

THE WORLD BANK GROUP ARCHIVES

PUBLIC DISCLOSURE AUTHORIZED

Folder Title: Summary of Report on Implementation Guidelines for Development of Food Crops Agriculture in Transmigration Projects 1982/1983 and 1983/1984 - Report Number 3 - R. Soedarsono / N. Owens - INS/79/001

Folder ID: 30096317

Series: Indonesia project and research reports (English)

Dates: 01/01/1982 - 12/31/1984

Fonds: Personal papers of Gloria Davis

ISAD Reference Code: WB IBRD/IDA DAVIS-11

Digitized: 05/04/2023

To cite materials from this archival folder, please follow the following format:
[Descriptive name of item], [Folder Title], Folder ID [Folder ID], ISAD(G) Reference Code [Reference Code], [Each Level Label as applicable], World Bank Group Archives, Washington, D.C., United States.

The records in this folder were created or received by The World Bank in the course of its business.

The records that were created by the staff of The World Bank are subject to the Bank's copyright.

Please refer to <http://www.worldbank.org/terms-of-use-earchives> for full copyright terms of use and disclaimers.



THE WORLD BANK

Washington, D.C.

© International Bank for Reconstruction and Development / International Development Association or

The World Bank

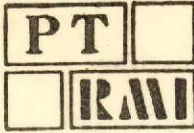
1818 H Street NW

Washington DC 20433

Telephone: 202-473-1000

Internet: www.worldbank.org

PUBLIC DISCLOSURE AUTHORIZED



INTER-OFFICE CORRESPONDENCE

TO : Transmigration Team Project INS/79/001
FROM : R. Soedarsono / N. Owens
SUBJECT : Report No.3 on MOA Transmigration Activities

Attached is a summary of a report titled Po dan Pengembangan Proyek Pembinaan Pertanian Daerah Transmigrasi 1982/83 dan 1983/84 (Gu Development of Food Crops Agriculture for Transmigration Projects for 1982/83 and 1983/84), prepared by the Directorate for Expansion of Agricultural Area of DGFA.

cc: Messrs Butcher
Sediono
Moestadjab
Feinberg
Lahey
Saunders
Hodkinson
Supoyo

DECLASSIFIED
WBG Archives

Summary of Report on Implementation Guidelines for Development of Food Crops Agriculture in Transmigration Projects 1982/1983 and 1983/1984 - Report Number 3 - R



A2011-001 Other #:

30096317

398827B





50000037

INTER-OFFICE CORRESPONDENCE

TO : Transmigration Team Project INS/79/001
FROM : R. Soedarsong / N. Owens
SUBJECT : Report No.3 on MOA Transmigration Activities

DATE : 14 July '81

REF :

Attached is a summary of a report titled Pola Pembinaan dan Pengembangan Proyek Pembinaan Pertanian Pangan Daerah Transmigrasi 1982/83 dan 1983/84 (Guidelines for Development of Food Crops Agriculture for Transmigration Projects for 1982/83 and 1983/84), prepared by the Directorate for Expansion of Agricultural Area of DGFA.

cc: Messrs Butcher
Sediono
Moestadjab
Feinberg
Lahey
Saunders
Hodkinson
Supoyo

DECLASSIFIED
WBG Archives

SUMMARY OF REPORT ON:
IMPLEMENTATION GUIDELINES FOR DEVELOPMENT OF
FOOD CROPS AGRICULTURE IN TRANSMIGRATION PROJECTS
1982/1983 AND 1983/1984

PREPARED BY:
DIR. FOR EXPANSION OF AGRIC. AREA
D G F C A
MOA

(Agricultural Services Report No. 3)

R. Soedarsono/N. Owens
Agricultural Inputs Adviser
Project INS/79/001
Transmigration Management
and Monitoring Services

TABLE OF CONTENTS

<u>SECTION</u>	<u>Page No.</u>
Introduction	1
1.0. Preparation	
1.1. Design of Farm Model	2
1.2. Initial Crop Trials	2
2.0. Transmigrant Packet	
2.1. Family Garden	3
2.2. Food Crop Packet	4
2.3. Fertilizer Packet	5
2.4. Insecticide Packet	6
2.5. Plant Protection Tools Packet	7
3.0. Crop Production/Fertilizer Trials	
3.1. Fertilizer Trials	7
3.2. Crop Production Trials	8
4.0. Seed Multiplication	
4.1. Project Seed Farms	9
4.2. Private Contractors	10
5.0. Development of Farmer Groups (Dinamisasi Kelompok Tani)	11
6.0. Home Garden Intensification Demonstration Trials	13
7.0. Joint Conservation Farming Project	14
8.0. Institutional and Work Force Development	
8.1. Seed Farms	15
8.2. BPP (Rural Extension Center for Agriculture)	15
8.3. Warehouses and Facilities	16
8.4. Agricultural Development Centers	17
8.5. Recruiting Agricultural Work Force	17
9.0. Monitoring	18
10.0. Evaluation and Reporting	18
11.0. Project Unit Costs	19
Attachment 1 : Schedule of Activities for Food Crop Agriculture Development for Transmigration Projects in 1982 and 1983.	

- Attachment 2 : Unit Costs per New SKP (2,000 families) and Per Family of P3 DT Activities T-1 to T+4.
- Attachment 3 : Additional MOA Transmigration Implementation Targets for 1982/83 and 1983/84.
- Attachment 4 : Specific MOA Transmigration Program Targets for 1982/83.
- Attachment 5 : Specific MOA Transmigration Program Targets for 1983/84.

Introduction

This report outlines the detailed implementation plans for agricultural development in transmigration projects as prepared by the Directorate for Expansion of Agricultural Area of the DGFA of the MOA. The guidelines are designed to show necessary activities for complete agricultural development of an SKP (about 2,000 families). Each activity is outlined in terms of:

- Purpose : Purpose/goal of each activity
- Guidelines : Details/specifications of activity and/or quantities of inputs/services to be provided.
- Implementing Staff/Implementor : Responsible GOI agency
- Time of Implementation : When activity should occur
- Implementation Guidelines: How activity should be completed.

Also included are five attachments summarizing the scheduling of the above development activities in an SKP for years T-1 to T + 4; unit costs of these activities per SKP and per family; and, summary program implementation targets nationwide for 1982/83 and 1983/84.

1.0. Preparation

1.1. Design of Farm Model

- Purpose** - Develop technically feasible model that produces sound economic benefits.
- Design/Planning Team** - Team consisting of staff from Dinas PU, Agraria, Estates, Livestock, Industry, Agriculture, Transmigration, Domestic Trade, etc.
- Time of Preparation** - One year before settler arrival on site (T - 1) (Time of site preparation)
- Implementation Guidelines** - At time of land clearing, should have all information on project site on settlement layout, climate profile, etc., from above Planning Team.
- After land clearing, design of one farm model and design for agriculture development suitable for use by each SP (300 - 500 transmigrants). This model should depend only on agencies within MOA.

1.2. Initial Crop Trials

- Purpose** - Make sure farm model will function to raise incomes/welfare of settlers and determine if any technical problems exist with the model and begin seed multiplication.
- Criteria** - For each SKP of 2,000 settlers, working with Dit. PLPT, 2.0 ha should be used for the initial crop trials. Staff should use land-clearing contractor's facilities.
- Implementor** - Spotworker, graduated from SPMA or agricultural technician.
- Timing** - Simultaneous with land clearing activities in T-1.
- Implementation Guidelines** - The 2.0 ha plot should be based on land in the Base Camp Complex. Activities should begin after the spotworker has received training about the farm model, and facilities have been provided. The trials should use the same inputs as provided in the Transmigrant package.

2.0. Transmigrant Package

2.1. Family Garden

- Purpose** - Raise productivity of settlers, serve as mini food crop seed multiplication; this helps prevent settlers carrying seed from their point-of-origin that contains impurities or disease.
- Criteria** - Should be 0.25 ha including house, should have crops with high market value (soybeans, vegetables) and can also be used to grow subsistence rice and corn; seed for these are included in garden package

<u>Crop Type</u>	<u>Kg of Seed</u>	<u>Cropping Intensity (%)</u>	<u>Yield (Kg)</u>	<u>Value (Rp)</u>
Padi	3	30	100	20,000
Corn	2	30	100	10,000
Soybean	3	30	80	24,000
Groundnut	4	15	25	11,250
Green Beans	0.5	10	20	9,000
Vegetables	0.5	-	-	<u>10,000</u>
				89,250

Notes: Soybean/groundnut seed with rhizobium inoculation.
Vegetables include chillies, terong, legumes, kangkung darat, spinach, etc.

Supervisory Staff - Dinas Pertanian Officers from settler points of origin should provide package. Costs should be covered in DIP P3 DT Pusat. ^{1/}

Implementation Time - T - 0 (year of settler arrival)

Implementation Guidelines - Settlers should receive packages one month before departure. Packet should be wrapped in cotton cloth and labeled. Vegetable seeds should be wrapped in plastic. Settlers should receive seeds in 3 4-5 kg packages: one packet each for rice/corn; groundnuts; and soybeans, vegetables, and rhizobium inoculant.

2.2. Food Crop Package

Purpose - Provide needs/planting materials of high quality for settlers to grow surplus food crops and increase their incomes.

Criteria - 1.0 ha of land. Cropping intensity of 200 %, as shown below:

<u>Crop</u>	<u>Kg Seed Provided in Packet</u>	<u>Wet Season Intensity (%)</u>	<u>Dry Season Intensity (%)</u>	<u>Combined W/D Yield (kg)</u>	<u>Total Production Value (Rp.)</u>
Padi	35	100	-	1500 (gabah)	180,000
Corn	10	25	-	400 (shelled)	30,000
Groundnuts	30	20	-	160 (seeds)	80,000
Cassava	500 (sticks)	5	5*	800 (wet root)	4,000
Soybean	10	-	30	400 (seeds)	100,000
Green Beans	5	-	20	200 (seeds)	80,000
Legumes	10	-	45	-	-
Fruits	15 seedlings)	-	-	-	-
Rhizobium Inoculant	25 (grams)	-	-	-	-
					474,000

* Planted in wet season.

Note: Production totals 2110 kg rice equivalent for family of 5.

Supervisory Staff - P3 DT Project Staff, Provincial Dinas Pertanian.

Time of Distribution - Package A T - 0 (all seed/planting materials)
Package B T + 1 (padi seed only)

- Implementation Guidelines**
1. Costs should be included in DIP T-1 (year before settler arrival).
 2. Package should be designed for 200% cropping intensity.
 3. In upland areas and pasang surut areas type C and D, cropping intensities should be minimum 100 % for rice and 50 % for all beans/groundnuts except in special circumstances.
 4. In pasang surut areas type A and B, secondary crops have low cropping intensities, so padi should have better than average cropping intensity so overall cropping intensity is 200 %.

5. Package should only be given out after land use/farming system has been fixed.
6. Food crop seed stock should come from the family garden plot, except when gathered from a definite source.

2.3. Fertilizer Package

Purpose : Ensure good on farm agricultural productivity.

Criteria : For 1.0 ha of Upland Food Crops, following rates should be applied per year:

Crop	Per Ha.		Application with Proposed 200% Cropping Intensity - 1.0 ha Upland Food Crops			
	Application		Cropping Intensity (%)	Application		Rate Total
	Urea	TSP		Urea (Kg)	TSP (kg)	
Rice	150	100	100	150	100	250
Corn	150	100	25	37.5	25	62.5
Groundnuts	25	50	20	5	10	15
Soybeans	25	50	30	8	15	23
Green Beans	25	50	20	5	10	15
Cassava	-	-	5	-	-	-
Legumes	-	-	45	-	-	-
				205.5	160	365.5

Notes: 1. Above rates do not consider rock phosphate/lime applications. If these are done, per ha. application of Urea + TSP is lowered to about 300 kg.

2. Above application amounts are provided to settlers for first three years on site (T - 0 to T + 2 Packets A, B, and C).

3. For pasang surut areas, Urea and TSP provided only in third year (Packet C - 100 kg); application rates for years 1 and 2 (T-0 and T+1) are not yet fixed.

4. Fertilizer for garden area should come from above supplies.

5. Application rates: Rock Phosphate - 1.5 ton/ha
Lime 1.0 - 1.5 ton/ha

Provided in
Package

A (1 yr - T-0)
A,B,C (3 yrs -
T-0 to T+2)

6. Only lime provided for pasang surut (packets A,B,C - yrs T-0 to T+2)

*) Based on research in Kaltim appreciation once in 7 yrs.

Implementing Staff - P3 DT Daerah for Urea and TSP
 P3 DT Pusat for Rock Phosphate
 Both for lime, depending on location of
 source of lime.

Implementation Guidelines: Package A should be in warehouse in project area prior to distribution (settlers arrival) while packages B and C should be distributed immediately in years T+1 and T+2.

2.4. Insecticide Package

Purpose - Guarantee protection against pests and disease.

Criteria - Designed to protect against following diseases/pests:

Rice	- stem borer, brown spot disease, stink bug, rice blast.
Corn	- stem borer, downy mildew
Soybeans	- seed borer, agromyza
Groundnuts	- seed borer, leaf spot
Green Beans	- seed borer
Cassava	- leaf hopper

Additional pests include - monkeys, wild pigs, rats

Insecticides/Pesticides provided include:

Insecticide	2 kg/l
Seed Treatment	0.25 kg/l
Rat Poison	0.5 kg/l
Wild Pig Poison	0.5 kg/l
Sulphur	0.25 kg/l

Implementing Staff - P3 DT Daerah in cooperation with P.T. Pertani

Timing - Provided in Packages A, B, and C.

Guidelines - At the end of each year (October - November) P3 DT Daerah should inform P.T. Pertani specifications on insecticides/pesticides required. After P.T. Pertani receives this information, they should prepare package for year to come. Thus, package provided in T-0 should be planned through the above process in year T-1. Package

should be on site before settlers arrive, and stored in warehouses throughout the project area.

2.5. Plant Protection Tools Package

Purpose : Ensure availability of protection tools required on time and of proper quality.

Criteria : 1 sprayer will be provided for each 5 families; one sprayer can serve 4 - 5 ha. Each family will receive blower for application of rat poison.

Implementing Staff : P3 DT Daerah

Implementation Guidelines : Above tools should be provided at same time as insecticide package
Tools are provided in Packages A, B, and C.

3.0. Crop Production/Fertilizer Trials

Initial food crop field testing has been done by Test Farm Litbang. (T - 1)
The purpose of the above trials is to further test the proposed farm models using inputs/information prepared by Test Farm Litbang.

3.1. Fertilizer Trials

Purpose - Obtain recommendations on application rates for each individual SKP.

Criteria - Each group of 500 kk (SP) should have trial area with simple design. The results of the trials should be passed on to provincial level BIMAS/INMAS so planning for BIMAS/INMAS coverage of transmigration areas after year T + 2 begins before hand.

Implementors - P3 DT (Pusat and Daerah). Also Spot workers and PPL staff in the field. PPS should assist in design of trial; Team Pengujian Propinsi should manage the trials.

Time of Implementation - T - 0 until T + 2. After T + 2, data on and results of the trial should be sent to P3 DT Pusat.

- Implementation Guidelines -
1. Design of plot should be set 3 months before wet season.
 2. Plotting area should fit with land slope. For land of 3% slope or greater, should follow contour.
 3. Spotworker should be recruited and trained 3 months before trial.
 4. Land used should be compensated for.
 5. Seeds, fertilizer, and other resources should come from project.
 6. Implementation of trials should be monitored and reported periodically.

3.2. Multiple Cropping Trials

Purpose - Identify appropriate year-round cropping system for an SKP.

Criteria - Trials should be done on SP (500 kk) basis, and done in conjunction with fertilizer trials.

Implementor/Time of Implementation/Guidelines - Same as Section

3.1 - Fertilizer Trials.

4.0. Seed Multiplication

4.1. Multiplication of paddy, secondary crops seed and fruits trees

- Purpose** - Gurantee Seed availability of various adaptable varieties (rice, secondary crops, fruits seedling) required for project farming system.
- Criteria** -
1. Padi seed covering ratio -
1 ha of seed farm (stock-seed) should produce enough seed for 50 ha of seed to be multiplied by private farmers (seed grower). This latter group in turn should produce enough seed for 2,500 ha. (Ratio of 1 : 50 : 2,500)
 2. For secondary crops, corn, ground nuts, soybeans etc. ratio of 1 : 6 : 40 (same formula as 1. above.)
 3. New seed stock should be provided to farmers once a year for secondary crops (legumes). Padi seed stock should be developed by farmers themselves after they receive their initial stock. However, padi seed stock should be changed every 3 years.
 4. Seed farm (Balai Benih) should be responsible for ensuring provision of all seed stock and adequate seed multiplication to meet the project requirements.
 5. Land use of the seed farm area for seed multiplication should be as follows:
 - 10 % - padi
 - 80 % - secondary crops
 - 10 % - fruit seedlings
- Implementing Agency** - Project Seed Farm (if available) and contract farmers (seed growers).
- Timing of Implementation** - Each year at the seed farm. When it is necessary to obtain seed from sources other than the seed and private farmers, free seed should be obtained from existing sites at the level of T + 3 or T + 4 of development.

Implementation Guidelines

- 1. Before wet season, estimate seed farm acreage available for multiplication.
- 2. Private farmers seed growers and local people and people already on site should be included in the multiplication activities.
- 3. Fruit seedlings could be included in transmigrant package and financed from the DIP for the package.

4.2. Private Seed Growers

Purpose - Create a proper mechanism for spreading seeds to local people as well as transmigrant.

Criteria - 1. See same for 4.1
 2. Initial stocks should come from Project Seed Farm (Balai Benih).
 3. Number of private growers required:

Padi

1 SKP = 4,000 ha

(50 ha private farm produces seed for 2,500 ha)

$\frac{50}{2500} \times 4000 = 80$ ha private seed farms/SKP

Secondary Crops

(6 ha private farm produces seed for 40 ha)

$\frac{6}{40} \times 4000 = 600$ ha private seed farms/SKP

Implementor - DGFCAs from Kab. and Kec. levels and project staff should coordinate work of private seed farmers/seed grower.

Timing of Implementation - Should begin in years T + 3 and T + 4.

Guidelines - 1. Assess resources of local people as private seed farmers in years T - 0 to T + 2.
 2. Provide training to these farmers in seed multiplication techniques, processing, marketing, and so on.
 3. Should use these private farmers to develop seeds for transmigrant packages.

5.0. Development of Farmer Groups (Dinamisasi Kelompok Petani)

- Purpose** - To help build and guide the development of Transmigration Projects, and to help farmers raise their incomes and standards of living.
- Criteria** - The following factors will help contribute to the building of Farmer Groups in Transmigration areas:
1. Farmers have more land, and can thus more easily develop a good cropping system.
 2. Farmers live in units within a settlement area RT - (30-50 kk); SP - (300 - 500 kk); SKP (+ 2000 kk); WPP - (5000 - 10,000 kk).
 3. Farmers have a common pioneering spirit.
 4. Farmers have good access to production resources.
 5. Projects receive substantial assistance from GOI, and are thus able to "take off" relatively quickly.

In developing Farmer Groups (FG), the following principles are useful:

1. Form a group from an RT; the Head of the RT should be the Head of the Farmer Group.
2. The Head of the RT should help the farmers develop their fields; this is aided by the fact farmers have already received their input packages.
3. Farmers plant a common integrated farm system on a year round basis, thus facing similar problems and requiring similar assistance (for such things as marketing and crop processing).

Implementing Agencies

- Each Farmer Group (FG) should receive guidance and assistance from. The Guiding Team (Team Pembina) which consists of:

1. Korlap
2. Head of Trans. Project from Kanwil Trans.
3. DGFA Site Manager or his assistant, and Site Managers from Estates, Livestock, etc.

Each SP should have an FG Implementation Team. (Team Pelaksana)
This team works under the Head of the Trans. Unit and includes the PPL and Officers from Agraria, Transmigration, Estates, Livestock, and so on.

Time of Implementation

- From T - 0 (settler arrival) to T + 2, after which time the FG should be strong enough to continue work with less assistance.

A. Developing the Field

Guidelines

- 1. Set up the FG's fields in such a way that guarantees continuous farming and production (e.g., each RTs fields grouped together)
 - 2. For land with slope 3 % > use contours.
 - 3. For land with slope 5 % > use contours and terracing.
 - 4. In pasang surut areas good for surjan system, use surjan system.
 - 5. Farmers should be taught how to develop compost piles and grow legume crops.
- #### B. Building the FG
1. FG activities should consist of building farming skills, such as pest control, seed inoculation techniques, marketing, and so on.
 2. These skills should be developed both in the class and in the field.

3. Each FG should develop seed beds using inputs supplied in the packages.

4. Private skills/experiences (such as private traders, etc.) should be developed to help the group function without GOI assistance.

C. Cropping Pattern

1. Proposed cropping model should be discussed with farmers.

2. Arrangements should be made with Estates and Fisheries to provide inputs as or when required (tree crop seedlings, fingerlings, and such)

3. Farmers in an FG should all be taught to use the same techniques for crop protection, harvesting, etc, marketing assistance should come from the Team Pembina in the SKP.

D. Competitions

1. Should have competitions between:

- individual farmers
- FGs
- SPs within an SKP

2. Winners should be given prizes. (Government funded)

6.0. Home Garden Intensification Demonstration Trials

Purpose - Increase productivity of home garden to increase family's health, welfare, etc.

Criteria - The purpose of the home garden is to have crop diversification, including food crops, tree crops, forage for livestock, chickens, etc. However, farmers need training in how to do above; otherwise, home garden will only be used for food crops. Therefore, special courses in the above need to be arranged.

- Implementors** - DGFC A Kecamatan Staff, in cooperation with PPL, and Staff from Technical Agencies (Livestock, Estate Crops, etc.)
- Timing of Implementation** - (T + 3) and (T + 4)
- Guidelines** - Before develop Demonstration Trials, should inventory what farmers currently grow in home garden, and what is availability of resources required for intensification. This inventory should also include local farmers. After the inventory, the program for intensification should be designed based on information obtained.

7.0. Joint Conservation Farming Project

- Purpose** - Teach farmers the importance of soil conservation and techniques.
- Criteria** - Unless farmers are aware of the importance of and learn soil conservation techniques, long term agriculture cannot be developed on land with slope) 8 %. Therefore, each SKP should have 10 ha of Soil Conservation Projects to teach farmers how to use contour farming, build terraces, plant protective crops on terraces, etc.
- Implementor** - Same as 6.0 - see above.
- Timing of Implementation** - Project should begin in years T + 3 and T + 4 for land areas of slope) 5 %. Activities, however, should be discussed earlier with each Farmer Group.
- Guidelines**
- 1. Should survey SKP land area to inventory
 - land slope
 - farming systems
 - data on cropping trials
 - primary crops (most widely grown)
 2. Farmers should then be organized in units to participate in the project. Discussions should be held with each unit to explain the cropping system selected and how to do the soil conservation techniques.

8.0. Institutional and Work Force Development

8.1. Seed Farms (Balai Benih)

- Purpose - Build a way to multiply good seed stock for distribution to settlers.
- Guidelines - Seed farm should be developed to include private farmers seed growing hired on contract for seed multiplication.
- Implementor - P3 DT Daerah.
- Timing of Implementation - Seed farm should be operational by year T - 0. Seed farm is not turned over to local government with the rest of the project, but remains under direction of P3 DT Pusat for budgetary purposes.
- Guidelines - 1. Plans for seed farms should be set in year T - 1 after Public Works has completed the site layout.

2. Seed Farm staff required

<u>Position</u>	<u>Degree</u>
Director	Sarjana
3 Agric. Technicians	SLTA
2 Administrators	SLTA
1 Mechanic	STM
5-10 Field Workers	-

3. Budget for Seed Farm should come from seed multiplication budget.

8.2. BPP - Rural Extension Center

- Purpose - To develop a system for delivering new agricultural technology to transmigration areas.
- Criteria - One BPP for each WKBP (about 5,000 - 10,000 families)
- Implementor - NAEP (National Agricultural Extension Project of MOA)
- Time of Implementation - Plans for BPP developed in T - 1. Construction of facilities and commencement for Seed Farm, warehouses, etc., should be completed by T - 0.
- Guidelines - Build facilities for BPP together with facilities for seed farms, warehouses, etc.

8.3. Warehouses and Facilities

Purpose - Guarantee that agricultural inputs can be stored on site so that settlers always have access to good seeds, fertilizers, and other necessary inputs.

Criteria - 1. For one SKP, the following production inputs are required per year:

Seeds (padi/sec. crops)	150 tons
Fertilizer (Urea/TSP)	600 tons
Pesticides	7 tons

To store these amounts, 750 m² of warehouse space is required at full development, Availability of warehouse space can be phased with to coincide settler arrival.

2. For each settlement, 150 m² of office space is also required for warehouse managers.
3. Each province/kabupaten requires 200 m² of transition warehouses to store inputs in during shipment to project site. Inputs should be in these transition warehouses 6 months before settler arrival on site.

Guidelines - 1. Warehouses should be located close to public facilities.

2. It should not be far from the houses of the Site Manager and PPL.
3. Transition Warehouses should be near Prov.Kab. Agric. offices.
4. These are important for ensuring warehouses are well guarded and also close to the fields so that when land preparation is done it is easy to move inputs to the field.

8.4. Agricultural Development Centers

- Purpose** - Speed up the technology development and expansion of agriculture in transmigration areas; and thus increase regional food crops production in transmigration areas.
- Criteria** -
1. Province divided into districts depending on climate and soils fertility/capability.
 2. Agric. development within these districts is tailored to the agro - climate conditions.
 3. ADCs are designed to engage in research on crop systems that are specific to particular agro-climate conditions, and recommend on types of crop systems/inputs should be utilized in transmigration areas.

8.5. Recruiting Agricultural Work Force

- Purpose** - Increase the number and quality of agricultural staff available to assist agricultural development in transmigration areas.

- Criteria** - Following Staff are required

<u>Position</u>	<u>Assignment</u>	<u>Qualification</u>	<u>Recruiting Agency</u>	<u>Commencement of Assignment</u>
Site Manager	1/SKP	Sarjana	P3 DT Daerah/Pusat	T0
Assistant Site Managers	2/SKP	SLTA	P3 DT Daerah	T0
PPS	1/5 SKP	Sarjana	BPLPP/NAEP/SP Bimas	T0
PPM	1/SKP	Sarjana Muda		T0
PPL	4/SKP	SPMA/Agric. Tech.		T0
Spot Workers	5/SKP	SPMA/SLTA Training	P3 DT Daerah	T0
Head, Seed Farm	1/Seed Farm	Sarjana Pertanian/SPMA Senior	P3 DT Daerah	T0
Temporary staff	-	-	Provinces, Kab., Seed Farm	T0, or as required

Recruiting should be done using the recruiting systems already developed for MOA Pusat and Provincial offices.

9.0. Monitoring and Reporting

- | | |
|---------------------------|--|
| Purpose | - Obtain data on project development including Implementation, production, and marketing, so that decisions about the above can be made. |
| Criteria | - Reporting should be done for the following groups <ol style="list-style-type: none"> 1. Menteri Muda Trans., Chairman Satdaltrans, for reporting to President Cabinet meeting. 2. Menteri Pertanian nucleus staff meeting once a month. 3. Dirgen Food Crops Agric. nucleus staff meeting once every two weeks. 4. Staff meeting of Dir. Perluasan Areal Pertanian once a week. 5. Report for Bina Graha as required. 6. For DPR, MPR as required. |
| Implementor | - Reporting should be done by P3 DT Daerah from each project location under supervision and with assistance of provincial and pusat officials. |
| Implementation Guidelines | - <ol style="list-style-type: none"> 1. Monitoring should cover activities of the whole project related to agriculture. 2. Reporting forms made by Pusat, then sent to field. 3. Data collection coordinated by Site Manager - Agric. 4. Data gathered is processed at provincial level before being sent to Pusat. |

10.0. Evaluation and Reporting

- | | |
|---------|--|
| Purpose | - To obtain information on problems with project implementation, their solutions, and on overall project implementation quality. |
|---------|--|

Criteria	- For each project two evaluations per year, one at mid-year and one at year-end, should be done (this same schedule of two evaluations is also applied to each Pelita - one at mid-Pelita and one at Pelita - end). The evaluations should estimate the quality of implementation activities already completed, which can be used to plan future project development.
Implementor	- P3 DT Pusat and Daerah together with Lembaga Penelitian and Perguruan Tinggi.
Time of Implementation	- Project - 2 times/year (each 6 months) Pelita - mid-Pelita and end-Pelita
Guidelines	- 1. Evaluate Project implementation and problems 2. Evaluate project results 3. Evaluation should cover individual families, farmer groups, SP, SKP, WPP, and so on up to provincial levels.

11.0. Project Unit Costs

Presented in detail in Attachment 2. Costs per SKP for all agricultural activities are estimated at Rp.1,836,925,000 for 1982/83 and 1983/84. Costs cover all activities from T-1 (year before settler arrival) to T + 4. The same costs per family (assuming 2,000 families per SKP) are Rp.918,462.5.

Attachment 1:

Schedule of Activities for Food Crop
Agriculture Development for Transmigration Projects
in 1982 and 1983 ¹⁾

Activity	Year Scheduled For (T-0 settler arrival on site)					
	T - 1	T - 0	T + 1	T + 2	T + 3	T + 4
<u>I. Preparation</u>						
1. Developing farm model	+					
2. Preliminary Field Trials		+				
<u>II. Agricultural Packet</u>						
1. Garden Seedling Packet		+				
2. Food crop Seed Packet-A		+				
B			+			
3. Fertilizer Packet		+				
A			+			
B				+		
C					+	
4. Pesticide Packet		+				
A			+			
B				+		
C					+	
5. Crop Protection Packet (Sprayer/Blower)		+				
A						
B						
C						
<u>III. Crop Production/Fertilizer Trials</u>						
1. Crops		+	+	+		
2. Fertilizer		+	+	+		
<u>IV. Seed Multiplication</u>						
1. Padi						
2. Secondary Crops						
3. Fruit Seedings						
4. Private Seed Growers					+	+
				> To be done at Seed Farm at project site or by selected transmigrant or local farmers		
<u>V. Development</u>						
1. Organize Farmers Groups		+	+	+		
2. Soil Conservation Project					+	+
3. Garden Plot Intensification trials					+	+

1) Representative model for development of each SKP scheduled for settlement in 1982 or 1983.

<u>Activity</u>	<u>Year Scheduled For (T-0 settler arrival on site)</u>					
	<u>T - 1</u>	<u>T - 0</u>	<u>T + 1</u>	<u>T + 2</u>	<u>T + 3</u>	<u>T + 4</u>
<u>VI. Institutional and Work Force Development</u>						
1. Develop BB						+
2. Develop BPP - work together with NAEP						
3. Project Site Warehouses						+
4. Settler Transit Area - To be built by province						
5. Agricultural Work Force						
PPS		+	+	+	+	+
PPM - Stationed at BPP						
PPL		+	+	+	+	+
Site Manager		+	+	+	+	+
Assistant Site Manager		+	+	+	+	+
Spot Worker-Prod/Fert. Trials		+	+	+		
Spot Worker Preliminary Field Trials		+				
<u>VII. Monitoring</u>		+	+	+	+	+
<u>VIII. Evaluation and Reporting</u>		+	+	+	+	+
Total Activities Per Year	1	19	13	13	9	8

Attachment 2:

Unit Costs per New SKP (2,000 families) and
Per Family of P3 DT Activities T-0 to T+4

Unit Cost Summary

(in Rp.)

<u>I t e m</u>	<u>Per SKP</u>	<u>Per Family</u>
1. Preparation of Agricultural Plans	5,000,000	2,500
2. Initial Crop Trials (2 ha)	15,000,000	7,500
3. Cost of Agricultural Package for Upland Rainfed Food Crops - 1.0 ha	1,200,000,000	600,000
4. Cost of Family Garden Package - 0.25 ha	14,000,000	7,000
5. Crop Production/Fertilizer Trials	22,800,000	11,400
6. Seed Multiplication	36,000,000	18,000
7. Farmer Groups Development	24,000,000	12,000
8. Soil Conservation Project	8,000,000	4,000
9. Demonstration Trials for Intensifica- tion of Family Garden	24,000,000	12,000
10. Institutional and Work Force Development	153,125,000	226,562.5
11. Monitoring	10,000,000	5,000
12. Reporting and Evaluation	25,000,000	12,500
Total	1,836,925,000	918,462.5

1. Preparation of Agricultural Plan

<u>Activity</u>	<u>Cost</u> <u>(Rp.)</u>
1. Wages - Design Team (10 staff)	500,000
2. Per Diem (2 trips x 10 staff x 4 days @ Rp.21,000/day)	1,680,000
3. Materials (maps, tools, etc.)	1,500,000
4. Field tools/clothing	820,000
5. Other (meeting, etc.)	500,000
	<hr/>
Total	Rp. 5,000,000

2. Initial Crop Trials (2 ha)

<u>Item</u>	<u>Cost</u> <u>(Rp.)</u>
1. Facilities	
Construction (housing, offices)	10,900,000
Field Tools (sprayer, duster, motorcycle, tools)	1,310,000
	<hr/>
	12,210,000
2. Field Activities - 2 seasons	
Staff Wages	1,280,000
Crop Harvest/Processing(Management)	600,000
Seeds, Fertilizers, etc.	400,000
Vehicle Operating Costs	300,000
Consultation Visits to/from Provincial Offices	210,000
	<hr/>
	2,790,000
	<hr/>
Total	Rp. 15,000,000

3. Unit Cost of Agricultural Packets/Settler Family for
Upland Rainfed Food Crops - 1.0 ha

Item	Packet A		Packet B		Packet C		Total Cost	
	Amount	Cost (Rp)	Amount	Cost (Rp)	Amount	Cost (Rp)	Family	SKP
A. Seeds								
Padi	35 kg	8,750	35 kg	8,750				
Corn	10 kg	1,500						
Groundwater	20 kg	12,000						
Soybean	10 kg	4,000						
Green beans	5 kg	3,000						
Cassava	500 sticks	1,500						
Fruits	15 seedlings	7,500						
Organic Fertilizer	10 kg	15,000						
Sub-Total		53,250		8,750			62,000	124,000,000
B. Fertilizer								
Urea + TSP ^{1/}	300 kg	22,500	300 kg	22,500	300 kg	22,500		
Phosphate ^{2/}	1,000 kg	125,000						
Lime ^{3/}	1,000 kg	100,000	1,000 kg	100,000	1,000 kg	100,000	492,500	985,000,000
Sub-Total		247,500		122,500		122,500		
C. Pesticides								
Seed Treatment	0.25 kg/l	325	0.25 kg/l	325	0.25 kg/l	325		
Insecticide	2.0 l	2,600	2.0 l	2,600	2.0 l	2,600		
Rodenticide	0.5 kg/l	1,750	0.5 kg	1,750	0.5 kg	1,750		
Wild Pig Poison	0.5 kg	500	0.5 kg	500	0.5 kg	500		
Sulphes	0.25 kg	125	0.25 kg	125	0.25 kg	125		
Sub-Total		5,300		5,300		5,300	15,900	31,800,000
D. Pest Control Tools								
Sprayer	1/5 families	10,000						
Blower	1/ family	15,000						
Sub-Total		25,000					25,000	50,000,000
Total Cost		331,050		136,550		127,800	595,400	1,190,800
Cost Rounded Off		330,000		140,000		130,000	600,000	1,200,000
Cost Per SKP (2,000 families)		660,000,000		280,000,000		260,000,000		1,200,000

1/ For Pasang Surut not supplied in Packets A and B. For Packet C included 100 kg.

2/ Not provided for Pasang Surut.

3/ Included for Pasang Surut.

4. Cost of Family Garden Package - 0.25 ha/Family

	Amount (Seed)	Cost (Rp)
1. Padi V.U.T.W.	3 kg	675
2. Corn	2 kg	260
Groundnuts	4 kg	2,300
Soybeans	3 kg	1,125
Green beans	0.5 kg	287.5
3. Vegetables	0.5 kg	2,000
Total		6,647.5
Total Rounded Off		7,000
Total Per SKP (2,000 families)		14,000,000

5. Crop Production/Fertilizer Trials - 1.0 ha/SKP

	Cost (Rp)
1. Crop Production	
Wages for staff	1,080,000
Crop Harvest/Processing (Management)	1,840,000
Land Acquisition	200,000
Materials (fertilizer, sprayer, pesticides, seeds, etc.)	860,000
Other	20,000
Sub-Total	4,000,000
2. Fertilizer Trials - Rice	
Wages for staff	540,000
Crop Management	1,120,000
Land compensation	100,000
Materials (seeds, fertilizer, etc.)	220,000
Other	20,000
Sub-Total	2,000,000
3. Fertilizer Trials - Secondary Crops	
Wages/Crop Management	1,100,000
Materials	500,000
Sub-Total	1,600,000
Total/One Year	7,600,000
Total - 3 years	22,800,000
Total/Family	11,400

Note: Scheduled for 3 years

6. Seed Multiplication Costs

<u>Item</u> <u>Padi (Rice) - Ha</u>	<u>Cost</u> <u>(Rp)</u>
Wages/Crop Management	370,000
Materials (Seeds, fertilizer, etc.)	80,000
	<u>450,000</u>
<u>Palawija (Secondary Crops) - Ha</u>	
Wages/Crop Management	375,000
Materials	75,000
	<u>350,000</u>
<u>Fruit Seedlings - Unit</u>	
Wages/Crop Management	530,000
Materials (10,000 seedlings, fertilizer, etc.)	470,000
	<u>1,000,000</u>
<u>Private Farmers on Contract - Ha</u>	
Materials	200,000
Trips (visits by Prov, Kab, Project Staff)	240,000
Other	260,000
	<u>800,000</u>

Costs Per SKP

	<u>Per Year</u>	<u>5 Years</u>
Padi - 1 ha / 500 kk x 4	1,800,000	9,000,000
Palawija - 1 ha / 500 kk x 4	1,800,000	9,000,000
Fruit Seedlings - 1 unit / 5,000 kk (2.5 SKP)	400,000	2,000,000
Private Farmers - 1 private farmer/500 kk x 4	3,200,000	16,000,000
	<u>7,200,000</u>	<u>36,000,000</u>
Total		
Costs Per Family	3,600	18,000

Note: Multiplication planned for 5 years

7. Farmer Groups Development - 1 Unit of 500 kk

<u>Item</u>	<u>Cost</u> <u>(Rp)</u>
a. Land Development	
Construction of facilities	1,000,000
Materials (seeds, compost, etc)	200,000
Tools	<u>300,000</u>
	1,500,000
b. Group Development/Organization	
Leaflets, brochures, etc.	200,000
Other (courses, etc.)	<u>100,000</u>
	300,000
c. Competitions	
Materials (prizes, etc.)	150,000
Other (Supervisor, Evaluators, etc.)	<u>50,000</u>
	200,000
	<u>2,000,000</u>
Total / Unit / Year	<u>8,000,000</u>
Total / SKP / Year (Unit Cost x 4)	<u>24,000,000</u>
Total - 3 years	12,000
Total - Family	

Note: Planned for 3 years

8. Joint Conservation Farming Project - 1 Unit of 10 Ha. per SKP

<u>Item</u>	<u>Cost/Ha</u> <u>(Rp)</u>
Wages	157,000
Materials	165,000
Tools	50,000
Trips (Provincial/Kabupaten Staff)	<u>38,400</u>
Total / Yr / Ha	<u>410,400</u>
Rounded Total/Yr/Ha	<u>400,000</u>
Rounded Total/Yr/10 Ha (Total/SKP)	<u>4,000,000</u>
Total SKP x 2 yrs	<u>8,000,000</u>
Total - Family	4,000

Note: Planned for 2 years.

d. Development of BB	120,000,000
e. Development of BPP	14,000,000

Total Institutional and Work Force Development/SKP	453,125,000
--	-------------

Total Family	226,562.5
--------------	-----------

11. Monitoring / SKP

<u>Item</u>	<u>Cost/Yr.</u> (Rp)
Wages	800,000
Materials	144,000
Trips (Prov, Kab, Kec, Staff)	<u>1,056,000</u>
Total/Yr.	<u>2,000,000</u>
Total - 5 yrs.	<u>10,000,000</u>
Total/Family	5,000

Note: Planned for 5 years

12. Evaluation and Reporting/Province

<u>Item</u>	<u>Cost/Yr.</u> (Rp)
Wages	1,100,000
Materials	1,500,000
Trips (Prov, Kab, Kec, Staff)	2,000,000
Other	<u>400,000</u>
Total/Yr.	<u>5,000,000</u>
Total / 5 yrs.	<u>25,000,000</u>
Total/Family	12,500

Attachment 3:Additional MOA Transmigration Implementation
Targets for 1982/83 and 1983/84

	Total Program Targets	
	<u>1982/83</u>	<u>1983/84</u>
1. Seed Farm Development (no. of farms)	8	33
2. Agricultural Information Centers (no. of centers)	8	45
3. Warehouses/Storehouses (no. to be built)	57	49
4. Number of PPM's to be required	16	80
5. Number of PPL's to be required	269	276
6. Number of Site Managers for MOA to be required	66	69
7. Number of Assistants to Site Managers to be required	70	69
8. Number of Spot Workers for Initial Crop Trials at an SKP to be required	57	49
9. Number of Initial Crop Trials to be implemented	57	49

Attachment 4:Specific MOA Transmigration
Program Targets for 1982/83

<u>I t e m</u>	<u>1982/83</u>	<u>1981/82</u>	<u>Targets ^{1/}</u>		
			<u>1980/81</u>	<u>1979/80</u>	<u>1978/79</u>
1. Spot Workers for Crop Production/ Fertilizer Trials	539	343	323	-	-
2. Planned Crop Production/Fertilizer Trials	539	343	323	-	-
3. Number of Private Farmers Contracted for Seed Multiplication	-	-	-	96	50
4. Number of Family Garden Inten- sification Demonstration Units	-	-	-	96	50
5. Number of Joint Conservation Farming Trials	-	-	-	99	49
6. Number of Farmer Groups to be Organized (Dinamisasi Kelompok Tani)	2,752	1 866	1,600	-	-

1/ Targets refer to new settlements in 82/83 and for on-going 81/82, 80/81, 79/80, and 78/79 settlements.

Attachment 5:Specific MOA Transmigration
Program Targets for 1983/84

I t e m	1983/84	1982/83	Targets ^{1/}		
			1981/82	1980/81	1979/80
1. Spot Workers Required for Crop Production/Fertilizer Trials	544	549	359	-	-
2. Number of Crop Production/Fertilizer Trials to be implemented	548	541	359	-	-
3. Number of Private Farmers to be contracted for Seed Multiplication	-	-	-	155	96
4. Number of Home Garden Intensification Demonstration Trials to be implemented	-	-	-	155	96
5. Number Joint Conservation Farming Trials to be implemented	-	-	-	155	96
6. Number of Farmer Groups to be Organized (Dinamisasi Kelompok Petani)	2,740	2,712	1,849	-	-

^{1/} Targets refer to new settlements for 83/84 and on-going settlements from preceding years.

