	17:15 -	17:30	Mr. Akutsu Mr. Nuredin

** All presentations were given in Amharic.*

The counterparts in charge shared their contributions and the beneficiaries of the pilot projects made speeches to the others in their own words.

The opening remark by the head of BoMC, Mr. Nuredin Mohamed and the team leader of the JICA Study Team, Mr. Takao Akutsu.

The presentation by the C/P, Mr. Abraham Astike, in charge of PP03 “Fruits Harvesting”

Comments and impressions were given by the beneficiaries, PP04 “Clean Dry Cassava”.

Giving awards to the participants for good performance.

Expected Output 6 Formulate the 5-year Master Plan

6-1. Integrate the lessons learned from the pilot projects

6-2. Finalize the master plan by referring to the results of the pilot projects

The 5-year Master Plan will be finalized after the PPs are completed.

(9) Achievement of Project Purpose and Expected Output

The achievement of expected output is arranged in the Table PP10-5.

Table PP10-5 Achievement of Expected Output

Expected output	Achievement (indicator)	Source of indicator
1. Master efficient monitoring system of on-going projects	1.1.10 Organization Charts All pilot project teams formulated their organization charts. However, the organization charts of some PPs are just a formality and appointed team leaders and sub-leaders were not involved. It is better to have the clear organization chart than no organization charts, but it never works without JICA's strong involvement. 1.2.10 project files Project files were used for important documents by the JICA Study Team but no team leader reviewed the files.	1.1. Proper formation of the pilot project team consists of the other projects' leaders 1.2. Project Files
2. Compare the people's livelihoods and their market awareness before and after the pilot projects	2.1.1 set of official documents regarding selection of local contractors 2.2. Files of the 600 responses 2.3. Report of baseline survey The baseline survey was conducted as planned, but no involvement of C/P was observed. It is questionable if they had checked the output (statistical data) of the baseline survey of their target sites.	2.1. Record of proper bit among local contractors 2.2. Format of questionnaires 2.3. Result of baseline survey
3. Master how to maximize the synergy effect through regular meetings and newsletters	3.1. Minutes of memorandums (6 times) 3.2. Newsletters (6 times) The bimonthly team leader meetings were held as planned. Presentation materials were prepared by the team leaders in principle but were mostly fully supported by the JICA Study Team. Minutes of memorandums were prepared by the JICA assistant. The outcome of the capacity development through the team leader meetings was lower than that expected, but some of the members improved their skills by using the opportunities of reporting. Issuing Newsletters was fully handled by the JICA Study Team. It was realized that it was too early to transfer the skill of publication at this time.	3.1. Minutes of memorandum 3.2. Newsletters
4. Evaluate the results of the pilot projects at the sites (Study Tours)	4.1. Reputation from coops 4.2.20 reports from C/P The study tours were carried out as planned. Learning by observation was more effective then learning through the lectures in the room.	4.1. Report of coops' study tour 4.2. Report of C/P's study tour
5. Strengthen the presentation skills of the staff (Participatory Conference)	5.1. Presentation materials of the 10 projects 5.2. Achievement of capacity development (10 - 20 C/P) Presentation materials are still very general and on the surface. Getting the deeper key points and explaining the concrete ideas might be difficult because their knowledge of marketing is on the surface. JICA Study Team planned to issue the certificates of completion but since the C/P's involvement was not as much as expected, the awards were given to beneficiaries instead.	5.1. Presentation materials 5.2. Certificates of Completion

Expected output	Achievement (indicator)	Source of indicator
6. Formulate the 5-year Master Plan	6.1 Practical master plan The draft master plan will be prepared by the JICA study team, and will consult with BoMC.	6.1 Master Plan

Almost all expected outputs were realized as planned. The outputs were reviewed by the designated indicators as well. However, the reality of the achievement was not what really expected, because most of the activities were carried out by the JICA Study Team and there was not so much involvement from the C/Ps. This kind of situation was observed in most of the PPs' except PP01 and PP03. The Study Team expected to hand over the majority of the works to the C/P in charge. Even if the Pilot Projects started on JICA's initiative, they were supposed to stimulate the C/Ps' motivation and encourage their ownerships.

It is necessary for the JICA and JICA Study Team to change the program formation of capacity development targeting C/P to targeting direct beneficiaries at the project sites. The roles of the C/P should be limited to information transaction among the governmental agencies and guiding the outstations on occasion.

Regrettably, on-the-job training formulated based on the conceptual figure below did not function well. The pyramid clarifies the hierarchy of the organization but the structure showed the bottom-up approach, which was decision-making based on the reports from the fields. This figure illustrates that eight pilot projects were supposed to function as a holistic training program.

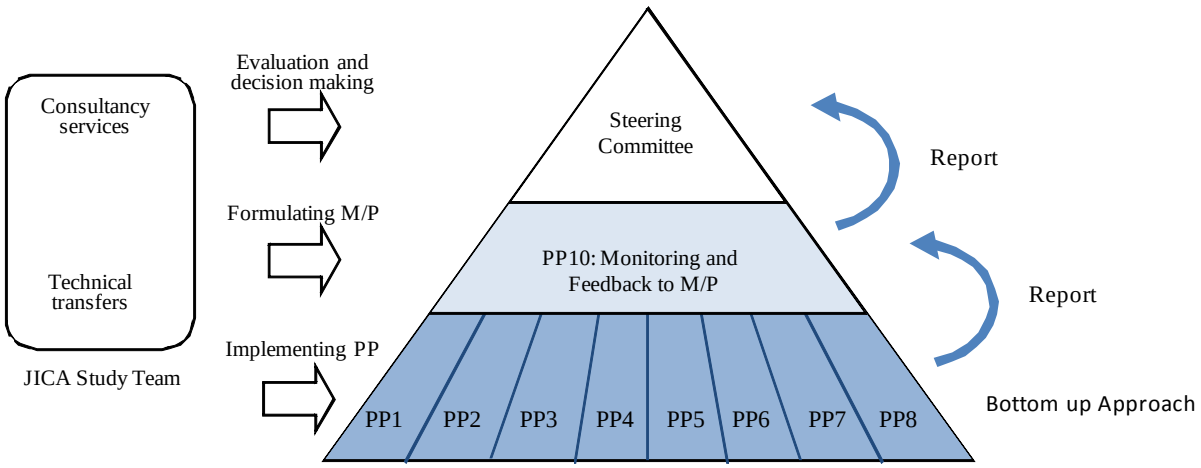


Figure PP10-3 Conceptual Structure of Capacity Development Program

The target trainees were middle managers who would be promoted in the future. PP10 had a role to harmonize the pilot projects, and was thus expected to be a facilitator of this holistic program.

This kind of program of capacity development introduced by the JICA Study Team has been utilized in many Asian countries and its effectiveness has been verified through experience; however, it is not functioning in SNNPR, Ethiopia due to the maturity level of the economy and cultural differences.

The biggest barrier to positive outcomes has been the recognition and attitudes of the trainees. The appointed team leaders were regarded as trainees from the viewpoint of the capacity development program and the team leaders expected to be encouraged to act as owners of the pilot projects based on the guidance of the Japanese experts. However, the team leaders are busy in their regular work and most of them are not aware that these pilot projects have been carried out as on-the-job training of the counterparts. Since they are in the positions of experts and/or managers, they believe that they do not need to learn management skills and practical procedures of the projects based on suitable technology from Japanese experts. This large realization gap between the JICA Study Team and BoMC has forced the JICA Study Team to change the capacity development program.

Table PP10-6 indicates the difference between the original plan and the result of the "on-the-job capacity development program" through the implementation of pilot projects.

Table PP10-6 Original Plan and Result of the Capacity Development Program

	Original Plan		Result	
	JICA Study Team	Counterpart	JICA Study Team	Counterpart
Project formulation	Mainly formulate	Involved	Main actor	Input some ideas
Preparation work	Mainly formulate	Involved	Main actor	Less involved
Project events/activities	Assist	Mainly activate	Main actor	A little involved
Project observation trip	Assist	Involved	Main actor	Involved
Project evaluation	Assist	Involved	Main actor	A little involved
Reporting material	Advise	Main actor	Main actor	Less involved
Presentation	Advise	Main actor	Main actor	Sometimes involved

Source: JICA Study Team

The JICA Study Team realized that doing the work themselves was much easier and quicker than letting the counterparts do it with guidance. The target beneficiaries were settled on by the individual farmers / coops and union directly and the cascade method of technical dissemination was given on low priority. Namely, the trainers' training is not functioning well in BoMC, SNNPR.
In contrast, if target farmers gain benefit from the pilot projects, such successful cases must be disseminated gradually at the sites. Putting high priority on creating successful cases at close is reasonable under this condition and it might be more realistic and sustainable than training the governmental staff.

The role of C/P and involvement of C/P should be downsized when another technical transfer program is planned in the future; otherwise the gap between planning and reality will remain very large.

(10) Project Evaluation

Effectiveness:

PP10 was executed as planned on schedule. The role of the promotion of the holistic approach functioned well as expected. All the activities have been influenced by each other through the PP10. If individual pilot projects had been implemented alone, the impact and synergy effects would not be expected. The PP10 had given opportunities of information sharing to each pilot project.

However, regrettably, the effectiveness as the capacity development failed. It was too much for C/P to achieve the targets. The bottom-up approach and cascade approach of training did not function well in the case of the PP10. C/Ps did not show eagerness to learn the methods of management from the JICA Study Team, even with small things such as scheduling and reporting methods. They did not copy any skills in the efficiency of management. The technical transfer should implement to the target beneficiary and the role of C/P should be restricted in the field to obtaining approval and asking guidance on occasion but not to be designated as the target of capacity development as in the case of Asian countries. The culture, mindset, and social systems are totally different. Only one or two C/Ps assigned for helping the JICA Study Team were more effective than the appointed team leaders of the pilot projects.

Efficiency:

In order to make information sharing efficient, the PP10 was formulated. The expected results were achieved as planned through the bimonthly meetings, newsletters, study tours and participatory conference.

Impact:

Publishing newsletters helped to make an impact on the other woredas to understand the SAMS activities. The inauguration and the participatory conference were broadcasted by TV news.

Sustainability:

Sustainability of PP10 is not expected. BoMC might keep their way rather than copying the Japanese way of management.

(11) Recommendation

From the viewpoint of project management, which is main roles of PP10, the following recommendations are emphasized.

1) First Step of Transparency is Visible System

- Everybody insist on accountability and transparency but they don’t know what it is.
- First step of transparency is just “reporting” or “information sharing”.
- Scheduling of assignments on the board is the simplest systematic management method.

- It helps manager to let staff work efficiently.

2) Team making, Budgeting and Scheduling is the fundamental elements of management
- Even if you repeat “Vision”, it is hard to realize the effective management without systematic practical method.
- Review the practical management method of Japanese Experts!
- Strengthen your planning capability so that you can take initiatives for projects planning / implementation.

3) Key of the marketing is “research by your own eyes” and “contact by yourselves”
- Taking action is crucial to realize the market linkage. There is no progress if you just wait for something.
- Catch the needs of the markets by data and your eyes.
- Learn from real business of traders.

4) Vision without concrete action plans is just dream, so please learn realistic approaches
- Even if you repeat slogan, the dream will not be realized without budget, proper personnel and scheduling.
- Implementing by using practical methods is better than repeating general concepts verbally.

Table PP10-7 PDM of PP10

PROJECT SUMMARY	INDICATOR	SOURCE OF INDICATOR	IMPORTANT ASSUMPTION
OVERALL GOAL : **Practical Master Plan**	1. Practical Formation of the Master Plan's implementation 2. Budgeting	Final report of Master Plan	Support from MoFED Approval by the cabinet of SNNPR
PROJECT PURPOSE : Empowerment of BoMC/BoA, SNNPR on marketing aspects and improvement of their capacity to support farmers and traders	Outputs and outcomes of the 9 pilot projects lead by projects leaders	Project files (PP01-PP10)	Approval by steering committee
EXPECTED OUTPUT : 1. Master efficient monitoring system of on-going projects 2. Compare the people's livelihoods and their market awareness before and after the pilot projects 3. Master how to maximize the synergy effect through regular meetings and newsletters 4. Evaluate the results of the pilot projects at the sites 5. Strengthen the presentation skills of the staffs 6. Formulate the 5-year Master Plan	1.1. 10 Organization Charts 1.2. 10 project files 2.1. 1 set of official documents regarding selection of local contractors 2.2. Files of the 600 responses 2.3. Report of baseline survey 3.1. Minutes of memorandums (6 times) 3.2. Newsletters (6 times) 4.1. Reputation from coops 4.2. 20 reports from C/P 5.1. Presentation materials of the 10 projects 5.2. Achievement of capacity development (10 – 20 C/P) 6.1. Practical master plan	1.1. Proper formation of the pilot project team consists of the other projects' leaders 1.2. Project Files 2.1. Record of proper bit among local contractors 2.2. Format of questionnaires 2.3. Result of baseline survey 3.1. Minutes of memorandum 3.2. Newsletters 4.1. Report of coops' study tour 4.2. Report of C/P's study tour 5.1. Presentation materials 5.2. Certificates of Completion 6.1. Master Plan	Unexpected personnel relocation of counterparts in charge of the pilot projects
ACTIVITIES : 1-1. Formulate the monitoring team consisting of the counterparts in charge of the other pilot projects and establish a secretariat office at BoARD 1-2. Develop monitoring method and procedures and exchange minutes of memorandum	**INPUT :** ［**FROM SNNPR**］ ◦ Personnel costs of the counterparts ◦ Venue for meetings ◦ Communication cost among the project members		**PRECONDITION :** JICA allocates necessary budget for the pilot project

2-1. Design the household survey（target sites, sample number, scheduling, etc.） 2-2. Prepare a questionnaire（contents: expenditure/income, education, type of cash crops, awareness of loss, quality, price, etc.） 2-3. Conduct household survey 2-4. Data input, compiling, data cleaning, analysis and reporting 3-1. Report on performance of each pilot project by counterparts in charge, every 2 months 3-2. Publish newsletters by using the field information from each pilot project 4-1. Design study tours targeting the cooperative members and local staffs 4-2. Execute cooperatives' study tour (observation trip, workshop) 4-3. Execute counterparts' study tour (observation trip, workshop, reporting) 4-4. Design an evaluation seminar of the pilot projects 5-1. Prepare presentation materials by counterparts and cooperatives in charge under the guidance of JICA Study Team 5-2. Arrange venue, invite related agencies, print materials, etc. 5-3. Issue certificates to the cooperatives and the counterparts in charge from JICA Study Team 6-1. Integrate the lessons learned from the pilot projects 6-2. Finalize the master plan by referring to the results of the pilot projects	[**FROM JAPAN**] • Supply expense for filing (copy paper, files) • Research cost of baseline survey • Expense of meeting room and refreshments (6 times) • Printing cost of newsletters (6 times) • Bus charter for study tours (2 times) • Expense for conference room of evaluation seminar • Per diem of the counterparts • Transportation fee of monitoring	

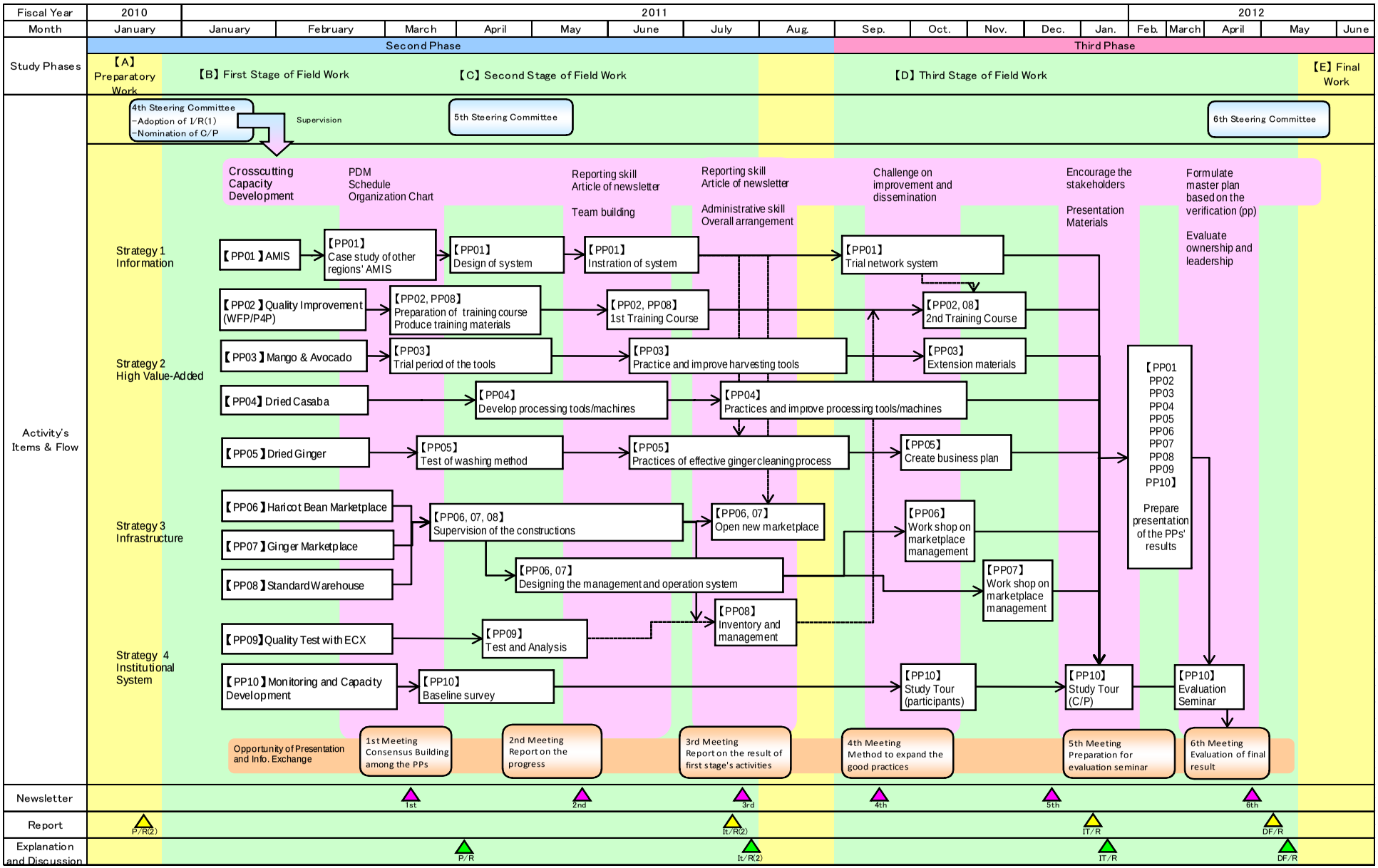


Figure PP10-4 Main Activities and Monitoring Flow

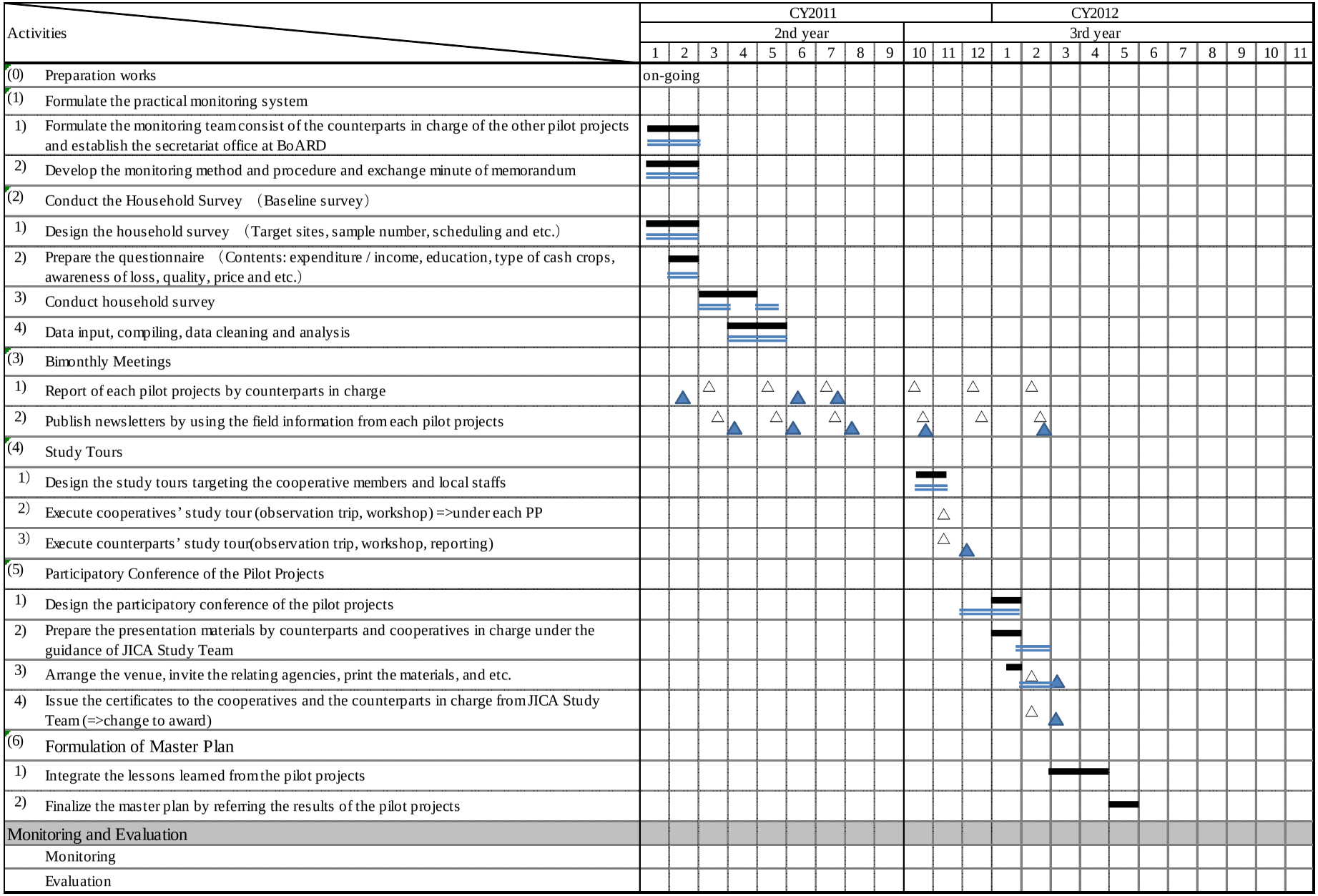


Figure PP10-5 Schedule and Progress of PP10

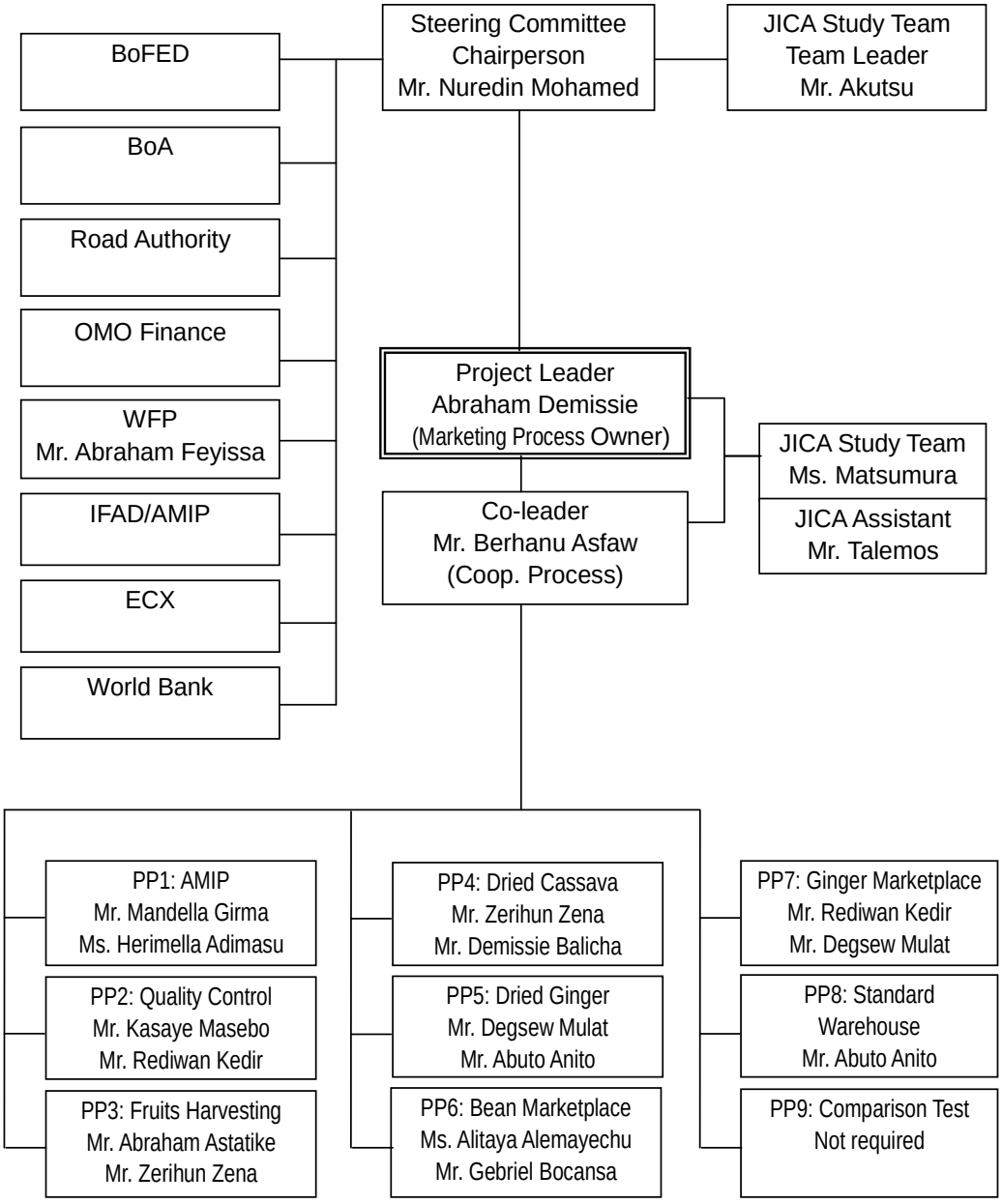


Figure PP10-6 Organization Chart for Planning and Implementation of PP10