



# Agribusiness Market and Support Activity (AMARTA)

Year Two Work Plan:  
October 1, 2007 – September 30, 2008

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“Helping Indonesia to Grow”

Gedung BRI II Suite 2806  
Jl. Jend. Sudirman No. 44-46  
Jakarta 10210 Indonesia

Telephone:

Main lines: 571-3548 & 571-3549

David Anderson Direct: 571-1988

Fax: 571-1388

For the

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CTO/USAID:	Rafael Jabba
CHIEF OF PARTY:	David Anderson
PROJECT MANAGER:	Rich Magnani

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## Acronyms

AMARTA	Agribusiness Market and Support Activity
ANACA	AMARTA Nutmeg Agribusiness Competitiveness Alliance (North Maluku)
APHIS	Animal Plant Health Inspection Services (Agency of USDA)
APRINDO	Asosiasi Peritel Indonesia (Indonesia Retail Association)
ASKA	AMARTA Sulawesi Kakao Alliance (South, West, Southeast Sulawesi)
ASKA	AMARTA Sulawesi Kakao Alliance
BAP	Best Agricultural Practices
BBI	Balai Benih Induk (Department of Agriculture North Sumatera)
BSKP	PT Bridgestone Kalimantan Plantations
BTF	Big Tree Farms (PT. Bening Bali Private Sector Partner)
CCPU	Central Cocoa Processing Unit
CPB	Cocoa Pod Borer
DG	Directorate General
DISBUN	Department of Estate Crops (Provincial and District levels)
FAQ	Fair Average Quality (cocoa)
FDA	US Food and Drug Administration
GAPKINDO	Rubber Association of Indonesia
GHP	Good Handling Practices
GMP	Good Manufacturing Practices
ICASEPS	Indonesian Center for Agriculture Socio Economic Policy Studies
ICCRI	Indonesian Coffee and Cocoa Research Institute
IPM	Integrated Pest Management
KTNA	KTNA – North Sumatera (Farmer Group of North Sumatera)
MJI	Masyarakat Jeruk Indonesia/ Indonesia Citrus Society
MBMC	Mitra Bina Mandiri
MoU	Memorandum of Understanding
NACA	Network of Aquaculture Centers in Asia-Pacific
NCBA	National Cooperative Business Association
NTT	Nusa Tenggara Timur
PADA	Papua Agriculture Development Alliance
PCR	Polymerase Chain Reaction
PT PAS	PT Putra Agro Sejati

PT SSN	PT Sewu Segara Nusantara
PSP3	Center for Development Studies
RACA	Regional Agribusiness Competitiveness Alliances
RPO	Rural Producer Organization
SKA	Sustainindonesia Kakao Alliance (Bali Cocoa Program)
SOP	Standard Operating Procedures
STA	Sub Terminal Agribusiness
STTA	Short-term Technical Assistance
USAID	United States Agency for International Development
USDA	United States Department of Agriculture
VCD	Video Compact Disc

# I. INTRODUCTION

The management of the Agribusiness Market and Support Activity (AMARTA) is pleased to submit to USAID – Indonesia the Second Year Annual Work Plan for the period October 1, 2007 to September 30, 2008.

This Work Plan builds on the lessons learned and accomplishments of the Year One activities, which will be reported in a separate AMARTA Annual Report for the fiscal period October 1, 2006 to September 30, 2007.

We are pleased to report that considerable work was accomplished during the first year start-up to lay the foundation for the preparation of this Work Plan. Successful completion of value chain assessments conducted for cocoa, coffee, rubber, seaweed, bio-fuels, beef livestock, aquaculture, high value vegetables, high value fruits, spices, and floriculture identified the main constraints to Indonesia agribusiness competitiveness and furthermore recommended appropriate interventions to address them. These recommended interventions were adopted, for the most part, by the AMARTA project, and implementation planning and execution activities began throughout the past year.

In addition to conducting value chain assessments, progress was made in relation to addressing policy and regulatory issues constraining agribusiness in Indonesia via implementation of Regional Agribusiness Competitiveness Alliances (RACA) activities, albeit in limited areas to date. We continue to promote and explain the value of RACA forums as a valid and important tool to assist farmers, agribusiness firms, input suppliers, and other stakeholders to identify, address, and resolve important policy and regulatory issues constraining productivity, quality, access to better markets, and the sustainability of agro-enterprises.

Another important project matter related to the delivery of technical assistance and training to identified value chains was establishment of sound working relationships with the various Government of Indonesia officials, institutions, agencies, and departments at the local, provincial and country level. AMARTA is proud of the relationships formed during year one with our implementing and collaborating partners that have enabled us to reach a wider range of stakeholders as project participants and beneficiaries.

As we move forward to Year Two, we will present in this document a detailed description of the planned activities by location, stakeholder involvement, expected contribution to project indicators, and estimated cost of each activity. In addition we will provide a value chain intervention timeline showing expected completion of significant steps for each activity. We will introduce one (1) new value chain commodity, Floriculture, for consideration by USAID as worthy of AMARTA support, as well as description of the new, exciting Papua Agriculture Development Alliance (PADA), a public-private partnership with PT Freeport Indonesia to expand our existing activities in Papua to provide further technical assistance, training, and financial assistance to the coffee, fishing, and livestock value chains of several villages in Papua.

## 2. Year Two Activity Plans

### Partnerships and Policy Advocacy

#### Activity I: Network and Partnership Development

**Rationale:** The development of partnerships between private sector entities, government institutions and other public and private institutions is needed in order to facilitate pooling of resources and skills and increase competitiveness.

**Objective:** Facilitate cooperation between AMARTA and private companies, government institutions as well as other development institutions that have a similar mission and complementary resources. Promotion of Partnerships and Policy Advocacy is also a catalytic factor for RACA establishment.

#### Activity Description:

- Collaborate with PT Freeport on rice, swine, coffee, and fishery interventions in Papua (for detail see Value Chain Intervention – Papua Region)
- Collaborate with the Government of Karo Regency and the North Sumatera Agropolitan Forum
- Establishment of PT Aceh Windu Lestari (for details see Value Chain Interventions – Medan Region).
- Implement the recently signed Memorandum of Understanding (MoU) with the Directorate General (DG) of Estate Crops
- Collaborate with the DG of Agricultural Processing and Marketing in reviving Sub-Terminal Agribusiness (STA) facilities in selected locations
- Collaborate with the DG of Horticulture in establishment of horticulture business associations
- Participate in workshops/seminars/discussions on relevant issues conducted by other institutions

#### Outcomes Year Two:

Indicator	Target September 2008
Indicator 1: Additional hectares under improved technologies or practices	N/A
Indicator 2: Number of organizations and associations assisted	N/A
Indicator 3: Number of agriculture related firms assisted	N/A
Indicator 4: Number of individuals receiving productivity training	N/A
Indicator 5: Percent change in value of exports	N/A

Indicator 6: Percent change in purchases from smallholders	N/A
Indicator 9: Number of Public-Private Partnerships formed	5

**Estimated Cost:**

Training, Workshops, Technical Assistance	\$50,000
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Note: The indicators resulting from the Activity 1: Network and Partnership Development will be reported under each of the value chain activities.

**Activity 2: RACA Establishment and Activation**

**Rationale:** The implementation of value chain interventions and other project activities to improve competitiveness involves the whole range of value chain participants, from input suppliers to banks to food safety specialists to importers, as well as institutional and policy and regulatory issues related to productivity enhancement. The AMARTA format for coordinating these essential relationships is the establishment of Regional Agribusiness Competitive Alliances (RACAs) – many of whose members/participants were identified during the value chain assessment consultancies and related discussions with stakeholders.

**Objective:** To establish RACAs as an instrument for creating an enabling business environment and removing policy and regulatory-related constraints to Indonesian agribusiness competitiveness.

**Activity Description:**

AMARTA will

- Facilitate consolidation and activation of the newly established RACA Committees in Berastagi.
- Help establish aquaculture-based RACA in Aceh.
- Help establish cocoa-based RACA in Aceh.
- Help establish Subak Abian Association as the first step toward establishment of a RACA in Bali.
- Conduct stakeholder dialogues toward establishment of a RACA in South Sulawesi and West Java.
- Help establish Horticulture Associations as the first step toward establishment of RACA in Jakarta in collaboration with DG of Horticulture.
- Conduct stakeholder dialogues towards the establishment of a Spices Forum in North Maluku.
- Help establish a banana-based RACA in Talun Kenas, Medan, N. Sumatera

**Outcomes Year Two:**

<b>Indicator</b>	<b>Target September 2008</b>
Indicator 1: Additional hectares under improved technologies or practices	N/A
Indicator 2: Number of organizations and associations assisted	50
Indicator 3: Number of agriculture related firms assisted	N/A
Indicator 4: Number of individuals receiving productivity training	900
Indicator 5: Percent change in value of exports	N/A
Indicator 6: Percent change in purchases from smallholders	N/A

**Estimated Cost:**

Training, Workshops, Technical Assistance	\$145,000
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**Activity 3: Policy and Regulatory Assessment**

**Rationale:** Policy and regulatory assessments are needed in order to identify constraints to competitiveness and growth, to inform advocacy for an improved enabling environment and removal of constraints to competitiveness. The assessments will be conducted based on outcomes of RACA dialogues to address pressing issues of constraints.

**Objective:** Analyze policy and regulatory issues of greatest concern to farmers and agribusiness enterprises for action steps by the RACAs and for Public Awareness purposes. Up to six assessments will be completed.

**Activity Description:**

AMARTA will fund at least six assessments, including the following:

- Assessment of horticulture seed industry by the Indonesian Center for Agriculture Socio Economic Policy Studies (ICASEPS) (\$30,000)
- Policy and regulatory issues in the horticulture sector by the Center for Development Studies (PSP3). (\$30,000)
- Emerging issues as identified in the RACA dialogues. (\$30,000)

**Estimated Cost:**

Training, Workshops, Technical Assistance	\$90,000
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## Activity 4: Public Awareness

### Task 1: Media Campaign

**Rationale:** A media campaign, including press releases, is necessary in order to create awareness of and promote a common message focused on the benefits of improved agribusiness competitiveness.

**Objectives:** Utilize local, regional and national media to disseminate messages that will support heightened public and private perceptions of the benefits of improved competitiveness, stimulate demand for AMARTA services, build the credibility necessary for effective public-private partnerships, and promote a common message.

#### Activity Details:

In year two the main focus of activities will strengthen our public relations efforts and expand the scope and type of awareness programs to the public. Activities will include:

- Media campaigns and press releases to advocate policy actions of concern to RACA stakeholders
- Media campaigns and press releases of findings from AMARTA-sponsored policy/regulatory assessments
- Media campaigns and press releases of AMARTA success stories such as pilot projects implemented, new technologies developed and introduced, new markets established, and new agro-enterprises assisted and/or formed

#### Estimated Cost:

Media Campaign	\$15,000
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### Task 2: Website Development

**Rationale:** The Internet is an excellent medium for expanding public awareness of AMARTA and fulfilling its communication component. A project-dedicated website, [www.AMARTA.net](http://www.AMARTA.net), is necessary to maximize impact of the public advocacy and awareness and communication component, in order to deliver a clear, concise and consistent message to increase public awareness of improving Indonesia's agribusiness value chain competitiveness as well as conduct effective public advocacy.

**Objective:** Increase awareness of AMARTA activities and objectives through establishment and promotion of a project-dedicated website, [www.AMARTA.net](http://www.AMARTA.net), in coordination with the AMARTA Media Campaign.

#### Activity Description:

AMARTA will

- Establish and operate the AMARTA website at [www.AMARTA.net](http://www.AMARTA.net), to include the following areas:
  - About AMARTA
  - Activities

- Publications and Library
- Upcoming Events and News
- Buy/Sell Commodities Forum
- Establish an online-forum, as a part of AMARTA website, to facilitate communications among AMARTA staff and consultants. (Important discussions and communications will be automatically documented in the web server).
- Improve computer skills of all AMARTA staff, by releasing regular *tips & tricks*, *how-to* guidelines, and knowledge sharing
- Maintain the working capacity of the AMARTA computer and information systems
- Introduce new links to participating partner organizations and associations, as well as identify and promote market opportunities

**Estimated Cost:**

Website Development	\$5,000
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**Task 3: National and Regional Conferences/Workshops**

**Rationale:** National and regional conferences and workshops are an integral part of AMARTA’s efforts to bring together stakeholders to improve competitiveness in Indonesia.

**Objective:** Bring together stakeholders in face to face meetings to promote cooperation between stakeholders and identification of solutions to constraints to agribusiness competitiveness.

**Activity Description:**

In Year two activities will include:

- Workshops on AMARTA-sponsored policy/regulatory assessments in collaboration with the Indonesian Center for Agriculture Socio Economic Studies (ICASEPS) and the Center for Development Studies (PSP3)
- Workshops as part of RACA activities in Berastagi, Denpasar, Makassar, and Bandung
- Workshops in collaboration with partners, e.g., DG of Agricultural Processing and Marketing on STA, DG Horticulture on floriculture development, DG of Estate Crops on implementation of extension services, etc.
- Participate in relevant workshops conducted by other institutions as they emerge

Note: The budgets for these events are included as part of separate activities (e.g. RACA budgets).

**Task 4: International Conferences/Workshops**

**Rationale:** International conferences and workshops are an effective way to increase AMARTA’s exporting objectives and increase Indonesia’s profile among export markets.

**Objective:** Highlight value chains for export.

**Activity Description:**

In Year two activities will include:

- GulFood 2008 in Dubai, UAE on Feb 24-27. Attend the Food and Drink Exhibition part of the Fair to investigate market opportunities for Indonesian fresh fruit and vegetable products. Participation in this conference has been canceled.
- 2008 Specialty Coffee Association of America Annual Conference and Exhibition in Minneapolis, Minnesota on May 1-5. Sponsor a booth for the Specialty Coffee Association of Indonesia to promote marketing of Indonesia Specialty Arabica Coffee.

**Estimated Cost:**

Conference participation	\$67,000
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**Task 5: Monthly Newsletter**

**Rationale:** AMARTA stakeholders are interested in learning of project activities and accomplishments pertinent to their value chain and particular interventions.

**Objective:** Publication of a monthly newsletter will provide the information on AMARTA's efforts to inform stakeholders of improved competitiveness in Indonesia.

**Activity Description:**

In Year two activities will include:

- Interviews with implementing partners regarding progress on implementation of project intervention activities and results worthy of dissemination to all stakeholders.
- Update on activities information and upcoming events for participation by all interested stakeholders.
- Publication of success stories highlighting the most important achievements.
- Introduction of a business to business forum for stakeholders to communicate business opportunities with each other.
- Provision for a Readers' Forum for enquiries and comments on the newsletter.

**Estimated Cost:**

Newsletter production and dissemination	\$12,000
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## Value Chain Interventions – Medan Region

### Activity 1: Improve Banana Productivity – Talun Kenas - Deli Serdang, North Sumatera

**Rationale:** Fresh banana demand has been developing rapidly in line with the Indonesian modern retail market growth. The Lakantan Banana, also known as Pisang Barangan, is one of the Indonesian consumers' favorites for its excellent taste. It is in scarce supply and only produced in North Sumatra. PT Sewu Segara Nusantara (PT SNN), which holds a 30% share of the Indonesian modern retail banana market, is keenly looking to secure a supply of this desired banana fruit from small holder farmers, with an initial supply of 10,000 hands per day with competitive pricing. However, current production methods have proven to be insufficient to meet demand with a stable supply of the required volume. In order to meet market demand, improvements need to be made in farmers' cultivation systems and post harvest handling practices. AMARTA will help demonstrate how to resolve these constraints through several pilot project interventions. The technical lead for this activity is Erik Meliala.

**Objectives:** Increase banana productivity by 100% by introducing the double row planting method and improved cultivation methods. Also, introduce better post harvest handling practices to improve quality and access better markets with higher prices and income to the farmers.

#### Activity Description:

AMARTA will

- In STM Hilir, establish 30 ha of demonstration plots in 3 sub-districts at 9 packing sheds (3 in each sub-district) to serve as models for improved post-harvest technology and handling. STTA will be provided by an international banana production and marketing specialist on production and post-harvest technology, packaging, transportation, and distribution and sales.
- Demonstrate to farmers the new, double row planting system that will enable farmers to increase productivity 100 percent (double) over current production, as well as show the importance of keeping a minimum of six healthy plant leaves so they can bear good fruits.
- Demonstrate to farmers good agricultural practices including pruning the mother/daughter/grand-daughter production sequence as one; basic techniques to increase bunch size; and post-harvest handling methods including how to protect the fruit, how to remove buds and false hands, de-handing, de-flowering and de-leafing and clearing of the bunch to protect the fruit from damage caused by friction from leaves and other mechanical agents,
- Design a system for moving de-handed bananas from the field to the packing shed using stacking baskets. This is to solve the high incidence of bruising and scarring resulting from a lack of good handling oriented to protect the fruit after harvest as now bunches are transported by hand and delivered to gathering and distribution centers on all kinds of vehicles with no protection; also to show age/grade control system for harvesting, using calipers and not visual signs such as the roundness of the fruit as now practiced.

- Provide grant assistance and technical assistance to build a model packing plant in Talun Kenas with the banana association. Successful implementation and use could lead to building of an additional 5 packing plants in the area.
- Conduct three commercial trial shipments with PT Sewu Segara Nusantara to resolve logistical problems and other bottlenecks with the objective to identify problems during transport of bananas by ship and trucks, before further solutions can be determined.

**Implementing Partners:**

- PT Sewu Segara Nusantara
- Asosiasi Pisang Mandiri (Keleng Ginting, Nasional Ginting, Mambar Sembiring)
- Extension agents from Agricultural service offices of Deli Serdang and Lumajang Districts.
- Asosiasi Pisang Lumajang

**Outcomes Year Two:**

<b>Indicator</b>	<b>Target September 2008</b>
Indicator 1: Additional hectares under improved technologies or practices	600
Indicator 2: Number of organizations and associations assisted	40
Indicator 3: Number of agriculture related firms assisted	1
Indicator 4: Number of individuals receiving productivity training	600
Indicator 5: Percent change in value of exports	N/A
Indicator 6: Percent change in purchases from smallholders	50

**Estimated Costs:**

Grant	\$17,500
Training, Workshops, Technical Assistance	\$122,000

**Activity 2: Improve Citrus Productivity and Post-harvest Handling – Berastagi, Sumatera**

**Rationale:** The dominant horticulture crop in the Karo Highlands is citrus, with a planted area of 14,249 ha in 2005 and production of 542,000 tons. The main markets are Jakarta, Banda Aceh, Batam, Surabaya and Bandung. Several hypermarkets have used the brand name “Jeruk Medan” or Medan Citrus, but market penetration of citrus from the Medan area has been low due to stiff competition from Chinese imports. Chinese citrus price is on par with local production, but has better quality. Many Karo farmers lack knowledge of proper production methods, including use of pesticides and fertilizer, and tree pruning and thinning. These factors contribute to quality problems. In addition, because farmers are concerned more with quantity rather than quality of produce, the quality of fruit is poor and sorting and grading are not common practices. This is a major barrier to competition in the Indonesian modern retail market. Training is necessary to teach better production, post-harvest handling and marketing practices to improve competitiveness. The technical lead for this activity is Erik Meliala.

**Objectives:** Improve productivity with technical assistance and training on Standard Operating Procedures for citrus to reduce production costs by 30%. The focus will be on pest control, pruning, fertilizing, thinning, post harvest handling and marketing.

**Activity Description:**

AMARTA will

- Provide training for 80 farmers in each farmer group. The agenda includes soil condition and management of soil fertility by combined application of dolomite and fertilizer, identification of disease and control methods such as control of fruit miner, and tree pruning. The training will combine class and field demonstration.
- The government field extension service and the village farmer group chief will mobilize participants; arrange the venue and field trip demonstrations.

**Implementing Partners:**

- MJI (Masyarakat Jeruk Indonesia/ Indonesia Citrus Society) (Usaha Barus, Paham Girsang, Kardi Ginting dan Berlin Kemit)
- Karo Agriculture Department
- Sub-terminal agribusiness (STA) Merek, a government-owned proposed packing plant to be operated by the Karo Citrus Farmers Association to sort, grade, and pack citrus and other produce
- PT. Sewu Segara Nusantara (PT. SSN)

**Outcomes Year Two:**

Indicator	Target September 2008
Indicator 1: Additional hectares under improved technologies or practices	1000

Indicator 2: Number of organizations and associations assisted	20
Indicator 3: Number of agriculture related firms assisted	2
Indicator 4: Number of individuals receiving productivity training	2000
Indicator 5: Percent change in value of exports	NA
Indicator 6: Percent change in purchases from smallholders	20

**Estimated Cost:**

Grant	\$50,000
Training, Workshops, Technical Assistance	\$98,000

### **Activity 3: Improve Production and Marketing of Vegetables – Berastagi, Sumatera**

**Rationale:** Two of the constraints to market access for many smallholder traditional farmers are the lack of use of modern hybrid or improved seeds for higher productivity and proper post-harvest handling techniques, which result in low yields and low quality produce that are not cost competitive or desirable in domestic or international markets. It is necessary to introduce better seed varieties and to provide training in post-harvest handling to improve the quality of produce and enable farmers to access and become competitive in the Indonesian modern retail market. Carrot and broccoli are crops with potential markets in Indonesia as well as Singapore, Taiwan and Japan. Improving production and post-harvest handling techniques will help farmers to penetrate these markets. The technical lead for this activity is Erik Meliala.

**Objectives:** Improve quality and quantity of vegetable production in Berastagi through vegetable seed trials and training in best agricultural practices and post-harvest handling techniques. Increase PT Putra Agro Sejati (PT PAS) sales in broccoli for the retail market in Jakarta and export markets in Taiwan, Malaysia and Singapore. Introduce Berastagi grown carrot marketing to Hyper Market in Jakarta.

#### **Activity Description:**

AMARTA will

- Introduce selected US-sourced vegetable seeds for trials and demonstrations of improved planting material.
- Mobilize carrot and broccoli farmers in coordination with farmer group chiefs and government extension staff to conduct field training in best agricultural practices and post harvest handling with field staff from PT PAS.
- Work with PT PAS and PT Sewu Segara Nusantara to introduce the products through several distributors to the Jakarta supermarket trade, and will conduct trial shipment in refrigerated containers.

#### **Implementing Partners:**

- PT. Putra Agro Sejati (Aspin Tanadi)
- PT. Sewu Segara Nusantara
- Farmer Group in Berastagi area
- Karo Agriculture Department/Government field extension (Ir. Sidharta Pinem)

#### **Outcomes Year Two:**

<b>Indicator</b>	<b>Target September 2008</b>
Indicator 1: Additional hectares under improved technologies or practices	100
Indicator 2: Number of organizations and associations assisted	5
Indicator 3: Number of agriculture related firms assisted	5

Indicator 4: Number of individuals receiving productivity training	200
Indicator 5: Percent change in value of exports	30
Indicator 6: Percent change in purchases from smallholders	30

**Estimated Cost:**

Training, Workshops, Technical Assistance	\$11,000
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#### **Activity 4: Integrated Pest Management Training – Berastagi, Sumatera**

**Rationale:** Karo regency is the third largest volume producer of horticulture after West and Central Java provinces, and 93% of the population works in agriculture. Potato and cabbage have been major export commodities to Singapore and Malaysia, but exports have declined substantially in the last decade due to high levels of pesticide residue on produce as a result of improper pesticide use. The improper use of pesticides increases production costs, making producers less competitive, and also makes produce undesirable for the international market, due to health concerns.

One of the major farmer concerns identified during the two AMARTA Berastagi Regional Agribusiness Competitiveness Alliance (RACA) workshops was that most farmers lack adequate knowledge of proper pesticide use and rely on guidance from input suppliers for pesticide use. Farmers need basic knowledge about proper pesticide application and Integrated Pest Management (IPM) techniques in order to reduce production costs, improve quality and improve access to international markets. AMARTA's IPM training will focus on a combination of cultural, biological and chemical measures. Specific crops are potato, chili and tomato. The technical lead for this activity is Arman Ginting.

**Objectives:** Increase farmer awareness regarding proper pesticide use and IPM techniques. Demonstrate to potato and cabbage farmers in five villages that IPM can reduce production cost and improve quality. Reduce overuse of pesticides and increase use of IPM techniques to lower production costs and improve quality of production. Improve access to local and international markets through reduced pesticide residue levels.

#### **Activity Description:**

AMARTA will

- Conduct a baseline survey of field conditions in conjunction with the government extension service.
- Conduct a farmer's field school covering one growing season using demonstration plots of potato, chili and tomatoes to compare the conventional system with IPM. The Karo Agriculture Department, with field extension service and the chief of the farmers group will work as field coordinators to mobilize participants.
- Target farmers in Berastagi, mainly two sub-districts (Simpang Empat and Dolat Rakyat) in five villages to receive training. Participants will number about 150 leading farmers.
- Work with the Singapore Fresh Produce Marketers Association to re-introduce healthy produce meeting Government standards.
- Cooperate with Crop Life Indonesia, a NGO consortium of 8 leading multinational crop protection companies, to conduct a training of trainers program on judicious use of pesticides. Approximately 25 GOI extension officers, research officers, and selected leading farmers will be trained.

#### **Implementing Partners:**

- Crop Life Indonesia
- Agriculture research center/Badan Pengebangan Teknologi Pertanian

- Karo Agriculture Department
- Traders in Berastagi: PT Asia (Pagoda), PT Agro Putra Sejati and CV Mahkota Baru
- Singapore Fruits and Vegetables Importers and Exporters Marketers Association

**Outcomes Year Two:**

<b>Indicator</b>	<b>Target September 2008</b>
Indicator 1: Additional hectares under improved technologies or practices	300
Indicator 2: Number of organizations and associations assisted	25
Indicator 3: Number of agriculture related firms assisted	4
Indicator 4: Number of individuals receiving productivity training	625
Indicator 5: Percent change in value of exports	N/A
Indicator 6: Percent change in purchases from smallholders	30

**Estimated Cost:**

Training, Workshops, Technical Assistance	\$22,000
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## **Activity 5: Improve Production of Cut Flowers - Medan City and Berastagi**

**Rationale:** The AMARTA Floriculture Value Chain Assessment, completed in July 2007, determined that Indonesia has a competitive opportunity in the production and marketing of high value flower products to local, regional, national, and international markets, due to low cost of labor and land, and favorable climatic conditions as compared to Singapore and Malaysia. This opportunity is restricted by lack of awareness of Best Agricultural Practices (BAP) among local growers; unavailability of new varieties, which reduces the quality and quantity of production; and an absence of extension services as a source of reliable and updated technical information and assistance to develop the industry. The technical lead for this activity is Erik Meliala.

**Objectives:** Improve the quality and quantity of production of cut flowers in Medan City and Berastagi by providing BAP technical information and training to growers of orchids, ornamental plants, and cut flowers. Improve extension services by facilitating training for field extension agents and farmers regarding disease diagnosis.

Promote the Berastagi highland area as a leading cut flower center in Indonesia, with Raya Village as a center for cut flower production in North Sumatera, and Tongkoh Village (sub district Dolak Rakyat in district of Karo) as a center for the development of new varieties for the cut flower industry.

### **Activity Description:**

AMARTA will

- Design and deliver a training program for BAP including use of proper varieties, cultivation techniques, disease diagnosis, marketing, post harvest handling, and packing. Training will be offered to both farmers and extension agents.
- Establish a demonstration greenhouse in Raya Village in partnership with Benny Sembiring, the head of the local association of cut flower farmers and a nursery in Tongkoh Village to propagate new flowers varieties.
- Assist in procuring improved seed varieties for the nursery and greenhouse pilot from Java and other areas. In Medan the focus will be ornamental plants and orchids. In Berastagi the focus will be on cut flowers such as chrysanthemums and dahlias.
- Assist in improving marketing of cut flowers, including coordination with the district government of Berastagi to print brochures/leaflets for promotional purposes, and placing a sign on a provincial road with very high traffic to further promote an existing twice a week cut flower wholesale market to traders from different regions in order to boost demand.
- Link farmers with PT ASA, an exporter of ornament plants. PT ASA will participate in a training session to provide farmers with relevant information on product requirements for the export market as well as 3 or 4 BAP trainings.

### **Implementing Partners:**

- Departments of Agriculture in Medan City and Berastagi
- Benny Sembiring,, the head of the local association of cut flower farmers
- KTNA – North Sumatera (Farmer Group of North Sumatera)

- Balai Benih Induk (BBI, Department of Agriculture North Sumatera)
- PT ASA (Ornamental Plant exporter)

**Outcomes Year Two:**

<b>Indicator</b>	<b>Target September 2008</b>
Indicator 1: Additional hectares under improved technologies or practices	30
Indicator 2: Number of organizations and associations assisted	4
Indicator 3: Number of agriculture related firms assisted	1
Indicator 4: Number of individuals receiving productivity training	300
Indicator 5: Percent change in value of exports	20
Indicator 6: Percent change in purchases from smallholders	20

**Estimated Cost:**

Training, Workshops, Technical Assistance	\$29,000
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## **Activity 6: Improving Productivity, Quality, and Marketing of Gayo Mt. Coffee in Aceh**

**Rationale:** Demand for specialty Gayo coffee from Aceh is very high, but providing a consistently high quality product to buyers is a major problem faced by the Gayo Mountain Coffee Growers Cooperative members, located in the Takengon, Bener Meriah Kabupaten. There is a significant opportunity for a private entity to develop the Gayo coffee product and organize Fair Trade and Organic certification of local farmers to fulfill international buyer requirements for Fair Trade and Organic coffee, and enable producers to obtain premiums paid by international buyers for those types of coffee. The technical leads for this activity are Arman Ginting and Edi Susmadi (Jakarta).

**Objectives:** To strengthen and empower the Gayo Mountain Coffee Growers cooperative with coordinated marketing and technical support by Gajah Mt. Coffee Company, also located in Takengon, Bener Meriah area, to create sufficient production, quality, and marketing leverage to establish direct trade connections with foreign purchasers and receive the Fair Trade and Organic premiums paid by international buyers

### **Activity Description:**

AMARTA will

- Award a grant to Gajah Mountain Coffee Company to implement a specialty coffee development program for the benefit of the membership of the Gayo Mountain Coffee Growers Cooperative
- Through the grant assist an estimated 2000 cooperative members to obtain Organic and Fair Trade certification, provide training to educate farmers in good agriculture and post-harvest practices to improve production and meet international buyers' requirements and create marketing linkages to international markets.

### **Implementing Partners:**

- PT. Gajah Mountain Coffee Company
- Gayo Mountain Coffee Growers Cooperative, including 36 farmer groups.

### **Outcomes Year Two**

<b>Indicator</b>	<b>Target September 2008</b>
Indicator 1: Additional hectares under improved technologies or practices	2,100
Indicator 2: Number of organizations and associations assisted	36
Indicator 3: Number of agriculture related firms assisted	4
Indicator 4: Number of individuals receiving productivity training	2000
Indicator 5: Percent change in value of exports	37.5
Indicator 6: Percent change in purchases from smallholders	37.5

**Estimated Cost:**

Grant (On-Going)	\$90,000
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## **Activity 7: Training for Development and Improvement of Arabica Coffee Production - Aceh**

**Rationale:** Coffee production in Aceh is moving from production of commodity coffee to production of specialty coffee, for which high quality and consistency are critical requirements. The wet-hulled process is important for specialty coffees, in order to obtain greater body, complex flavor and low acidity, characteristics that are demanded by international buyers. Coffee production in Aceh can become more competitive through the use of the wet-hulled process, but training is needed because wet hulling exposes the soft, wet, and porous bean to risks ranging from physical damage, mold and general contamination. Training on Good Manufacturing Practices (GMP) and Good Handling Practices (GHP) is necessary for farmer groups and local traders who play a key role in the supply chain, in order to maintain unique quality and consistency and to avoid contamination by toxins, to increase competitiveness in international markets. The technical leads for this activity are Arman Ginting and Edi Susmadi (Jakarta).

**Objectives:** Reduce inconsistent quality and contamination of toxins through demonstration to farmers and traders the quality and food safety requirements necessary to produce high value specialty coffee through GMP and GHP training. Boost production of good quality specialty coffee to meet international demand for Indonesian specialty coffee, and increase competitiveness of Arabica coffee production in Aceh.

### **Activity Description:**

AMARTA will

- Provide GMP and GHP training at the Gayo Mountain coffee production facility to target its cooperative members as well as extension agents from the Estate Crops office. The training will be coordinated with the 2008 harvest season so that the GMP and GHP principles can be applied after harvest.
- Reach about 36 farmers groups or cooperatives with GMP and GHP training, equal to 2100 farmers and 12 extension specialists.

### **Implementing Partners:**

- Gayo Mountain Cooperative
- Extension agents from Agricultural service office of Bener Meriah District. This partner is vital to mobilize farmer groups in the area.

**Outcomes Year Two**

<b>Indicator</b>	<b>Target September 2008</b>
Indicator 1: Additional hectares under improved technologies or practices	2840
Indicator 2: Number of organizations and associations assisted	36
Indicator 3: Number of agriculture related firms assisted	1
Indicator 4: Number of individuals receiving productivity training	2100
Indicator 5: Percent change in value of exports	50 (based on 50-60% quality rejection)
Indicator 6: Percent change in purchases from smallholders	50

**Estimated Cost:**

Training, Workshops, Technical Assistance	\$65,000
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### **Activity 8: Natural Rubber in Sumatra – Bangka Island**

**Rationale:** Indonesia is the world's second largest supplier of natural rubber. Ninety percent of the natural rubber produced in Indonesia is done by smallholder rubber farmers. These farmers lack information on use of better planting material, better tapping practices, and improved coagulum quality due to absence of sufficient technical assistance and training. The technical leads for this activity are Arman Ginting and Ilahang (based in Sanggau, Kalimantan).

**Objectives:** Establish certified nurseries for production of improved planting material. Train key farmers in established farmer groups and organize new groups as needed, and provide training on best practices for production and tapping. Train 15 extension officers to improve extension services to natural rubber producers.

#### **Activity Description:**

AMARTA will

- Assist 13 farmers groups with total of 195 individual farmers located in Petaling village, Mendo Barat sub-district, and Bangka Induk district in establishing nurseries to provide clonal planting material, technical know-how and best practices for new planting and maintenance; tapping and latex coagulation, and marketing and business skills.
- Collaborate with PT Karini Utama in providing training for latex processing and marketing of the rubber in Petaling village of Mendo Sigrid sub district, Bangka Induk district. 15 extension agents will participate in the training.
- Support tapper training by providing the correct tapping utensils. Wherever possible local GAPKINDO members or other interested partners will collaborate.

#### **Implementing Partners:**

- Indonesian Rubber Research Institute (IRRI) of Sembawa, S. Sumatra province
- PT Karini Utama/Mendo Sigrid Farmer Group, Bangka

**Outcomes Year Two:**

<b>Indicator</b>	<b>Target September 2008</b>
Indicator 1: Additional hectares under improved technologies or practices	200
Indicator 2: Number of organizations and associations assisted	23
Indicator 3: Number of agriculture related firms assisted	1
Indicator 4: Number of individuals receiving productivity training	195
Indicator 5: Percent change in value of exports	N/A
Indicator 6: Percent change in purchases from smallholders	35

**Estimated Cost:**

Grant	\$40,000
Training, Workshops, Technical Assistance	\$35,000

## **Activity 9: Semi-Fermented Cocoa in Aceh**

**Rationale:** Aceh cocoa farmers have been affected by more than 30 years of local conflict that has prevented the delivery of technical assistance programs and fair, orderly marketing systems. Furthermore, the Aceh cocoa growing regions are high rainfall areas, which results in a high moisture content crop and affects the post-harvest handling practices. Assistance is needed to train farmers in how to increase productivity and improve quality so that they can access better markets and earn more income. AMARTA has found a strong market partner, ARMAJARO, who is willing to purchase better semi-fermented cocoa from small farmers and pay an incentive price for improved quality. At this time, AMARTA is waiting on Armajaro Company to identify and lease a suitable cocoa buying station in the Pidie area of Aceh. Training will be conducted in 5 locations in the Pidie area once the buying station is operating. Armajaro will provide up to 3 persons to man their buying station, while AMARTA will engage the Yayasan PAN of 12 trainers to conduct the training program. The technical leads for this activity are David Anderson (based in Jakarta) and Simon Badcock (based in Makassar).

**Objectives:** Improve the productivity of semi-fermented cocoa for 2,500 farmers through a partnership with ARMAJARO, a major international trader. AMARTA will conduct a year-round training program for smallholders in farming practices that will help to increase yields, reduce pests and diseases (like the cocoa pod borer, *Helopeltis*, trunk canker, and black pod) while providing a more consistent export quality cocoa product, using the recently finished and launched Cocoa Training Videos by AMARTA. The activity will allow farmers improved access to the proposed AMARTA market partner ARMAJARO, which will ideally help to provide improved market access as well as reducing supply chain inefficiencies linked with village/town collectors and Medan-based traders. Farmer price premiums of 20% to 25% are projected.

Through the proposed interventions AMARTA will address constraints associated with the high moisture content of Aceh cocoa bean, which is generally higher than the Indonesian export standard of 7%. This intervention will also reduce mold content from 7% to not more than 4% as acceptable quality. Extension services provided by AMARTA will help farmers to practice new, more advanced cultivation technology to produce more yields, improve quality, and combat cocoa diseases.

### **Activity Description:**

AMARTA will

- Provide a training activity consisting of two main components. Training for smallholder cocoa farmers in Aceh which will support improved on-farm and off-farm practices. Implementing these practices will result in higher productivity, reduced incidences of pest and disease as well as promote improved quality cocoa beans through post harvest training which will emphasize the importance of these practices in enabling good quality bean so farmers can earn better income.

This training will be conducted with informal and formal farmer groups consisting of 25 people. A farmer trainer will be responsible for conducting day long farmer field school sessions in recommended smallholder cocoa farming techniques (pruning, frequent harvesting, sanitation, pest and disease recognition, and understanding of how best practices reduce these pests/diseases), post-harvest handling, as well as defining export quality cocoa.

- Smallholder cocoa training video compact discs (VCD) have been produced for the Sulawesi and Bali cocoa programs the capacity to utilize this technology in training will be evaluated by AMARTA technical staff early Oct 2007 to determine the capacity for this media to be incorporated into basic training activities.
- Provide advice, assistance, and training on the introduction of cocoa solar drying technology in the region as demonstrations on improving post-harvest quality. Funds will be provided by Armajaro to construct at least six (6) solar dryers in key strategic locations.

**Implementing Partners:**

- ARMAJARO
- Department of Estate Crops (DISBUN) - field coordinators and sub coordinators at district level
- Yayasan Pertanian Alternatif Nusantara or other training NGOs, to be determined following evaluation

**Outcomes Year Two:**

<b>Indicator</b>	<b>Target September 2008</b>
Indicator 1: Additional hectares under improved technologies or practices	2,500
Indicator 2: Number of organizations and associations assisted	100
Indicator 3: Number of agriculture related firms assisted	1
Indicator 4: Number of individuals receiving productivity training	2,500
Indicator 5: Percent change in value of exports	20-25
Indicator 6: Percent change in purchases from smallholders	20-25

**Estimated Cost**

Training, Workshops, Technical Assistance	\$150,000
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### **Activity 10: Develop Virus-Free Brood Stock and Post-Larvae for Black Tiger Prawn and Create Brand for Marketing in Aceh**

**Rationale:** Prior to the 2005 tsunami that seriously destroyed or affected key shrimp producing areas in Aceh, Indonesia enjoyed a reputation for the production and supply of large, flavorful prawns known as Black Tiger Prawn. Assistance is required to enable fishermen and prawn producers to recuperate their brood stock, ensure that this brood stock is healthy, and disseminate a certified brood stock supply to producers. AMARTA will provide technical assistance, training, and financial grants to achieve the above. The technical leads for this activity are Arman Ginting and Arie Prabawa (based in Bali).

**Objectives:** Rehabilitate the Aceh Tiger Prawn sub-sector by increasing the availability of certified virus-free stock which will be provided by existing hatcheries and that can be branded and promoted. Promote a new brand marketing strategy for the group of parent stock collectors and hatchery operators in Aceh. Establish initial membership group of collectors and hatchery operators. Establish Best Aquaculture Practices for the community of parent stock collectors and hatchery operators required for the right to use the brand name and certification guarantee. Establish a quarantine station with a laboratory equipped for virus control in parent stock and post larvae. Coordinate with government organizations or NGOs including GTZ, Swiss Contact, the Network of Aquaculture Centres in Asia-Pacific (NACA), Italian Bireuen to harmonize Best Aquaculture Practices for the brand name program. Establish supply contracts with international seafood importers for quality branded Black Tiger Prawn.

AMARTA has recently formed the PT Aceh Windu Lestari company to carry out this work, and a grant has been approved for implementation of activities commencing mid January, 2008.

#### **Description:**

AMARTA will

- Organize 25 prawn hatcheries in the Sigli and Bireuen areas to collect and maintain Black Tiger Prawn parent stock free from viral contamination.
- Establish a company of 25 private shrimp growers with equal shares focusing on trade, brand advertising and certification of Aceh Black Tiger Prawn in Dec. 2007
- Establish a laboratory in Bireuen with Polymerase Chain Reaction (PCR) testing equipment as well as organizational support for suitable quarantine and production procedures, funded by AMARTA grant in February/March, 2008
- Restructure a hatchery to function as quarantine station for parent stock testing and certification.
- Organize training programs covering BAP principles for grow-out farmers and hatchery staff.
- Organize a promotional effort for virus-free and tested parent stock and post larvae.
- Support efforts for direct marketing from Aceh by assisting in sourcing finance for processing facilities and equipment.
- Provide one (1) full time technical person to supervise this intervention.

**Implementing Partners**

- Binbiz Bireuen
- Dinas Perikanan - Bireuen/ Sigli
- Associations for Hatchery Operators and Parent Stock Collectors
- NACA/IFC Program, Swiss Contact, and GTZ
- Asia Star Laboratories
- Worldfish Center

**Outcomes Year Two:**

<b>Indicator</b>	<b>Target September 2008</b>
Indicator 1: Additional hectares under improved technologies or practices	30
Indicator 2: Number of organizations and associations assisted	1
Indicator 3: Number of agriculture related firms assisted	50
Indicator 4: Number of individuals receiving productivity training	500
Indicator 5: Percent change in value of exports	N/A
Indicator 6: Percent change in purchases from smallholders	N/A

**Estimated Cost:**

Grant for laboratory, equipment, initial operation	\$97,000
Training, Workshops, Technical Assistance	\$115,000

**Activity II: Conduct Coffee Cherry Borer (Broca) Trap Demonstration and Training program in N. Sumatera - Sidikalang and Aceh - Takengon**

**Rationale:** A coffee pest known as the Coffee Cherry Borer or Broca is attacking smallholder coffee plantings in N. Sumatera and Aceh, causing loss in production and reduction in quality due to the damage to the coffee bean during development. A technology new to Indonesia, but practiced in Latin America, known as the coffee broca trap, is available for transfer to smallholder coffee growers. Assistance is required to train farmers on the use of this technology to reduce losses in yields and quality, which reduce their incomes. The technical lead for this activity is Edi Susmadi (Jakarta).

**Objectives:** Introduce a new technology to offset biological damage to smallholder coffee plantings by the coffee cherry borer insect that can be used for organic certified Coffee Farms. Demonstrate this new technology by placing coffee broca traps in smallholder coffee farmer fields to attract and trap the coffee borer and measure reduction in crop damage. Train selected coffee smallholders in the use and monitoring of the broca traps to promote wider use of this new technology. Report and publicize the results of the broca trap demonstration to coffee farmers, urging better agricultural practices which will result in higher yields and better quality, increasing farmer incomes subsequently by 3 – 20% depending on the incidence and severity of the attacks.

**Activity Description:**

AMARTA will

- Provide 1000 broca traps and 2000 bottles of attractant to 50 farmers for demonstration of the broca trap technology in each location.
- Organize a training session for interested farmers to introduce the broca trap technology and economical justification for its use
- Cooperate with the Asosiasi Petani Kopi Coffee Farmers Association in Sidikalang and the Gayo Mountain Cooperative in Takengon in the collection, analysis, and dissemination of the broca trap demonstration results

**Implementing Partners:**

- Asosiasi Petani Kopi (ASPEK)
- Gayo Mountain Coffee Growers Cooperative

**Outcomes Year Two:**

<b>Indicator</b>	<b>Target September 2008</b>
Indicator 1: Additional hectares under improved technologies or practices	80
Indicator 2: Number of organizations and associations assisted	2
Indicator 3: Number of agriculture related firms assisted	100

Indicator 4: Number of individuals receiving productivity training	100
Indicator 5: Percent change in value of exports	15-20
Indicator 6: Percent change in purchases from smallholders	15-20

**Estimated Cost:**

Training, Workshops, Technical Assistance	\$14,000
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## **Activity 12: RACA Intervention in the Karo Highlands Produce Industry**

**Rationale:** The Karo Highlands area produces over 1 million tons annually of various fresh and processed produce such as citrus, broccoli, spinach, carrots, potatoes, and flowers. Growers and processors have limited or absent access to better technologies, extension services, credit, and transportation methods to take advantage of local, regional, national and international markets. Assistance is required to assist produce stakeholders to prepare and advocate policy and regulatory action to address and resolve these competitive constraints. The technical lead for this activity is Bharaty.

**Objectives:** Resolve policy and regulatory constraints affecting the productivity, quality and access to markets of Karo Highlands produce. Help train farmer groups and stakeholders to conduct policy analysis and to prepare and submit policy and regulatory changes to government officials to improve competitiveness of the sector.

### **Activity Description:**

AMARTA will

- Follow on with technical and financial assistance to four (4) produce stakeholder committees formed in July, 2007 to identify and prioritize the policy and regulatory constraints requiring change.
- Assist in planning and conducting advocacy programs, public awareness, and lobbying efforts to successfully remove key constraints identified by the stakeholders.

### **Implementing Partners**

- Karo Highlands Horticulture RACA Committee
- Karo Highlands District Government

### **Outcomes Year Two:**

<b>Indicator</b>	<b>Target September 2008</b>
Indicator 1: Additional hectares under improved technologies or practices	N/A
Indicator 2: Number of organizations and associations assisted	10
Indicator 3: Number of agriculture related firms assisted	5
Indicator 4: Number of individuals receiving productivity training	40
Indicator 5: Percent change in value of exports	N/A
Indicator 6: Percent change in purchases from smallholders	N/A

### **Estimated Cost:**

Training, Workshops, Technical Assistance	\$25,000
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## Value Chain Interventions - Bali Region

### Activity I: Fermented Cocoa Production with Big Tree Farms - Bali

**Rationale:** Bali cocoa producers have been constrained in the marketing of their produce due to government-dictated marketing systems, lack of appropriate and timely technical assistance for production issues, and inappropriate technology for fermenting cocoa. AMARTA believes that Bali cocoa has the potential to see the development of a branded high flavor, single origin fermented cocoa, as well as the opportunity for organic and fair trade certification. Resolution of these issues and opportunities can result in increased production, improved quality of cocoa produced by Bali smallholders, increased employment, higher farmer income, as well as the increased export value of Bali cocoa. The technical lead for this activity is Simon Badcock (based in Makassar) with day-to-day management oversight by Arie Prabawa (based in Bali).

**Objectives:** Increase the supply of good quality wet cocoa beans to the Big Tree Farms Central Cocoa Processing Unit (CCPU) for processing into high quality fermented cocoa, so that smallholders have greater access to higher value markets. Increase cocoa farming productivity through training on production fundamentals including frequent harvesting, organic fertilization, sanitation, and pruning. Reduce the impact of pests and disease through adoption of good on-farm production practices. Provide extension support and training in fermentation practices, post-harvest handling, and quality parameters to permit farmers to supply wet beans that meet the standards for international export quality fermented cocoa.

#### **Activity Description:**

AMARTA will

- Conduct the basic training program covering best practices in cocoa cultivation, post-harvest handling, quality and fermentation.
- Arrange farmer visits to other producing areas to observe best practices cocoa farming.
- Provide a 'basic training' field based program focusing on improved smallholder cocoa production practices as stated above for 2,000 farmers primarily in the Tabanan and Jembrana Districts (possibly other locations).
- Provide follow-up training in topics that require additional attention, e.g., post-harvest handling, drying, fermentation, garden rehabilitation etc.
- Use VCD training on topics including good cocoa cultivation, pest and disease recognition, side-grafting as a means of rehabilitation, post-harvest handling and quality, use of organic fertilizers and non-chemical pesticides in cocoa farming as well as fermentation.
- Support for improved post-harvest handling practices and improved quality through the provision of solar dryer to farmers, farmer groups and cooperatives
- Hold farmer field days to allow farmers to observe and discuss various aspects of production and processing.
- Generate education materials supporting the socialization and transfer of key concepts and skills.

- Assist in obtaining organic and fair trade certifications for the farmer groups through provision of training for Internal Control Systems and for certification fees.
- Conduct a world class quality training session in cocoa fermentation using expatriate trainers from MARS Chocolate Company to train farmers and farmer cooperatives, Big Tree Farm personnel, AMARTA technicians, and other interested parties in modern fermentation practices to produce a world class single origin cocoa flavor.

**Implementing Partners:**

- PT. Bening/Big Tree Farms will employ between 28-30 full time personnel to manage fermentation activities at the Central Cocoa Processing Unit, and will support 6 farmer-to-farmer trainers who will provide extension outreach to participating farmers.
- Provincial Estate Crops Agency.
- MARS Chocolate Company (a Corporate Social Responsibility program)

**Outcomes Year Two:**

<b>Indicator</b>	<b>Target September 2008</b>
Indicator 1: Additional hectares under improved technologies or practices	1,000
Indicator 2: Number of organizations and associations assisted including farmer groups of approximately 40 growers each	50
Indicator 3: Number of agriculture related firms assisted	2 + 40 farmer groups
Indicator 4: Number of individuals receiving productivity training	1,000
Indicator 5: Percent change in value of exports	100
Indicator 6: Percent change in purchases from smallholders	12

**Estimated Cost:**

Grant (Completed Oct. 2007)	\$76,000
Training, Workshops, Technical Assistance	\$80,000

## **Activity 2: Cattle Breeding Pilot Program – (West Timor, Kupang)**

**Rationale:** The main problem faced by the beef cattle industry in Indonesia, specifically in Nusa Tenggara Timur (NTT), is scarcity of good quality feeder cattle for fattening. There is no financial body available to support credit for buying breeding stock. The breeding activity or cow-calf operations are uninteresting to investors, since these activities require a large amount of capital, take a long time to return capital, represent a large business risk, and generate small margins. However, without investment in cattle breeding, the breeding cattle population and the genetic quality of offspring in Indonesia will continue to decrease rapidly. The technical leads for this activity are David Anderson (Jakarta) and Arie Prabawa.

**Objectives:** Provide 300 female Bali cattle to farmer groups and introduce a business model of calf breeding to increase the number and quality of Bali cattle calves and ultimately feeder calves in West Timor beginning January, 2008.

### **Activity Description:**

AMARTA will

- Provide a grant to the cooperative Puskud NTT to supply 300 Bali cows for distribution to farmers belonging to farmer groups. Each farmer will receive one pregnant or ready-to-breed cow (breeding or insemination provided by Puskud NTT.) The farmer will agree to keep the female perpetually, for breeding, until dead or replaced, supply a barn and feed, and properly maintain the cattle. Puskud NTT will provide workshops on innovative technology in breeding, reproduction, nutrition, management and animal health.
- Provide oversight for administration of a cattle breeding fund by Puskud NTT. The calves produced by the bred females will be sold to the Puskud NTT as fattening cattle. The farmer will keep 80% of the profits of the sale of the calf, and the remainder will be paid to Puskud NTT as 10% for management fee and 10% to put into a cattle breeding fund to procure more females for additional farmer groups. If a farmer sells a cow provided through the grant, the proceeds will go to the breeding fund.

### **Implementing Partners:**

- Cooperative Puskud NTT
- National Cooperative Business Association (NCBA)

### **Outcomes Year Two:**

<b>Indicator</b>	<b>Target September 2008</b>
Indicator 1: Additional hectares under improved technologies or practices (1 cow unit = 1 hectare)	300
Indicator 2: Number of organizations and associations assisted	1 + 5 farmer groups
Indicator 3: Number of agriculture related firms assisted	3
Indicator 4: Number of individuals receiving productivity training	300

Indicator 5: Percent change in value of exports	N/A
Indicator 6: Percent change in purchases from smallholders	0 in 2008

**Estimated Cost:**

Grant	\$95,000
Training, Workshops, Technical Assistance	\$35,000

### **Activity 3: Coffee Production and Marketing Improvement - Flores**

**Rationale:** The world specialty coffee market is becoming bigger with more demand for single origin, “development story” sources of Arabica coffee. Flores coffee has been identified as a possible new source of specialty coffee through assistance from AMARTA during the Coffee Value Chain Assessment. Technical and financial assistance is required to enable Flores coffee farmers to improve productivity and quality in order to access this newly emerging market for their coffee, which will generate more employment, increase farmer family income, and reduce rural poverty in this somewhat isolated area. The technical leads for this activity are Arie Prabawa and Edi Susmadi (Jakarta).

**Objectives:** Expand production, improve quality image and productivity of specialty coffees, and enhance buyer linkages.

#### **Activity Description:**

AMARTA will

- Provide a grant to CV Lion Lestari, a local coffee trader company in Ruteng, NTT, to purchase production and laboratory equipment, pay for fair trade and organic farm certification, and provide training to farmers to improve their post-harvest handling and preprocessing capacities.
- Establish a center to provide Good Agricultural Practices (GAP) training in conjunction with CV Lion Lestari, the Indonesian Coffee and Cocoa Research Institute (ICCRI), and PD Komodo Jaya, an Indonesian trading house (PT Komodo Jaya acts as a field agent for CV Lion Lestari). Respective responsibilities will be defined in a MOU.
- Establish coffee buying stations in Ulavae and a processing facility in Ruteng.
- Provide grant assistance for Fair Trade and Organic Certification for the Cooperative.
- Promote Flores coffees as Fair Trade and organic coffees and capitalize on the unique origin.

#### **Implementing Partners:**

- CV Lion Lestari
- Indonesian Coffee and Cocoa Research Institute (ICCRI)
- PD Komodo Jaya, an Indonesian trading house

**Outcomes Year Two:**

<b>Indicator</b>	<b>Target September 2008</b>
Indicator 1: Additional hectares under improved technologies or practices	2,500
Indicator 2: Number of organizations and associations assisted	50 farmer groups
Indicator 3: Number of agriculture related firms assisted	1
Indicator 4: Number of individuals receiving productivity training	2,900
Indicator 5: Percent change in value of exports	500
Indicator 6: Percent change in purchases from smallholders	110

**Estimated Cost:**

Grant	\$92,000
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#### **Activity 4: Biofuel Production Pilot Program – NTT Flores Ruteng**

**Rationale:** Flores Island has favorable climatic conditions and soils for the production of *Jatropha curcus*, a known vegetative supply of oil suitable for use in home lighting, cooking stoves, and fuel for primary agricultural machinery motors. The current supply of kerosene and diesel fuels on Flores is sporadic and expensive. Families spend as much as Rp. 5000 per day for kerosene to light their homes using simple can and wick torches. Coffee farmers in Satar Mese have planted *Jatropha* hedges as fences around their farms, and can be advised on how to use this bio-fuel to replace or supplement the expensive cost of kerosene and diesel fuel. In addition, they can use the byproduct seedcake as a fertilizer for coffee production, and begin a soap making industry using glycerin extracted during esterification of the crude *Jatropha* oil for fuel. The technical lead for this activity is Dietrich Fischer (Jakarta).

#### **Objectives:**

- To introduce the small-scale production of Biofuel as a kerosene substitute, and use of the residual seedcake byproduct as a highly nutritious fertilizer for production of specialty organic coffee.
- Establish nurseries in Ulavae and Satar Mese to produce *Jatropha* planting material to allow for expanded production of *Jatropha* for processing into oil, seedcake, and glycerin.
- Provide machinery and equipment to produce Crude *Jatropha* Oil and Bio-Fuel for use in lights, stoves, and agricultural and fishing motors.

**Activity Description:** AMARTA will provide a grant through CV Lion Lestari to introduce the small-scale production of Biofuel as a kerosene substitute in two village cooperatives – Ulavae in the highlands and Satar Mese in the coastal area. The residual seedcake byproduct will be used as a fertilizer for production of specialty organic coffee under a separate AMARTA activity and grant (refer to Flores Specialty Coffee activity plan).

The grant will provide the cooperatives with crushing and pressing equipment to enable them to produce the kerosene substitute and residual seedcake byproduct, as well as a nursery to produce seedlings and expand the availability of *Jatropha curcus* as raw material for Biofuel production. *Jatropha* is planted as a natural fence around the village coffee gardens, but will need to be planted on more area to ensure adequate supplies for processing.

Each of the two nurseries is producing seedlings that will be implanted with coffee bushes to cover about 60 hectares. AMARTA will provide technical assistance to farmers in seedling production, land clearing and preparation, planting, fertilization, maintenance, pruning, harvesting, post-harvest handling and storage, and processing.

Farmers will bring the *Jatropha* raw material from their land to the cooperatives for pressing and crushing, and will pay to the cooperatives a cash fee, or a percentage of the resulting fuel substitute for the service. The cooperatives will use the proceeds to maintain the *Jatropha* pressing facilities.

#### **Implementing Partners:**

- CV Lion Lestari

- 2 village cooperatives in Ruteng, NTT

**Outcomes Year Two:**

<b>Indicator</b>	<b>Target September 2008</b>
Indicator 1: Additional hectares under improved technologies or practices	60
Indicator 2: Number of organizations and associations assisted	2
Indicator 3: Number of agriculture related firms assisted	1
Indicator 4: Number of individuals receiving productivity training	2,900
Indicator 5: Percent change in value of exports	N/A
Indicator 6: Percent change in purchases from smallholders	N/A

**Estimated Cost**

Grant	\$44,630
Training, Workshops, Technical Assistance	\$38,000

## Activity 5: Grouper Fingerlings Production Improvement – Flores

**Rationale:** The demand for live grouper is increasing in China as consumer incomes rise, and in Hong Kong as it diversifies the sources from which it procures species of live fish demanded by seafood restaurants and consumers. Biological aggregation and fishing activity in Flores has limited the supply of wild-caught fingerlings in Flores and Nusa Tenggara. AMARTA can assist in this effort by providing the latest technology and facilities for marine finfish hatchery and nursery. This assistance will result in environmentally and culturally acceptable options to develop a sustainable source of supply of grouper fingerlings and grouper grow out market. The technical lead for this activity is Arie Prabawa.

**Objectives:** Support grouper nursery and grow-out development in Flores near the Komodo National Park protection area to meet increased demand from fish farmers. Increase production of grouper fingerlings as required by international markets by providing a sustainable supply of fingerlings while producing a minimum of 8-10 tons per harvest.

### Activity Description:

AMARTA will

- Provide grant support for rehabilitation of tanks in hatchery and nursery with capacity of 20,000 fingerlings per month.
- Provide grant support for boat, jetty/port, and electrical generator upgrade.

### Implementing Partners:

- PT Karamba
- Warloka Fishing Village

### Outcomes Year Two:

Indicator	Target September 2008
Indicator 1: Additional hectares under improved technologies or practices	N/A
Indicator 2: Number of organizations and associations assisted	1
Indicator 3: Number of agriculture related firms assisted	1
Indicator 4: Number of individuals receiving productivity training	60
Indicator 5: Percent change in value of exports	100
Indicator 6: Percent change in purchases from smallholders	N/A

### Estimated Cost:

Grant Cost	\$149,000
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## **Activity 6: Grouper Grow Out Pilot Program in Fishing Village – Flores**

**Rationale:** Wild stock of the high value Grouper fish is declining due to high market demand and development of fishing technology. Inhabitants of the Komodo area of Flores are being pressured to cease damaging fishing practices, and to stop farming and logging in the Komodo National Park for environmental preservation reasons. A marine aquaculture pilot program in the fishing village will generate alternative source of livelihood for fishermen in the area of conservancy. AMARTA can assist in this effort by introducing net cage fishing technology and increased access to markets to relocated farmers and fishermen in Flores. This assistance will result in environmentally and culturally acceptable options to develop a sustainable source of income. The technical lead for this activity is Arie Prabawa.

**Objectives:** Support grouper nursery and grow-out development in Flores near the Komodo National Park protection area to meet increased demand from fish farmers. Increase production of grouper to achieve access to international markets, which requires minimum production of 8-10 tons per harvest.

### **Activity Description:**

AMARTA will

- Provide grant support to upgrade one village-based net cage pilot project. Target is to produce approximately 10 tons of grouper per harvest to achieve international market access.

### **Implementing Partners:**

- PT Karamba
- Warloka Fishing Village

### **Outcomes Year Two:**

<b>Indicator</b>	<b>Target September 2008</b>
Indicator 1: Additional hectares under improved technologies or practices	N/A
Indicator 2: Number of organizations and associations assisted	2
Indicator 3: Number of agriculture related firms assisted	2
Indicator 4: Number of individuals receiving productivity training	60
Indicator 5: Percent change in value of exports	100
Indicator 6: Percent change in purchases from smallholders	100

### **Estimated Cost:**

Grant Cost	\$81,386
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## **Activity 7: Floriculture Development in Bali**

**Rationale:** The AMARTA floriculture value chain assessment, completed in July 2007, determined that Indonesia has a competitive opportunity in the production and marketing of high value flower products to local, regional, national, and international markets, due to low cost of labor and land, and favorable climatic conditions as compared to Singapore and Malaysia. This opportunity is restricted by lack of awareness of Best Agricultural Practices among local growers; unavailability of new varieties, which reduces the quality and quantity of production; and an absence of extension services as a source of reliable and updated technical information and assistance to develop the industry. The technical lead for this activity will be provided by the to be hired competitiveness advisor in Bali.

**Objectives:** Improve the quality and quantity of production of cut flowers in Bali by providing Best Agricultural Practices (BAP) technical information and training to growers of orchids, ornamental plants, and cut flowers. Improve extension services by facilitating training for field extension agents and farmers regarding disease diagnoses.

Promote the Bali highland area as a leading cut flower center for Eastern Indonesia, and especially to meet the high demand for cut flowers in the Bali tourist market.

### **Activity Description:**

AMARTA will

- Design and deliver a training program for Best Agricultural Practices including use of proper varieties, cultivation techniques, disease diagnoses, marketing, post harvest handling, and packing. Training will be offered to both farmers and extension agents.
- Establish a demonstration greenhouse and a nursery in Bedugul to propagate new flowers varieties.
- Assist in procuring improved seed varieties for the nursery and greenhouse pilot from Java and other areas.
- Assist in improving marketing of cut flowers, including coordination with the district government of Bali to print brochures/leaflets for promotional purposes, and placing a sign on a provincial road with very high traffic to further promote twice a week cut flower wholesale market to many travelers of different region to boost production.
- Link farmers with PT ASA, an exporter of ornament plants. PT ASA will participate in training sessions to provide farmers with relevant information on product requirements for the export market.

### **Implementing Partners:**

- Departments of Agriculture in Bali
- A yet to be determined Farmer Group or Association
- PT ASA (Ornamental Plant exporter)

### **Outcomes Year Two:**

Indicator	Target September 2008
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Indicator 1: Additional hectares under improved technologies or practices	30
Indicator 2: Number of organizations and associations assisted	4
Indicator 3: Number of agriculture related firms assisted	3
Indicator 4: Number of individuals receiving productivity training	300
Indicator 5: Percent change in value of exports	N/A
Indicator 6: Percent change in purchases from smallholders	50

**Estimated Cost:**

Grant	\$15,000
Training, Workshops, Technical Assistance	\$29,000

### **Activity 8: High Value Horticulture and Marketing Program - Bali**

**Rationale:** In the Mitra Bina Mandiri (MBMC) Farmer Cooperative of Panca Sari, in Kabupaten Buleleng near the township of Bedugul, there is strawberry, pepper, tomato and herb growers who AMARTA has found are putting out the best product of any of the growers visited in the greater Bedugul highland area. The cooperative is made up of 47 grower families representing approximately 200 people.

These growers were provided technical assistance by MSU consultant Dr. Robert Richardson, and have agreed to his suggestions for introducing new, higher yielding strawberry varieties and improved cooling equipment. They have a need for additional technical assistance in the form of on-farm trials to implement the recommendations already given by AMARTA.

MBMC sells between 300 and 500 kilograms of strawberries per day to specialty markets in Bali and Java between the months of May through November. This is in addition to a constant supply of tomato and pepper supplied to distributors in the greater Denpasar area. AMARTA has identified MBMC as a partner because they supply to fancy produce retail outlets. Market access is not expected to be an impediment if farmers improve production and quality, including post-harvest practices. The technical lead for this activity is Arie Prabawa.

**Objectives:** Improve productivity of strawberry, pepper, tomato and herb grown by the 47 farmer families of the Mitra Bina Mandiri (MBMC) farmer's Cooperative of Panca Sari, in Kabupaten Buleleng. Establish post-harvest handling capacity and use of proper protocols at the cooperative office packing site. Implement Good Agriculture Practices (GAP) for all fruit and vegetable crops.

#### **Activity Description:**

AMARTA will work with MBMC to do the following:

- Provide GAP booklets for strawberries, bell pepper, tomato, herbs, and sweet corn five crops
- Identify with MBMC a local cooperative extension expert to work as a counterpart with an AMARTA horticulture specialist. The two will be responsible for training and oversight of on-farm demonstrations and development of GAP manuals.
- Provide training funds for on-farm trials
- Supervise on-farm demonstration plots
- Develop institutional arrangements with MBMC to maintain a horticulture extension program, provide marketing and cooperative buying services to its members, and maintain salaries of key people in the cooperative that will allow for sustainability of its business support services.
- Introduce new strawberry planting material from California, USA – 500,000 plants of 4 varieties: Oso Grande, Camarosa, Gaviota, and Chandler to demonstrate better yield and quality to access better markets.
- Provide trial size supply of plastic sheeting and drip irrigation to improve production and quality.

**Implementing Partners:**

- Mitra Bina Mandiri Cooperative (MBMC)
- PT Trust

**Outcomes Year Two:**

<b>Indicator</b>	<b>Target September 2008</b>
Indicator 1: Additional hectares under improved technologies or practices	62
Indicator 2: Number of organizations and associations assisted	5
Indicator 3: Number of agriculture related firms assisted	4
Indicator 4: Number of individuals receiving productivity training	47
Indicator 5: Percent change in value of exports	N/A
Indicator 6: Percent change in purchases from smallholders	100

**Estimated Cost**

Grants for Mobile Cooling Equipment and importation of strawberry planting material plus related production materials such as plastic and drip irrigation.	\$85,000
Training, Workshops, Technical Assistance	\$85,000

## Value Chain Interventions - Jakarta Region

### Activity I: High Value Horticulture – West Java Market Linkages

**Rationale:** AMARTA and Bimandiri, a specialty produce wholesaler with large supermarket clients like Carrefour, will improve the post-harvest handling infrastructure by providing technical assistance and a grant to construct a central packing house/distribution center in Garut owned by a yet to be identified farmer group to enable farmers to grade and pack their produce close to production centers for several high value horticultural crops. In its operation, Bimandiri will collaborate with the Sub Terminal Agribusiness (STA) in Bayongbong, Garut.

AMARTA will also collaborate with Indonesian Vegetable Research Institute (IVEGRI) of Lembang, Bandung in conducting various trainings including Post-Harvest Handling, Good Agricultural Practices and some on-farm demonstration plots. The IVEGRI will provide necessary facilities such as cold storages, drying machine, ozonization equipment, screen houses, green houses, lands for demonstration plots, and an office space.

AMARTA will also collaborate with APRINDO (Asosiasi Peritel Indonesia – Indonesian Retailers Association) to develop horticulture supermarket and produce supply chain models in four clusters (Bandung, Cianjur, Garut, and Cirebon) to bridge the gap between smallholder produce growers and supermarkets.

Beneficiaries will include rural smallholders, rural farm labor, local traders (collector), and Bimandiri, a supplier to Carrefour supermarket. The technical leads for this activity are Sjaiful Bahri in Jakarta and Deni Handiman in Lembang satellite office.

**Objectives:** Improve product quality through better agricultural and post harvest handling practices to access higher value market. Demonstrate the profitability and logistical advantage of using packing house facilities close to production areas.

#### **Activity Description:**

AMARTA will

- Provide grant funds to develop a central packing house/distribution center in Garut for packing and shipping of various selected crops through Bimandiri.
- Provide TA and training to specialized wholesalers, agriculture production staff, and the farmers on best practices and to help set up demonstration plots and supermarket produce supply chain models to implement the practices.
- Oversee procurement and construction of the facilities.
- Provide field assistants to monitor each farmer group for GAP and Standard Operating Procedures (SOP) implementation. One field assistant will be provided for each commodity
- Invite stakeholders consisting of farmers, collectors, specialized wholesalers, supermarkets, government officials, research centers, and universities to 4 meetings to discuss issues that can be raised in the West Java RACA.
- Provide technical assistance to design the layout and packing equipment for the Garut STA.

**Implementing Partners:**

- The Indonesian Vegetable Research Institute (IVEGRI)
- APRINDO (Asosiasi Peritel Indonesia – Indonesia Retail Association)
- Yogya Supermarket chain
- CV. Bimandiri
- The Bayongbong STA (financed by DG of Marketing and Processing of Agricultural Products, Directorate of Domestic Marketing)
- Directorate of Vegetable and Biopharmaceutical Crops Production Development , DG of Horticulture
- Directorate of Fruit Crops Production Development, DG of Horticulture
- Agriculture Regional Offices in Bandung, Garut, Tasikmalaya, Subang and Sumedang.
- Rural Producers Organization (RPOs) for some selected commodities such as tomato, potato, chili, cabbage, pineapple and avocado

**Outcomes Year Two:**

<b>Indicator</b>	<b>Target September 2008</b>
Indicator 1: Additional hectares under improved technologies or practices	75
Indicator 2: Number of organizations and associations assisted	6
Indicator 3: Number of agriculture related firms assisted	37
Indicator 4: Number of individuals receiving productivity training	537
Indicator 5: Percent change in value of exports	N/A
Indicator 6: Percent change in purchases from smallholders	50

**Estimated Cost:**

Grant Cost	\$50,000
Training, Workshops, Technical Assistance	\$100,000

## **Activity 2: Simulated Mango Sea Freight Trial – East Java**

**Rationale:** The Harum Manis mango has become increasingly popular in Middle Eastern markets with both Asian consumers as well as nationals. However, one of the major constraints to exporting to the Middle East is the high cost of air freight. AMARTA is proposing to collaborate with the Department of Agriculture, Director General of Horticulture, Fruit Department, and PT Trust in Bali to make a simulated marine container trial for shipment of mangoes to Dubai. If the simulated trial shipment is successful, the exporter will initiate shipments and sales to the Middle East. By participating in the simulated shipment trial, the Indonesian Department of Agriculture will have the technology for grading, preparing, and packing the product for shipment to International markets. This technology can be disseminated to other companies and exporters both by the department of agriculture and the AMARTA Project.

### **Objectives:**

Conduct a simulated sea shipment of mangoes to the Middle East using improved post harvest technology provided by AMARTA consultant Julian Velez. Demonstrate the viability of the technology to the Indonesian private and public sector

### **Activity Description:**

AMARTA will

- Supervise fruit selection to containerized packing process.
- Provide the technical support and cover the cost of the facility rental and specialized packaging material and equipment for packing and cold storage during the simulated shipment time period of 28days.
- Coordinate with DG Horticulture to train extension workers and university experts on the new packing technology during the trial.

### **Implementing Partners:**

- Indonesian Director General of Horticulture/Indonesia
- Mango Fruit Supplier PT Trust in Bali

### **Outcomes Year Two:**

<b>Indicator</b>	<b>Target September 2008</b>
Indicator 1: Additional hectares under improved technologies or practices	N/A
Indicator 2: Number of organizations and associations assisted	1
Indicator 3: Number of agriculture related firms assisted	8
Indicator 4: Number of individuals receiving productivity training	10
Indicator 5: Percent change in value of exports	N/A

Indicator 6: Percent change in purchases from smallholders	N/A
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**Estimated Cost:**

Training, Workshops, Technical Assistance	\$10,000
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### **Activity 3: Development of Banana in East Java**

**Rationale:** The demand for banana has increased significantly in the last few years in the urban areas of the country, making intensive banana cultivation interesting for local farmers. However, banana quality and productivity are low as a result of poor agricultural practices for fruit protection, pruning, population management, fertilization, control of pests, harvesting and post-harvest handling. Other factors such as non-existent market demand for quality, lack of supporting services and infrastructure and lack of access to improved technology and technical assistance also contribute to low yields and poor quality.

The AMARTA Project will work with PT Sewu Segar to set up on-farm demonstration and training plots HOW MANY AND WHERE for the production of Golden and/or Raja Buluh specialty bananas. These on-farm demonstration plots will be used to demonstrating Best Agriculture Practices to East Java banana farmers according to instruction and analysis made by the AMARTA Banana specialist. Sewu Segar has agreed to hire a horticulture expert to begin an extension program in East Java based on guidance provided by AMARTA's technical staff and consultants. The on-farm demonstration and extension program will place PT Sewu Segar in a better position to be an integrated horticulture company that supports and controls the specialty banana production and post harvest handling process rather than simply a fruit trader with a known brand.

It is expected that the production and sale of the bananas on-farm demonstration plots will prove the value of the AMARTA recommendations by; 1) Improving quality of bananas, 2) Increasing production and farmer income, and 3) Demonstrating the positive economic returns gained from use of proper inputs. The technical lead for this activity is Sjaiful Bahri.

#### **Objectives:**

- Increase productivity by 100% by improving cultivation methods following from the first round of AMARTA training provided in July 2007. Demonstrate the Double Row planting system to double planting population.
- Establish a demonstration plot to demonstrate Best Agricultural Practices to East Java banana farmers.
- Farmers groups will receive training and those that implement the training will demonstrate the improved technology to other farmers in the area.
- Foster alliances with different players involved in the banana supply chain, including distribution companies; providers of agricultural inputs, equipment and supplies; credit and lending institutions; government agencies and private sector groups and providers of transport and logistics.

#### **Activity Description:**

The activity will be conducted in Kabupaten Lumajang, East Java and will include the following components:

- An international banana production and marketing specialist will deliver technical assistance in the management of banana production business, production and post-harvest technology, packaging, transportation and logistic, distribution and sales.
- Demonstration plots will be established as a technology dissemination tool to showcase the improve technology being introduced. These plots will also be used for hands-on learn-by-doing training for farmers and local technicians.

- Commercial trials will enable participating farmer groups to gain necessary operating experience with minimum risk. These trials will also be very instrumental in identifying bottle necks and logistical problems that need to be resolved to allow the smooth flow of significant volumes to market. As such, they will also serve as hands-on learn-by-doing training activities. Three trial shipments will be done under this component.

**Implementing Partners:**

- The PT Sewu Segara Nusantara Company (SSN). The SSN has been in the banana business for more than 15 years and own production and distribution infrastructure, including ripening rooms for distribution of ripe bananas.
- Directorate General of Horticulture and Horticultural regional offices both in East Java and Kabupaten Lumajang.

**Outcomes Year Two:**

<b>Indicator</b>	<b>Target September 2008</b>
Indicator 1: Additional hectares under improved technologies or practices	200
Indicator 2: Number of organizations and associations assisted	12
Indicator 3: Number of agriculture related firms assisted	1
Indicator 4: Number of individuals receiving productivity training	100
Indicator 5: Percent change in value of exports	N/A
Indicator 6: Percent change in purchases from smallholders	25

**Estimated Cost:**

Training, Workshops, Technical Assistance	\$ 12,000
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## Value Chain Interventions - Makassar Region

### Activity I: AMARTA Sulawesi Kakao Alliance (Aska) - South Sulawesi, Southeast Sulawesi

**Rationale:** Indonesia's competitive advantages in cocoa production include low cost, high production capacity, efficient infrastructure and an open trading/marketing system. In recent years this competitive advantage has been threatened by poor and inconsistent quality of cocoa. The primary cause is the infestation from the cocoa pod borer (CPB). In order to address this problem, various public and private initiatives have been undertaken to research, train and transfer improved production practices to smallholder cocoa farmers in Indonesia. Despite these efforts the CPB infestation has spread to all of Sulawesi cocoa. The adoption of improved production practices by cocoa farmers has been limited.

As a result, the quality of exported cocoa from Indonesia has deteriorated and the value reduced in the international marketplace. This has resulted in large discounts and lower prices to the farmer. This has also reduced the demand for Indonesian Fair Average Quality (FAQ) cocoa as buyers found other origins to substitute for Sulawesi cocoa. Previous efforts to train farmers in the improved production practices to control the CPB have been limited primarily by the lack of price incentives to encourage the farmers to adopt the new technology package. The technical lead for this activity is Simon Badcock.

#### **Objectives:**

- Increase overall cocoa farming productivity through training on production techniques, and pest and disease control
- Increase farmer knowledge and capacity to provide cocoa beans that meet international export standards
- Facilitate improved access for smallholder cocoa farmers to exporters who will provide a transparent and standardized process in determining cocoa quality at Olam buying stations

**Activity Description:** The activity will be implemented by a combination of AMARTA/Olam trainers. These farmer trainers will be responsible for training farmers in the basic training program totaling 20,000 people over the life time of the program. A number of ASKA activities will utilize lead farmers to conduct training these include: follow-up training, cocoa garden rehabilitation / replanting and support for the construction of smallholder cocoa farmer solar dryers.

#### **Implementing Partners:**

- OLAM is assisting the ASKA program by facilitating access to its buying stations, equipment, and quality testing equipment. Olam staff to attend training sessions and provide information on export requirements.
- UD. Tunas Jaya is a local trader who was recommended to AMARTA by PT. Olam. UD Tunas Jaya has eight up-country buying stations that are located throughout West Sulawesi Province. UD. Tunas Jaya has been a long-standing supplier of cocoa beans to PT. Olam. UD. Tunas Jaya is assisting AMARTA (similarly to PT. Olam) by facilitating access to its upcountry buying stations, equipment, and quality testing equipment.

- SKORE was not selected to implement side grafting activities due to limited capacity to successfully execute the sub-contract. Collaboration with the Tanah Toraja NGO - JALESA did not proceed following field assessment where farmer groups identified were remote, minimal cocoa trees with multiple competing crops.

**Outcomes Year Two:**

<b>Indicator</b>	<b>Target September 2008</b>
Indicator 1: Additional hectares under improved technologies or practices	8750
Indicator 2: Number of organizations and associations assisted	350
Indicator 3: Number of agriculture related firms assisted	2
Indicator 4: Number of individuals receiving productivity training	8750
Indicator 5: Percent change in value of exports	*10+
Indicator 6: Percent change in purchases from smallholders	*30+

**Estimated Cost:**

Training, Workshops, Technical Assistance	\$387,000
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\* Note: A recent agronomic survey indicates that the 2008 cocoa crop will be substantially reduced due to disease and pest outbreaks. The high cost of Sulawesi FAQ beans is stimulating some cocoa processors to substitute Sulawesi cocoa beans for higher quality beans from the Ivory Coast.

## **Activity 2: AMARTA Nutmeg Agribusiness Competitiveness Alliance (ANACA) - North Maluku (Ternate and Tidore Islands)**

**Rationale:** Spice markets in North America, Europe, and Japan require nutmeg without the presence of aflatoxin, a carcinogenic substance. Smallholder nutmeg growers are not able to determine the presence or not of aflatoxin in their harvest. If improved post-harvest handling training and aflatoxin field testing can be accomplished, then nutmeg growers will have access to better markets at higher prices.

**Current Situation:** Recent security issues in North Maluku linked with the gubernatorial election, in Ternate/Tidore has impeded the capacity for AMARTA LTTA and STTA personnel to work in this region. RSO approval is still required. An additional constraint exists in that PT. Olam is not willing to commit to the opening of a buying station in Ternate. However, Olam has agreed to purchase nutmeg from farmer groups who elect to sell collectively to the Manado warehouse. Olam will socialize this opportunity to farmers with AMARTA during the socialization phase in Ternate and Tidore. The technical lead for this activity is Simon Badcock.

### **Objectives:**

- To provide technical assistance, training, and market support to Ternate/Tidore nutmeg growers to improve agricultural practices and, where possible, access higher market opportunities.
- Where possible demonstrate improved pest and disease control, pruning, and plant nutrition to increase nutmeg yields. Little information or well tested best practice nutmeg production techniques exist. AMARTA program staff will selectively test in collaboration with farmer participants approaches to fertilization and other on-farm practices.
- Demonstrate improved post-harvest handling practices to reduce the incidence and severity of aflatoxin by purchasing ELISA kits and establishing the capacity to test for aflatoxin in Ternate.
- Provide training to farmers in how to better understand nutmeg quality required for export markets.
- Train extension service agents to provide improved support to farmers.
- Improve marketing system transparency resulting in higher prices to nutmeg producers.
- Provide support for spice RACA in Ternate and Tidore.

**Activity Description:** Program activities will include:

- Needs assessment and baseline surveys.
- Sourcing and training in ELISA/strip-kit testing.
- Extension training in best practice nutmeg cultivation and pest and disease management to farmer groups and extension agents.
- New technologies and approaches to nutmeg drying.

- Participate in the AMARTA RACA forums providing contributions on tax, regulatory or other policy issues affecting nutmeg production in North Maluku.
- Farmer Field Days and Workshops

The Estate Crops Office has offered to provide extension agents, transportation, and meeting room access for training activities to smallholder nutmeg farmers. AMARTA and Olam will screen and evaluate extension agent training candidates.

**Implementing Partners:**

- Olam (limited role as possible remote buyer)
- Provincial Agricultural Office (Estate Crops) North Maluku
- Farmer Groups North Maluku
- North Maluku Agency for Agricultural Assessment and Transfer (*Balai Pengkajian Teknologi Pertanian*)
- District Estate Crops Office (Ternate and Tidore Islands)

**Outcomes Year Two**

<b>Indicator</b>	<b>Target September 2008</b>
Indicator 1: Additional hectares under improved technologies or practices	100
Indicator 2: Number of organizations and associations assisted	8
Indicator 3: Number of agriculture related firms assisted	2 + 8 farmer groups
Indicator 4: Number of individuals receiving productivity training	200
Indicator 5: Percent change in value of exports	10
Indicator 6: Percent change in purchases from smallholders	20

**Estimated Cost**

Grant under consideration	\$60,000
Training, Workshops, Technical Assistance	\$13,000

### **Activity 3: Natural Rubber in South and West Kalimantan**

**Rationale:** Indonesia is the world's second largest supplier of natural rubber. Eighty-five percent of the natural rubber produced in Indonesia is done by smallholder rubber farmers. Many smallholder farmers do not have access and lack information on how to use better planting material and the merits of doing so, better tapping practices, and improved coagulum quality due to absence of sufficient technical assistance and training. It is envisaged that in the case of natural rubber the AMARTA project would serve as pilot and model for self initiative development of smallholdings in the vicinity, with multiplier effect to spread to the neighboring regions. The technical leads for this activity are Ilahang (Sanggau, Kalimantan) and Simon Badcock.

#### **Objectives:**

- Establish certified nurseries for production of improved planting material at the local level enhancing farmer access to improved rubber planting materials as well as acting as demonstration plots.
- Train key farmers in established farmer groups and organize new groups as needed in improved rubber garden management practices, rubber tapping, post-harvest handling and understanding of quality.
- Smallholder rubber training to cover technical know-how and best practices for land preparation, rubber nursery and grafting, new planting and maintenance, tapping and latex coagulation practices, and marketing and business skills.
- Improve extension services through training of the extension agents.
- Facilitate improved access to local markets where demand for good quality rubber seed stock is high.

#### **Activity Description:**

AMARTA will

- Provide support for the establishment of model projects of smallholder rubber seedling centers in Imban (South Kalimantan) and in Sanggau District (West Kalimantan).
- AMARTA will provide technical assistance for structuring management of model pilot projects, training of extension officers/farmer trainers, structuring of farmer groups and training of farmers in marketing and business skills.
- AMARTA will assist in establishing nurseries to provide clonal planting material, technical know-how and best practices for land preparation, rubber nursery and grafting, new planting and maintenance; tapping and latex coagulation practices, and marketing and business skills.
- Collaborate with IRRI, Balai Penelitian Karet Sembawa (South Sumatra), Bridgestone Sumatra Rubber Estate and Bridgestone Kalimantan Plantation to provide technical assistance for the pilot projects, training of extension officers, structuring of farmer groups, and training of farmers in marketing and business skills.
- Support tapping training by providing the correct tapping utensils. Wherever possible local GAPKINDO members or other interested partners will collaborate.

#### **Implementing Partners:**

- IRRI Sungei Putih
- PT Bridgestone Kalimantan Plantations (BSKP), Imban, South Kalimantan
- IRRI Sembawa (South Sumatra)
- PT Sumber Jantin (Private sector crumb rubber factory)

**Outcomes Year Two:**

<b>Indicator</b>	<b>Target September 2008</b>
Indicator 1: Additional hectares under improved technologies or practices	300
Indicator 2: Number of organizations and associations assisted	15
Indicator 3: Number of agriculture related firms assisted	4 + 15 farmer groups
Indicator 4: Number of individuals receiving productivity training	400
Indicator 5: Percent change in value of exports	10
Indicator 6: Percent change in purchases from smallholders	15

**Estimated Cost:**

Grant	\$20,000
Training, Workshops, Technical Assistance	\$34,000

#### **Activity 4: AMARTA Gorontalo Seaweed Activity (Kwandang/Anggrek Bay – Pantura District and Lemito / Popayato - Pohuwato District)**

**Rationale:** In an on-going effort to achieve the goals and support rural development throughout the Indonesian archipelago, the AMARTA Gorontalo Seaweed Project proposes to provide support for Indonesia's burgeoning seaweed industry by supporting the production of seaweed as a raw material for local value adding in the Gorontalo province of Northern Sulawesi.

Since the inception of seaweed growing enterprises in the greater Gorontalo area, seaweed farmers have attempted to grow seaweed year round. As observed by both seaweed consultants and extension agents from the department of fisheries, seaweed farmers will likely have at least one complete crop failure during the year, losing almost all of their seaweed stock. If growers only plant in the best growing seasons, they must purchase seaweed seed at least twice a year. This can be very expensive because the best times of the year for planting usually falls immediately after a time of year not conducive to production of seaweed. Poor farmers do not have the capital required to buy seed for every planting therefore must attempt to grow seaweed year round in order to maintain stock. This makes their operations prone to complete crop failure in poor growing seasons.

The availability of a revolving credit facility grant for the purchase of seed stock will help alleviate the need for seaweed producers to carry stock through these risky seasons. The technical leads for this activity are Simon Badcock and Dieter Fischer (Jakarta).

#### **Objectives:**

- To facilitate the supply and introduction of good seaweed planting stock to the Kwandang/Anggrek Bay and Lemito / Popayato (Pohuwato District) regions.
- To provide support for nurseries wherein all-year-round seed stock can be produced that will enable farmers to farm seaweed throughout the year (weather conditions permitting this).
- To provide smallholder seaweed farmers with access to the 'grown-out' seaweed seed stock through a revolving system on a 'pass forward' system that will enable them to obtain good seaweed seed stock.
- To reduce the losses currently incurred by smallholder seaweed producers in Gorontalo from 30% to an expected 10%
- To provide training and technical assistance and support to local stakeholders including local farmer groups, Department of Fisheries field extension officers, PT Gorontalo Fitra Mandiri, other stakeholders where identified in best practice seaweed cultivation and post-harvest handling.

#### **Description:**

This activity will begin by conducting local workshops with farmer groups to identify farmer groups that can aggregate into business units that operate test plots, nurseries, model farms and post-harvest systems for grading, packing and shipping improved raw materials in the two areas. Following this AMARTA will facilitate the provision of several tons of seaweed stock to each area. AMARTA will then establish 30 test plots each in the two areas utilizing data from test plots in each region operated by lead farmers to fix sites for 2 nursery /

model farms in each of the two areas. The proposed AMARTA Gorontalo Seaweed program will provide funding to purchase seaweed seed stock, and the technical assistance required to set up a revolving seed stock loan fund managed by AMARTA personnel. Provide additional planting materials and cuttings as necessary to get model farms / nurseries to a production level of at least one ton of cuttings per nursery per month. Set up a revolving-fund system to provide cuttings to other farmers on a 'pass forward' basis.

The seaweed produced by growers will be sold to one of several possible private sector players CV. Sumber Rejeki (Manado), PT. AMARTA Sari Lestari, or Taksi Mina Bahari for processing in the semi refined carrageenan plant currently being set up in Manado.

The AMARTA Gorontalo Seaweed program will also provide technical assistance to the producers of the cottonii (*Kappaphycus spp.*) seaweed seed in specific microclimates close to Gorontalo that will support the production of seed out of season.

**Implementing Partners:**

- Seaweed Growers Farmer Groups

**Outcomes Year Two:**

Indicator	Target September 2008
Indicator 1: Additional hectares under improved technologies or practices	300
Indicator 2: Number of organizations and associations assisted	24
Indicator 3: Number of agriculture related firms assisted	2
Indicator 4: Number of individuals receiving productivity training	600
Indicator 5: Percent change in value of exports	50
Indicator 6: Percent change in purchases from smallholders	100

**Estimated Cost:**

Grant	\$50,000
Training, Workshops, Technical Assistance	\$70,000

## **Activity 5: Provide Assistance for the Operation of the Enrekang Sub Terminal Agribusiness Facility**

**Rationale:** The Government of Indonesia Directorate General of Processing and Marketing, in cooperation with provincial and local governments, has embarked on a capital investment program to provide modern facilities in rural areas for farmers to conduct fresh produce trading. Envisioned in this program is the construction of Sub Terminal Agribusiness facilities where produce will not only be traded, but packinghouses would be constructed for added value such as sorting, grading, post-harvest treatments, packaging, and cold storage. To date, many of these STA's have failed due to poor design and construction, improper planning with local stakeholders, and absence of competent management. One such facility is located in the vicinity of Enrekang, South Sulawesi. Currently a new packing house at this facility is being constructed, based on the technical assistance provided by AMARTA in August, 2007. This packing house is in addition to other buildings already existing and used as a trading place for local farmers and buyers. The technical lead for this activity is David Anderson (Jakarta).

### **Objective:**

- AMARTA will provide technical assistance, advice, and training in the socialization, design, operation, maintenance, and market linkages of the Enrekang STA as a pilot project to demonstrate the proper and commercial use of a STA facility.
- Increase farmer and trader income by reducing waste of improperly packed and transported fresh produce, and by demonstrating added value products.

**Description:** AMARTA has provided technical assistance in the design of a new packing house to be built in the STA site. Follow-up action will be to assist the local government in the identification of machinery and equipment suppliers, oversee the proper installation of packing house equipment, train workers and management in the proper use and maintenance of equipment provided by the government, and provide technical assistance in fresh produce post-harvest handling practices. Products to be packed in the new facility include tomatoes, potatoes, peppers, carrots, and leafy vegetables.

### **Implementing Partners:**

- DG Marketing and Processing
- Local Government of Enrekang

### **Outcomes Year Two:**

<b>Indicator</b>	<b>Target September 2008</b>
Indicator 1: Additional hectares under improved technologies or practices	N/A
Indicator 2: Number of organizations and associations assisted	2
Indicator 3: Number of agriculture related firms assisted	4
Indicator 4: Number of individuals receiving productivity training	300

Indicator 5: Percent change in value of exports	N/A
Indicator 6: Percent change in purchases from smallholders	N/A

**Estimated Cost:**

Training, Workshops, Technical Assistance	\$25,000
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## **Activity 6: Assistance in Addressing and Resolving Automatic Detention of Cocoa in U.S. Ports**

**Rationale:** Since 1992 cocoa imports from Indonesia have been on the automatic detention list in the US, as a result of surveys performed on a total of 271 shipments from 21 shippers of Indonesian cocoa to the US in 1991 in which the violation rate for live insect activity was 79%. Since that time no company has been able to send five consecutive shipments from Indonesia that did not exceed FDA limits for insect infestation. Though exports are fumigated before leaving Indonesia, they are not tested when they reach US ports; rather they are routinely fumigated again upon entry at a cost of about \$4 - \$6 per ton. The added fumigation cost to Indonesian exporters is about \$2 million per year.

An examination must be made to identify the source of insect infestation and other contamination in the post-harvest handling, transportation, storage and warehousing, and fumigation in Indonesia. The technical leads for this activity are David Anderson (Jakarta) and Simon Badcock.

**Objectives:** The objective is to conduct a pilot activity to determine if trial containers of clean and fumigated cocoa from PT Olam can pass US port inspection by the FDA, before a second automatic fumigation step is done.

### **Activity Description:**

AMARTA will

- Arrange for the trial shipments with PT Olam and Blommer Chocolates, who are AMARTA partners on the Sulawesi Kakao Alliance. AMARTA will also provide necessary staff time and other resources to implement this pilot.
- Carry out a simulated trial shipment of cocoa in two containers. One as a control, one container fumigated using a regime of 80mg of Methyl Bromide for a period of 48 hours. A range of agencies will be involved including Olam, South Sulawesi Plant Quarantine Inspection Service, SUCOFINDO (Fumigator), and South Sulawesi Laboratory (testing for quality).
- Phase I: FDA and USDA personnel will
  - Conduct a one-day meeting/training session of Indonesian Quarantine staff on fumigation procedures in Makassar.
  - Visit the ports of Makassar and Surabaya to assess fumigation services, warehousing conditions, and other aspects of the post-harvest chain.
  - Indonesian Quarantine Agency staff to accompany FDA and US Department of Agriculture (USDA) personnel on site visits. The Quarantine Agency will appoint five staff from Jakarta, two each from Makassar, Surabaya, and Palu, and one from Medan.
- Phase II: AMARTA will coordinate with PT Olam to
  - Examine PT Olam's post-harvest handling system from the buying stations to the container for shipping to identify sources of insect infestation
  - Examine the fumigation process provided by PT Olam's supplier.
  - Arrange for 2 trial shipments of cocoa to the US.

- Recommend improvements in PT Olam's post-harvest handling, transportation, storage and warehousing, and fumigation services
- USAID will arrange for FDA testing of the trial shipments at the US port of entry before a second fumigation step is done. If the 2 shipments meet FDA specifications, the trial will be expanded to 5 shipments.

**Implementing Partners:**

- PT Olam Indonesia
- Blommer Chocolate
- US Food and Drug Administration (FDA)
- US Department of Agriculture (USDA)
- South Sulawesi Plant Quarantine Inspection Service
- SUCOFINDO (South Sulawesi Fumigation Agency)

**Outcomes Year Two:**

Indicator	Target September 2008
Indicator 1: Additional hectares under improved technologies or practices	N/A
Indicator 2: Number of organizations and associations assisted	3
Indicator 3: Number of agriculture related firms assisted	2
Indicator 4: Number of individuals receiving productivity training	10
Indicator 5: Percent change in value of exports	N/A
Indicator 6: Percent change in purchases from smallholders	N/A

**Estimated Cost:**

Training, Workshops, Technical Assistance	\$25,000
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## **Activity 7: Conduct Coffee Cherry Borer (Broca) Trap Demonstration and Training program in Sulawesi - Toraja**

**Rationale:** A coffee pest known as the Coffee Cherry Borer or Broca is attacking smallholder coffee plantings in Sulawesi, causing loss in production and reduction in quality due to the damage to the coffee bean during development. A technology new to Indonesia, but practiced in Latin America, known as the coffee Broca trap, is available for transfer to smallholder coffee growers. Assistance is required to train farmers on the use of this technology to reduce losses in yields and quality, which reduce their incomes.

### **Objectives:**

- Introduce a new technology to offset biological damage to smallholder coffee plantings by the coffee cherry borer insect, specially for organic certified Coffee fields
- Demonstrate this new technology by placing coffee Broca traps in smallholder coffee farmer fields to attract and trap the coffee borer and measure reduction in crop damage.
- Train selected coffee smallholders in the use and monitoring of the Broca traps to promote wider use of this new technology which can be used as a best control in organic-certified Coffee fields and reduce the use of chemical pesticide in uncertified plantations.
- Report and publicize the results of the Broca trap demonstration to coffee farmers, urging better agricultural practices which will result in higher yields and better quality, increasing farmer incomes subsequently by 3 – 30% depending on the incidence and severity of the attacks.

### **Activity Description:**

AMARTA will

- Provide 1000 Broca traps and 2000 sets of attractant to 50 farmers for demonstration of the Broca trap technology.
- Organize a training session for interested farmers to introduce the Broca trap technology and economical justification for its use.
- Cooperate with the local Government of Tina Toraja, Department of Agriculture
- CV Lion Lestari Coffee Company coffee out growers in the collection, analysis, and dissemination of the Broca trap demonstration results.

### **Implementing Partners**

- CV Lion Lestari

### **Outcomes Year Two:**

*Year Two Work Plan  
October 1, 2007 to September 30, 2008*

*Agribusiness Market and Support Activity  
(AMARTA)*

<b>Indicator</b>	<b>Target September 2008</b>
Indicator 1: Additional hectares under improved technologies or practices	50
Indicator 2: Number of organizations and associations assisted	1
Indicator 3: Number of agriculture related firms assisted	1
Indicator 4: Number of individuals receiving productivity training	50
Indicator 5: Percent change in value of exports	35
Indicator 6: Percent change in purchases from smallholders	20

**Estimated Cost:**

Training, Workshops, Technical Assistance	\$15,000
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## **Activity 8: Improve Production of Cut Flowers – Tomohon Regency (North Sulawesi)**

**Rationale:** The AMARTA Floriculture Value Chain Assessment, completed in July 2007, determined that Indonesia has a competitive opportunity in the production and marketing of high value flower products to local, regional, national, and international markets, due to low cost of labor and land, and favorable climatic conditions as compared to Singapore and Malaysia. This opportunity is restricted by lack of awareness of Best Agricultural Practices (BAP) among local growers; unavailability of new varieties, which reduces the quality and quantity of production; and an absence of extension services as a source of reliable and updated technical information and assistance to develop the industry. The technical leads for this activity are Simon Badcock and David Anderson (based in Jakarta).

**Objectives:** Improve the quality and quantity of production of cut flowers in the Tomohon Regency (North Sulawesi) by providing BAP technical information and training to growers of orchids, ornamental plants, and cut flowers. Improve extension services by facilitating training for field extension agents and farmers regarding disease diagnosis.

Promote the Tomohon highland area as a leading cut flower center in Indonesia.

### **Activity Description:**

AMARTA will

- Conduct four stakeholder workshops over the year to enable/facilitate dialogue between various parties on constraints and opportunities facing the cut flower industry in Tomohon District.
- Design and deliver a training program for BAP including use of proper varieties, cultivation techniques, disease diagnosis, marketing, post harvest handling, and packing. Training will be offered to both farmers and extension agents.
- Assist in procuring improved seed varieties for the nursery and greenhouse pilot from Java and other areas.
- Assist in improving marketing of cut flowers, including coordination with the district government of Tomohon/North Sulawesi to print brochures/leaflets for promotional purposes, and placing a sign on a provincial road with very high traffic to further promote twice a week cut flower wholesale market to many travelers of different region to boost production.

### **Implementing Partners:**

- Departments of Agriculture in North Sulawesi Province
- Farmer Groups of North Sulawesi / Tomohon Regency
- Indonesian Flower Association (North Sulawesi)
- Sam Ratulangi University

### **Outcomes Year Two:**

Indicator	Target September 2008
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Indicator 1: Additional hectares under improved technologies or practices	30
Indicator 2: Number of organizations and associations assisted	4
Indicator 3: Number of agriculture related firms assisted	6
Indicator 4: Number of individuals receiving productivity training	300
Indicator 5: Percent change in value of exports	25
Indicator 6: Percent change in purchases from smallholders	50

**Estimated Cost:**

Training, Workshops, Technical Assistance	\$30,000
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## **Value Chain Interventions - Papua Region**

As part of the USAID – Freeport collaboration for economic development in Papua, AMARTA will expand its value chain interventions in Papua, pending modification of the prime contract and additional funding. The ongoing programs in Papua will be expanded and named the Papua Agriculture Development Alliance (PADA). AMARTA will assist PT Freeport Indonesia in socio-economic development of the Freeport Project area to create additional employment, increase farmer income, and alleviate rural poverty while improving the livelihood of the various villages. AMARTA has proposed the expansion of four activities under PADA:

### **Activity I: Kokonao Fish Cooperative Development**

**Rationale:** Currently only 10 of a possible 300 fishermen have access to boats, nets, and ice to fish for an abundance of seafood found in the nearby mangrove waters. Village income is limited and poverty is serious. Villagers seek assistance to expand their fishing capacity, and to have more control over access to ice, which would empower them to better control their marketing efforts. AMARTA will provide technical assistance, training, and grants to form a fishing cooperative in Kokonao to benefit 300 family member fishermen. The technical leads for this activity are Kornel Gartner and Franz Goetz.

**Objectives:** Increase employment and income through fishing activities. Improve trade/ sales link for supplies of fishery related equipment (nets/ cool boxes/ boat engines and spare parts). As there is an existing and promising market for large quantities of seafood there will be the possibility of almost immediate trade profits and turn-over of cash. Only very limited amounts of operational cash funds would be initially required.

#### **Activity Description:**

AMARTA will

- Provide grant support to establish and operate a new ice factory in Kokonao village to provide ice to the region around this village group.
- Provide credit facility to acquire fishing boats, nets, ice, and other supplies and materials
- Provide advice and assistance on added value fish product processing at the village level
- Assist in enhanced marketing efforts
- Provide technical assistance in the strengthening of the Kokonao Maria Bintang Laut cooperative in conducting the fishing related activities, including credit programs, cooperative management, and cooperative democracy.

#### **Implementing Partners:**

- Freeport Indonesia
- Kokonao fisherman and family members
- Catholic Church of Timika
- Koperasi Serba Usaha Maria Bintang Laut

**Outcomes Year Two:**

<b>Indicator</b>	<b>Target September 2008</b>
Indicator 1: Additional hectares under improved technologies or practices	N/A
Indicator 2: Number of organizations and associations assisted	1
Indicator 3: Number of agriculture related firms assisted	6
Indicator 4: Number of individuals receiving productivity training	405
Indicator 5: Percent change in value of exports	25
Indicator 6: Percent change in purchases from smallholders	300

**Estimated Cost:**

Grant	\$125,000
Training, Workshops, Technical Assistance	\$162,000

## **Activity 2: Moanemani Coffee Development and Marketing Activity (Kamu Valley)**

**Rationale:** AMARTA will provide technical assistance, training, and grants to develop the Arabica Specialty Coffee production, processing and export potential of the Kamu Valley area. The activity will be implemented by a team of AMARTA coffee consultants working directly with current and future coffee growers in the village and surroundings. The technical lead for this activity is Kornel Gartner.

**Objectives:** Improve the productivity of current coffee production and expand the production base. Improve the post-harvest handling of the coffee. Realization of Organic, and Fair-Trade certifications. Create access to better, higher value markets for the specialty coffee

### **Activity Description:**

AMARTA will

- Establish small seedling nurseries with individual growers using seed collected from existing coffee plants in order to expand the coffee production area.
- Assist in obtaining Organic and Fair-Trade certification.
- Demonstrate improved coffee drying and processing practices.
- Develop new branding graphics and logos to tell the story of this unique specialty coffee.
- Assist in shipping samples to interested coffee roasters who will be informed of the new product via the AMARTA networking system and website [www.papuancoffees.com](http://www.papuancoffees.com).

### **Implementing Partners:**

- USAID
- PT Freeport Indonesia
- Yayasan P-5 Coffee Cooperative Santo Isidorus

### **Outcomes Year Two:**

<b>Indicator</b>	<b>Target September 2008</b>
Indicator 1: Additional hectares under improved technologies or practices	312
Indicator 2: Number of organizations and associations assisted	1
Indicator 3: Number of agriculture related firms assisted	5

Indicator 4: Number of individuals receiving productivity training	450
Indicator 5: Percent change in value of exports	100
Indicator 6: Percent change in purchases from smallholders	70

**Estimated Cost:**

Grant	\$105,000
Training, Workshops, Technical Assistance	\$100,000

### **Activity 3: Wamena Coffee Development and Marketing Activity (Baliem Valley)**

**Rationale:** AMARTA will provide technical assistance, training, and grants to develop the Arabica Specialty Coffee production, processing and export potential of the Baliem Valley area. Already, AMARTA has provided financial assistance to make improvements to the cooperative processing site, including fencing and a meeting point (Honai). A coffee huller machine has been delivered to the site as well. Work is underway to renovate the coffee processing building, improve water supply and sanitary facilities, and install a cupping laboratory. A baseline survey of farmers has been completed, and action is underway to begin Organic and Fair Trade certifications. The technical lead for this activity is Kornel Gartner.

**Objectives:** Improve productivity of the current coffee production and expand the production base. Obtain Organic and Fair-Trade certifications. Improve the post-harvest handling of the coffee harvested. Create access to better, higher value markets for the specialty coffee. Introduce and demonstrate “Broca” traps to reduce yield and quality losses due to the coffee cherry borer.

#### **Activity Description:**

AMARTA will

- Establish small seedling nurseries with individual growers using seed collected from existing coffee plants in order to expand the coffee production area.
- Assist in obtaining Organic and Fair-Trade certification.
- Demonstrate coffee Broca trap technology.
- Demonstrate improved coffee drying and processing practices.
- Develop new branding graphics and logos to tell the story of this unique specialty coffee.
- Assist in shipping samples to interested coffee roasters who will be informed of the new product via the AMARTA networking system and website [www.papuancoffees.com](http://www.papuancoffees.com).

#### **Implementing Partners:**

- PT Freeport Indonesia
- OKESA JAGARA Farmers Group
- Baliem Specialty Coffee Cooperative , KSU Baliem Arabica

#### **Outcomes Year Two:**

Indicator	Target September 2008
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Indicator 1: Additional hectares under improved technologies or practices	2431
Indicator 2: Number of organizations and associations assisted	23
Indicator 3: Number of agriculture related firms assisted	6
Indicator 4: Number of individuals receiving productivity training	2250
Indicator 5: Percent change in value of exports	100
Indicator 6: Percent change in purchases from smallholders	70

**Estimated Cost:**

Grant	\$105,000
Training, Workshops, Technical Assistance	\$71,000

#### **Activity 4: Agimuga Agriculture Development and Marketing Activity**

**Rationale:** AMARTA will provide technical assistance, training, and grants to develop the swine and rice production, processing, and marketing potential of four villages in the area. These are Aramsolki, Amungun, Kiliarma, and Faka Fuku with 179 families. The technical lead for this activity is Kornel Gartner in Papua and David Anderson (Jakarta).

**Objectives:** Improve the productivity of current swine production. Expand the production base to meet Freeport Indonesia pork requirements and/or high demand for ceremonial pigs in the area. Improve the post-harvest handling of the rice currently grown and harvested. Provide improved machinery and equipment for growing, harvesting, and thrashing rice through grant assistance in collaboration with the local government. Create access to better, higher value markets by improving transportation systems from the production area to the Timika market.

#### **Activity Description:**

AMARTA will

- Conduct a rapid assessment of current production, processing, and marketing practices to determine follow-up technical assistance required.
- Provide improved swine breeding stock accompanied with technical assistance and training on swine husbandry practices.
- Assist in delivery and operation of modern rice cultivation and processing machinery to be provided by the Ministry of Agriculture, Timika Regency
- Assist in improvement of road from village to river port.
- Provide 4 wheel drive tractor and trailer for transport of animals and agricultural products from village to river port.
- Provide a boat to be used for transport of swine and other products from village to Timika

#### **Implementing Partners:**

- USAID
- PT Freeport Indonesia
- Agimuga Village
- Timika regency Dept. of Agriculture
- Catholic Church

#### **Outcomes Year Two:**

<b>Indicator</b>	<b>Target September 2008</b>
Indicator 1: Additional hectares under improved technologies or practices	75
Indicator 2: Number of organizations and associations assisted	1
Indicator 3: Number of agriculture related firms assisted	3
Indicator 4: Number of individuals receiving productivity training	300
Indicator 5: Percent change in value of exports	N/A
Indicator 6: Percent change in purchases from smallholders	100

**Estimated Cost:**

Grant	\$125,000
Training, Workshops, Technical Assistance	\$40,000

## Value Chain Intervention Timeline

	Oct-07	Nov-07	Dec-07	Jan-08	Feb-08	Mar-08	Apr-08	May-08	Jun-08	Jul-08	Aug-08	Sep-08
<i>Public Awareness</i>												
<b>Activity 1: Media Campaign</b>												
As appropriate												
<b>Activity 2: Website Development</b>												
Website online												
<b>Activity 3: National and Regional Conferences/Workshops</b>												
As specified in individual activities												
<b>Activity 4: International Conferences/Workshops</b>												
GulFood 2008 in Dubai (canceled)												
Specialty Coffee Association of America Annual Conference in Minneapolis												

	Oct-07	Nov-07	Dec-07	Jan-08	Feb-08	Mar-08	Apr-08	May-08	Jun-08	Jul-08	Aug-08	Sep-08
<i>Value Chain Interventions: Medan</i>												
<b>Activity 1: Improve Banana Productivity – Deli Serdang, North Sumatera</b>												
Provision of TA												
Establish demonstration plots	1	1	1	1	1							
Commercial trials												
<b>Activity 2: Improve Citrus Productivity and Post-harvest Handling – Berastagi, Sumatera</b>												
Prepare training material with NGO's, Indonesia Citrus Society (ICS)												
Publishing SOP Karo Citrus												
Exploring location in five Karo sub regency												
Training in Barus Jahe sub regency	160											
Program monitoring with ICS	160											
Training in Tiga Panah sub-regency		160										
Training in Simpang Empat sub-regency			160	160	160							
Training in Kabanjahe sub-regency						160	160	160	160			
Training in Dolat Rakyat sub-regency										160	160	160
<b>Activity 3: Improve Production and Marketing of Vegetables – Berastagi, Sumatera</b>												
Prepare training module												

	Oct-07	Nov-07	Dec-07	Jan-08	Feb-08	Mar-08	Apr-08	May-08	Jun-08	Jul-08	Aug-08	Sep-08
<b>Value Chain Interventions: Medan</b>												
Contact farmers group in Keling Village, Berastagi and Tiga Panah and coordinate with PT PAS												
Conduct training in Keling Village		80	80									
Deliver farmer product to PT. PAS and trial shipment from PT. PAS to Jakarta retailers												
Conduct training in Tiga Panah Village				80	80	80	80					
Deliver farmer product to PT. PAS and trial shipment from PT. PAS to Jakarta retailers												
Conduct training in Berastagi village								80	80	80	80	80
Deliver farmer product to PT. PAS and trial shipment from PT. PAS to Jakarta retailers												
<b>Activity 4: IPM Training – Berastagi, Sumatera</b>												
Coordinate with implementing partners												
Identify pilot sites (5 villages in 2 sub-districts) and select farmers groups												
Hold 1st and 2nd field school activity, field day	160	160	160									
Hold 3rd and 4th field school activity, field day				160	160	160	160					
The fifth field school activity, field day								160	160	160	160	160
<b>Activity 5: Improve Cut Flowers Productivity - Medan City and Berastagi</b>												
Orientation and marketing training		20										
Training on Best Agriculture Practices I				40								

	Oct-07	Nov-07	Dec-07	Jan-08	Feb-08	Mar-08	Apr-08	May-08	Jun-08	Jul-08	Aug-08	Sep-08
<b>Value Chain Interventions: Medan</b>												
Training on Best Agriculture Practices II						40						
Training on Best Agriculture Practices III								40				
Build greenhouse demonstration pilot for cut flowers in Raya Village							1					
Build nursery for a cultivation of new varieties in Tongkoh Village									1	1		
Establish road advertising signboard(s) for Raya Village on main road in Berastagi											2	2
<b>Activity 6: Improving Productivity, Quality, and Marketing of Gayo Mt. Coffee in Aceh</b>												
Installation of Processing Equipment	4											
Sending Samples to Specialty Roasters				3	5						5	5
Training and Extension Services for Farmers												
<b>Activity 7: Training for Development of Arabica Coffee Production - Aceh</b>												
GMP and GHP training in Bener Meriah district				20	20							
Monitor and record activities and necessary follow-up										20	20	20
<b>Activity 8: Natural Rubber in Sumatra</b>												
Sign MOU with partners												
Land Preparation for budwood garden and rootstock, and planting of budwood gardens												
Planting of rubber roostock nursery												
Completion of baseline survey data collection in Bangka												

	Oct-07	Nov-07	Dec-07	Jan-08	Feb-08	Mar-08	Apr-08	May-08	Jun-08	Jul-08	Aug-08	Sep-08
<b>Value Chain Interventions: Medan</b>												
Distribution and planting of budded stumps												
Training for tapping techniques and latex processing							300					
First harvesting of budwood garden and grafting in rootstock nursery												
Training on rubbery nursery and grafting										300		
Distribution of planting material produced by budwood garden												
<b>Activity 9: Fermented Cocoa in Aceh</b>												
Quality Workshop in Pidie												
Farmers group training by extension agent							250	250	250	250	250	250
Quality workshop in Aceh Bireun												
Quality Workshop in Aceh Utara												
<b>Activity 10: Develop virus free brood stock and post-larvae for Black Tiger Prawn and create brand for marketing in Aceh</b>												
Selection lab/ quarantine site and construction activities												
Establishment of shareholding company and name registration												
Initiate lab procedures and sales advertisement for parent stock and post-larvae in Aceh/Medan area												
Initiate training program for hatchery and quarantine staff												
Initiate training program for pond operators and hatchery staff												
Ongoing training for pond operators and hatchery staff operating under certified approach												

	Oct-07	Nov-07	Dec-07	Jan-08	Feb-08	Mar-08	Apr-08	May-08	Jun-08	Jul-08	Aug-08	Sep-08
<b>Value Chain Interventions: Medan</b>												
Ongoing promotion of virus-free/certified products												
Proposal and feasibility study for local processing facilities in Bireuen. Application to BRI for aquaculture loan program												
Follow up on loan/processing facilities and establishment of international trade contacts for certified/traceable prawns												
<b>Activity 11: Broca Trap Demonstration in N. Sumatera and Aceh</b>												
Training		50										
Data collection and reporting												
Final research presentation and recommendations												
<b>Activity 12: RACA Intervention in Karo Highlands Produce Industry</b>												
Farmer committee meetings												
Policy paper preparation												
Policy advocacy proposal to government												

	Oct-07	Nov-07	Dec-07	Jan-08	Feb-08	Mar-08	Apr-08	May-08	Jun-08	Jul-08	Aug-08	Sep-08	
<b>Value Chain Interventions - Bali Region</b>													
<b>Activity 1: Fermented Cocoa Production with Big Tree Farms - Bali</b>													
First Basic Training Cycle in Jembrana and Tabanan and followup training		1000a									1000b		
Solar Dyrer Construction													
Second Basic Training Cycle											1000c		
<b>Activity 2: Cattle Breeding Pilot Program – (West Timor, Kupang)</b>													
Field Survey, Project socialization													
Selection of heifers and pregnant cows													
Cow breeding is started													
Pre-evaluation on cow performance and farmer participation;					300d								
First phase evaluation on cow condition, pregnancy rate, etc.													
Monitoring the implementation of breeding program and cow performance													
First calving - monitor calf mortality rates													
Monitoring the cow preparation for re-breeding after first birth, estimate the calving interval													
<b>Activity 3: Coffee Production and Marketing Improvement - Flores</b>													
Farmers trained in GAP and post-harvest handling; obtain Fair Trade Certification		2900e											
Samples sent to 20 specialty traders/roasters													
Sell 2 containers (36 tons)													
Establish processing capacity for 360 tons/year													

	Oct-07	Nov-07	Dec-07	Jan-08	Feb-08	Mar-08	Apr-08	May-08	Jun-08	Jul-08	Aug-08	Sep-08
<b>Value Chain Interventions - Bali Region</b>												
Sell 5 containers (90 tons) Fair Trade Organic Coffee												
Train farmers in washed and semi-washed process												
<b>Activity 4: Biofuel Production Pilot Program – NTT</b>												
Delivery of pressing and crushing machines												
Delivery of esterification machines												
Construction of Production Shed												
Establishment of Jatropha nursery												
Maintenance and supervision of Nursery												
Demonstration of kerosene substitute production		900f										
Demonstration of biodiesel production (esterification)												
TA to Cooperative												
<b>Activity 5: Grouper Nursery and Grow-out Development and Village-Based Net Cage Pilot Project – Flores</b>												
Selection of village fishermen association members (ten workers/members)												
Floating karamba construction and repairs												
Launch of the mariculture/Karamba Association												
Grow-out launch/Introduction of fingerlings												
Fingerling production and grow-out				30g								
<b>Activity 6: High Value Horticulture and Marketing Program - Bali</b>												
Meet with produce buyers to identify needs and constraints to quality												
Robert Richardson provides STTA for trials												

	Oct-07	Nov-07	Dec-07	Jan-08	Feb-08	Mar-08	Apr-08	May-08	Jun-08	Jul-08	Aug-08	Sep-08
<b>Value Chain Interventions - Bali Region</b>												
Assess cooperative needs, plan development activities												
Assist cooperative to appoint in-house horticulturalist												
Contract local horticulturalist to work with the cooperative in-house horticulturalist to head extension services												
Select demo plot sites						1						
Training for demo plot establishment							1					
Plant demo plots							1					
Set up post-harvest and freezing facility and train farmers										1		
Full scale production in Test Plots												
Disseminate GAP guides												
Review results of the production trials												
Prepare report												
<b>Activity 7: Floriculture Development in Bali</b>												
Orientation and marketing training	Dates TBD											
Training on Best Agriculture Practices I									20			
Training on Best Agriculture Practices II										20		
Training on Best Agriculture Practices III											20	
Build greenhouse demonstration pilot for cut flowers								1				
Build nursery for a cultivation of new varieties								1				
Establish road advertising signboard(s) on main road											2	2

a. 1000 farmers, 10-12 training sessions over 8 months

b. 1000 farmers, follow up training

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*Agribusiness Market and Support Activity  
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	<b>Oct-07</b>	<b>Nov-07</b>	<b>Dec-07</b>	<b>Jan-08</b>	<b>Feb-08</b>	<b>Mar-08</b>	<b>Apr-08</b>	<b>May-08</b>	<b>Jun-08</b>	<b>Jul-08</b>	<b>Aug-08</b>	<b>Sep-08</b>
<b><i>Value Chain Interventions - Bali Region</i></b>												

c. 1000 farmers, new groups

d. 300 farmers for productivity training

e. 2900 farmers - continuous extension training

f. 900 family farmers, divided into 4 workshop and continue with continuous extension training

g. 30 farmers for training

	Oct-07	Nov-07	Dec-07	Jan-08	Feb-08	Mar-08	Apr-08	May-08	Jun-08	Jul-08	Aug-08	Sep-08
<i>Value Chain Interventions - Jakarta Region</i>												
<b>Activity 1: High Value Horticulture – West Java Market Linkages</b>												
Baseline data collection												
Packing house construction												
Field Assistants Training in Bandung				12								
GAP and SOP Trainings					75a	75b						
Packing house/warehouse management									75c			
Post-harvest Handling Training		150d					75e	75f				
Demonstration plots												
Field technical assistances and monitoring												
Stakeholders informal meeting												
RACA Workshop										150g		200h
National Seminar												
<b>Activity 3: Mango Sea Freight Trial – East Java</b>												
Arrange the facility for packing and shipping					*pushed back to Oct 2008 if fruit not available							
Set up equipment and prepare the packing line												
Purchase mangoes												
Train purchasers and sorters on selecting mangoes												
Pack the mangoes and place in cold storage												

	Oct-07	Nov-07	Dec-07	Jan-08	Feb-08	Mar-08	Apr-08	May-08	Jun-08	Jul-08	Aug-08	Sep-08
<b>Value Chain Interventions - Jakarta Region</b>												
Ship mangoes to Middle Eastern buyer												
Mr. Soyano and Dr. Velez fly to Jeddah to meet with buyers and receive the shipment												
Train buyers and retailers in Jeddah on fruit handling												
Prepare activity report												
Prepare SOP Manual for Dept of Ag and Pt Arssel on post-harvest handling												
Post-harvest Handling Training							50i					
Arssel works with partner farmers to produce for export, and sets up packing and shipping centers in strategic areas of Indonesia for exporting mangoes												
<b>Activity 4: Development of Banana in East Java</b>												
Provision of TA												
Establish demonstration plots												
Commercial trials												
Farming Training								50j				
Post-harvest Handling Training									50k			

a. 25 farmers each: Tomato in Garut, Chili in Tasikmalaya, Cilembu Honey Sweet Potato in Sumedang

b. 25 farmers each: Potato in Bandung, Mangosteen in Tasikmalaya, Pineapple in Subang

c. 25 participants each (packers, supermarket suppliers, universities, Government officials): in Bandung, in Garut, in Subang

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	Oct-07	Nov-07	Dec-07	Jan-08	Feb-08	Mar-08	Apr-08	May-08	Jun-08	Jul-08	Aug-08	Sep-08
<i>Value Chain Interventions - Jakarta Region</i>												

d. 75 participants each (farmers, packers, traders, supermarket suppliers, supermarkets, universities, Government officials): Multiple commodities in Jakarta and in Bandung

e. 25 participants each (same as d): Tomato in Garut, Chili in Tasikmalaya, Cilembu Honey Sweet Potato in Sumedang

f. 25 participants each (same as d): Potato in Sumedang, Mangosteen in Tasikmalaya, Pineapple in Subang

g. 50 participants each: in Bandung, in Garut, in Subang

h. 200 participants: in Bandung

i. 50 participants (farmers, packers, retailers): in Lumajang

j. 50 farmers: in Lumajang

k. 50 participants (farmers, packers, retailers): in Lumajang

	Oct-07	Nov-07	Dec-07	Jan-08	Feb-08	Mar-08	Apr-08	May-08	Jun-08	Jul-08	Aug-08	Sep-08
<b>Value Chain Interventions - Makassar Region</b>												
<b>Activity 1: AMARTA Sulawesi Kakao Alliance (Aska) - South Sulawesi, Southeast Sulawesi</b>												
Basic Farmer Training: Cycle 1	3000											
Basic Farmer Training: Cycle 2, new groups				8250 - 10 topics approx 6 months								
Basic Farmer Training: Cycle 3, new groups									8250			
Follow up training conducted by Pemandu for basic training cycle I (FGs 1 x 2/mths)						3000		3000		3000		3000
Follow up training conducted by Pemandu for Basic training cycle II (FGs meet 1 x 2/mths)										8250		8250
Follow up training by Pemandu FG												
Solar Drier Program					50							
Side grafting by Pemandu incorporated into follow -up												
TOT Activities	30					30	40					
<b>Activity 2: AMARTA Nutmeg Agribusiness Competitiveness Alliance (ANACA)- North Maluku (Ternate and Tidore Islands)</b>												
Sign MOU and contract with FGs												
Socialization, baseline survey, and needs assessment			pending security issues									
Basic training – cycle 1			200 farmers to be trained over a 6 month period									
Follow-up training – cycle 1												

	Oct-07	Nov-07	Dec-07	Jan-08	Feb-08	Mar-08	Apr-08	May-08	Jun-08	Jul-08	Aug-08	Sep-08
<b>Value Chain Interventions - Makassar Region</b>												
Solar dryer program							50		50			
TOT basic training												
TOT follow-up training												
Workshops								10				
<b>Activity 3: Natural Rubber in South and West Kalimantan</b>												
Sign MOU's with Project Partners, develop socialization brochures, design of training materials, budgeting for training and in-depth workplan activities												
First training in land preparation, planting, intercropping.			100	100	100	100						
First training in establishment of village nursery.				100	100	100						
Planting of budded stumps in the three project sites.			0.25 ha	0.25 ha	0.25 ha	0.25 ha						
Supervisory visit by regional office manager/senior commodity advisor, field coordinator and consultants												
Training in tapping, coagulum preparation and provision of sample tapping, collection tools.					308		308					
Supervisory visits to record developments and recommend necessary improvements.												
First time harvesting of bud wood from village nurseries and preparation of bud grafts by farmers in the nurseries										308		
Training of extension officers and farm groups												

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	Oct-07	Nov-07	Dec-07	Jan-08	Feb-08	Mar-08	Apr-08	May-08	Jun-08	Jul-08	Aug-08	Sep-08
<b>Value Chain Interventions - Makassar Region</b>												
<b>Activity 4: Gorontalo Seaweed production and processing.</b>												
Provide initial cottonii seedstock to selected farmers groups in Lemito and Kwandang areas.							30 test plots of seaweed nurseries					
Conduct a seaweed producer workshop to identify and agree upon suitable nursery locations and lead farmers/individuals who will be responsible for distribution							150					
Provide permanent technical assistance to each selected farmer group.												
Establish/strengthen market linkages to PT Marcel Taher to ensure access to better market.												
Conduct periodic training of seaweed farmer groups identified/selected for assistance on seaweed cultivation, harvesting, and post-harvest handling practices								150				
<b>Activity 5: Assistance to Enrekang STA Facility</b>												
Oversee construction of packing house												
Assistance in selection of packing equipment												
Training on use of packing facility												
Technical assistance on post-harvest handling practices												
<b>Activity 6: Assistance in Resolving Automatic Detention of Cocoa in US Ports</b>												

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	Oct-07	Nov-07	Dec-07	Jan-08	Feb-08	Mar-08	Apr-08	May-08	Jun-08	Jul-08	Aug-08	Sep-08
<b>Value Chain Interventions - Makassar Region</b>												
Discussion with stakeholders												
Identification and recruitment of consultants												
Initiation of fumigation trials												
International STTA training program												
Trial shipments of improved quality cocoa to US ports (TBD)												
<b>Activity 7: Broca Trap Demonstration in Toraja</b>												
Training				50								
Data collection and reporting												
Final research presentation and recommendations												
<b>Activity 8: Improve Production of Cut Flowers in Tomohon Regency</b>												
Orientation and marketing training	Dates TBD											
Training on Best Agriculture Practices												

	Oct-07	Nov-07	Dec-07	Jan-08	Feb-08	Mar-08	Apr-08	May-08	Jun-08	Jul-08	Aug-08	Sep-08
<b>Value Chain Interventions - Papua Region</b>												
<b>Activity 1: Kokonao Fish Cooperative Development</b>												
Building of ice plant facility												
Building of fiberglass canoe training facility												
Training on crab production				20	20	20	30	30	30	40	40	40
Training on fiberglass canoe building					15	15	15	15	15	15	15	15
Training on use and operation of ice plant				5	5	5						
Cooperative business management assessment												
Marketing study for seafood products												
<b>Activity 2: Moanemani Coffee Development and Marketing Activity</b>												
Coffee production baseline survey												
Organic and fair-trade certification process												
Remodeling coffee-processing facility												
Provision of new coffee-processing equipment												
Training on coffee harvesting and processing				50	50	50	50	50	50	50	50	50
<b>Activity 3: Wamena Coffee Development and Marketing Activity</b>												
Coffee production baseline survey												
Organic and fair-trade certification process												

	Oct-07	Nov-07	Dec-07	Jan-08	Feb-08	Mar-08	Apr-08	May-08	Jun-08	Jul-08	Aug-08	Sep-08
<b><i>Value Chain Interventions - Papua Region</i></b>												
Remodeling coffee-processing facility												
Provision of new coffee-processing equipment												
Training on coffee harvesting and processing				250	250	250	250	250	250	250	250	250
<b>Activity 4: Agimuga Agriculture Development and Marketing Activity</b>												
New assessment of village needs												
Delivery of rice equipment												
Technical assistance on rice-production and processing												
Technical assistance on swine-production												
Training on rice and swine production							50	50	50	50	50	50