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“Helping Indonesia to Grow”

AMARTA
Annual Report of Project Activities and Achievements
2008

Project Management

Monitoring and Evaluation

The following progress was made against the nine indicators that have been approved by USAID:

1a. Number of additional hectares under improved technologies or management practices

In 2008, AMARTA added **43,796 hectares** under improved technologies through implementation of value chain interventions.

1b. Number of additional units of animals, fish, and other aquaculture products under improved technologies or management practices

In 2008, AMARTA added **41,268 units** under improved technologies through implementation of value chain interventions.

2. Number of producer organizations, water users associations, trade and business associations, and community-based organizations (CBOs) receiving USG assistance

In 2008, AMARTA assisted **1,711 associations** and farmer groups through implementation of value chain interventions.

3. Number of agriculture related firms benefiting directly from USG supported interventions

In 2008, AMARTA implemented activities in new partnership with **111 agriculture firms**.

4. Number of individuals who have received USG supported short term agricultural sector productivity training

AMARTA conducts training programs to provide knowledge on best agricultural practices in an effort to improve local farmer's harvesting capacity and to meet international standards. In 2008, **60,712 farmers (50,293 men (83%) and 10,419 women (17%))** participated in agribusiness trainings.

The training has resulted in improved overall yields and post harvest handling practices, increased quality, and increased sales for farmers as illustrated in many sections of this report.

5. Percent change in value of international exports of targeted agricultural commodities as a result of USG assistance

The following exporters reported significant increases in export values compared to last year's sales, exports totaled **\$43,587,915**:

Coffee Aceh, PT. Gajah Mountain Coffee; export value increased **100%** or \$598,931

Coffee, CV Lion Lestari; export value increased **100%** or \$114,750

Cocoa Bali, PT. Big Tree Farms; export value increased **100%** or \$174,884

Cocoa South & Southeast Sulawesi, PT. Olam Indonesia; export increased **100%** or \$17,121,351 compared to last year

Cocoa West Sulawesi, UD Tunas Jaya; export increased **100%** or \$20,855,547

Cocoa South Sulawesi, Palopo and Luwu District, PT. JBP Armajaro; exports increased **100%** or \$4,577,914 compared to last year

Seaweed; export value increased **100%** or \$144,538

6. Percent change in value of purchases from smallholders of targeted commodities as a result of USG assistance

Impacts of USG assistance have produced additional positive results in the value of purchases from smallholders compared to last year's purchases. Purchases from smallholders for 2008 totaled **\$39,764,926**:

Coffee Aceh, PT. Gajah Mountain Coffee; value of purchases increased **100%** or \$546,651

Coffee, CV Lion Lestari; value of purchases increased **100%** or \$17,992

Cocoa Bali, PT. Big Tree Farms; value of purchases increased **100%** or \$224,296

Cocoa South & Southeast Sulawesi, PT. Olam Indonesia; value of purchases increased **100%** or \$15,742,684

Cocoa West Sulawesi, UD Tunas Jaya; value of purchases increased **100%** or \$18,889,643

Cocoa South Sulawesi, Palopo and Luwu District, PT. JBP Armajaro; value of purchases increased **100%** or \$4,141,139

Seaweed in Gorontalo; value of purchases increased **100%** or \$91,421

Aquaculture in Aceh; value of purchases increased **100%** or \$4,615

Flowers in Berastagi; value of purchases increased **100%** or \$777

7. Number of new technologies or management practices made available for transfer as a result of USG assistance

In 2008, AMARTA activities have introduced **143 new technologies** or management practices available for transfer to farmers.

8. Number of additional surveillance and/or control systems in place for agricultural threats

In 2008, AMARTA added introduced **18 surveillances and/or control systems** that serve to detect and/or protect crops from harm.

9. Number of public private partnerships formed as a result of USG assistance

In 2008, AMARTA established **18 public private partnerships** to enhance agribusiness interventions.

AMARTA Grants Program

AMARTA continued managing 9 active grants and established the following 12 new grants:

- Specialty Coffee in Wamena, Papua- awarded January 9, 2008; \$ 73,944
- Grouper Value Chain (Nursery Rehabilitation) in Flores- awarded January 9, 2008; \$55,000
- Coffee Value Chain Support in Wamena, Papua- awarded January 14, 2008; \$47,370
- Specialty Coffee in Moanemani, Papua- awarded January 15, 2008; \$64,500
- Coffee Value Chain Support in Moanemani, Papua- awarded January 15, 2008; \$31,230
- Rehabilitation and Development of High Value Prawns in Aceh- awarded January 23, 2008; \$96,698
- Improving Rice Production in Agimuga, Papua- awarded March 27, 2008; \$61,911
- Improving Swine Production in Agimuga, Papua- awarded March 27, 2008, \$59,333
- Coffee Association Capacity Building, partnership with the Specialty Coffee Association of Indonesia (SCAI)- awarded March 27, 2008, \$22,900
- Rehabilitation and Development of Sustainable High Value Prawn Production in Aceh-Phase II, awarded July 10, 2008; \$14,120
- Supporting the Fishery Value Chain in Kokonao, Papua-Phase II- awarded July 21, 2008, \$28,917

- Developing Market Linkages for Farmers in West Java Through CV Bimandiri's Supply Chain- awarded October 20, 2008; \$12,664



Grantee recipients in Jagara, Wamena, Papua

Partnerships and Policy Advocacy

Network and Partnership Development

Network with the Secretary General of the Ministry of Agriculture

At the request of the Directorate General of the Ministry of Agriculture, AMARTA conducted a workshop titled “AMARTA Introduced Innovation: Technology Packages, Comparative Performance, and Collaboration for the Future” in the Ministry of Agriculture’s main office on November 7th, 2008. The workshop was attended by 44 participants, including AMARTA CTO Anna Juliastuti, and other representatives from USAID and Directorate Generals within the Ministry of Agriculture. Emphasis was placed on defining successful AMARTA initiatives and soliciting government support in replicating pilot projects with financial and human resources.

Partnership with the Directorate General of Estate Crops

The Director General (DG) of Estate Crops invited AMARTA to review implementation of the MOU between the two institutions on July 14th. AMARTA was also invited to the preparatory discussion at the DG of Estate Crops office in Jakarta on July 18th, as well as the official launching of the “National Movement for Accelerating Cocoa

Production Growth and Quality Improvement” by Vice President Jusuf Kalla at the Office of the Governor of West Sulawesi in Mamuju on August 10th. AMARTA provided Vice President Kalla with cocoa program success stories, information, and training materials.

Partnership with the Directorate General of Horticulture

On September 3rd, Dr. Dimiyati reinforced the DG of Horticulture’s keen interest in collaborating with AMARTA. He was particularly interested in emphasizing the importance of activating the newly established National Horticulture Board. The DG of Horticulture will provide office space for the secretariat of the organization and asked AMARTA to provide an executive secretary.

Partnership with Union of Rubber Association in Indonesia (GAPKINDO), South and Central Kalimantan Chapter

A working agreement between AMARTA and GAPKINDO South and Central Kalimantan was drafted and signed. This document formalizes the ongoing partnership in developing rubber planting material nurseries for smallholders.

Network with the Government of North Sumatera Province

On July 21st, AMARTA conducted a meeting with Mr. Yopie S. Batubara, a senator from North Sumatera, and Mr. Syamsul Arifin, SE, Governor of North Sumatera. Mr. Batubara is interested in seeing more AMARTA involvement in organic farming, cold storage assistance to the Merek STA for citrus marketing, rubber training in Nias Island, and seaweed farming along the Sumatera coast. He thanked AMARTA for past successes and current activities, offered assistance in helping implement future activities, and arranged a meeting to see the new Governor of North Sumatera. AMARTA presented horticulture activities in the Karo, and stressed the importance of government collaboration to assist in replicating AMARTA’s pilot project demonstrations over a wider geographic area.

Network with the Ministry of Industry

AMARTA participated in the workshop on geographical indication organized by the Ministry of Industry in Jakarta, on August 4th. It was agreed that registration of geographical indication for Gayo Coffee is a top priority for Kintamani Bali Coffee- in line with the ongoing AMARTA-Specialty Coffee Association of Indonesia (SCAI) activity. AMARTA participated in a preparatory meeting with the Indonesian delegation in the ASEAN Consultancy Committee on ‘Standards and Quality of Prepared Foodstuff Products’ organized by the Ministry of Industry in Jakarta on August 8th. The discussion included AMARTA’s focus on coffee, cocoa, and horticulture products.

Collaboration with the Directorate General of Processing and Marketing Agricultural Products in Reviving the Dumai Agribusiness Terminal

AMARTA, accompanied by officials from the Directorate General of Processing and Marketing of Agricultural Products, Riau Province, the Dumai Municipality Office of Agricultural Services, and PT Pembangunan Dumai (elected management on the Dumai Agribusiness Terminal), met with the Dumai Mayor at his residence on February 27th to

discuss possible collaboration in improving and utilizing the Dumai Agribusiness Terminal. AMARTA subsequently recommended an alternative design in a report submitted to the Directorate General of Processing and Marketing of Agricultural Products to be distributed to the relevant users.

Collaboration with the Directorate General of Processing and Marketing Agricultural Products in Developing Cool Storage Facilities

Through a formal invitation letter written on April 9th, 2008 the Director General of Processing and Marketing of Agricultural Products invited AMARTA to participate in the 'Cool Storage Development Program' in eight provinces with a budget of Rp. 1.8 billion per province for 2008. AMARTA provided technical assistance on technology and economic designs for the facilities. As a first step, AMARTA's COP David Anderson participated as keynote speaker in the "Cool Storage Development Workshop" in Surabaya on April 28th. AMARTA presented a technical discussion entitled 'Strategy on Developing Cold Storage for Horticultural Products in Tropical Regions'. The workshop was attended by 40 participants, (5 females and 35 males), 20 of whom are government officials, and 20 members of the Indonesian Cold Chain Association.

Partnership with North Sumatera Assessment Institute of Agricultural Technology

AMARTA and the North Sumatera Assessment Institute of Agricultural Technology-Balai Pengkajian Teknologi Pertanian (BPTP) signed a working agreement in Bogor on June 30th. The two institutions have agreed to collaborate in technology trials, develop farm recommendations, demonstration plots, farmer and extension agent trainings, and technology dissemination with the government committing to provide land for research and demonstrations.

Partnership discussion with Deli Serdang Regency Office of Agricultural Services

On March 5, AMARTA met the Director of Agricultural Services, Deli Serdang Regency, North Sumatra. As a result of this initiative, collaboration in the areas of agricultural technology transfer and policy advocacy have been implemented in Deli Serdang.

Bappenas Visit to Bali Cocoa Sites

AMARTA facilitated a field visit to Bali for Bappenas to observe cocoa activities from September 17th-19th. Eka Chandra Buana and Ms. Rika of Bappenas joined Jacky Hendrawan from USAID in a series of field visits and discussions with government estate crops agents and personnel from Jambrana and Tabanan Districts. Field visits were also conducted with farmers from a number of different farmer's groups to explore training activities and progress, as well as a site visit to AMARTA grantee, Big Tree Farm's, central cocoa processing unit to learn more about the role of the private sector in the Bali cocoa program.

Regional Agribusiness Competitiveness Alliance (RACA): Establishment and Activation

Empowering the Karo Horticulture Community

The Karo Horticulture Community (MHK) is a community based organization established in Karo District, North Sumatera Province by AMARTA. The main purpose of MHK is to advocate for the Karo horticulture community during official sessions with the Karo District House of Representatives and Karo District Executive Board who will, in turn, prioritize the horticulture farmer's policy agenda in the District.

On April 9, the first public hearing was conducted at the Karo Regency House of Representatives attended by 67 people, including five media outlets. The hearing was led by Mr. Joy Harlem Sinuhaji, Director of B Commission House of Representatives. During the event, MHK presented a policy paper outlining: 'Potency, Constraints and Policy for Agriculture – Horticulture Competitiveness in Karo District'. MHK also submitted proposals to B representatives that resulted in successfully approving funding from the Public Works Agency; a project for hardening two kilometers of road to a central production site for farmers in Tanjung Barus Sub-District to be completed this year.

According to Mr. Harlem Sinuhaji: *"USAID and AMARTA have succeeded in establishing and equipping MHK and its members with a coherent policy plan. The representatives were impressed with the analysis and policy paper that helped the government resolve problems within the Karo horticulture community."*



Karo House of Representatives, at the public hearing

Deli Serdang Barangan Banana Community

After establishing the Deli Serdang Banana RACA, the permanent organization structure and officials were determined on August 11th, 2008, including three committees with 19 members chaired by Mr. Joseph Barus: 1) Technology transfer and infrastructure, 2) Input supply and financial access, and 3) Post-harvest handling, processing and marketing. AMARTA facilitated training on proposal writing and policy advocacy from September 8th-10th. AMARTA also held training for the organization, titled "Writing Proposals and Policy Memoranda" from October 21st - 23rd in the District Hall, Talun Kenas Village. The training was attended by all of the alliance members, and facilitated by a team of three instructors from the University of North Sumatera in an effort to empower leaders of the alliance in policy advocacy, particularly in asking for financial support from the government. As part of the training, participants wrote formal proposals that were reviewed and submitted to the relevant government agencies.

Partnership with the Government of Tabanan Regency

On May 23rd, AMARTA and the Tabanan Government co-hosted the official launching of the Tabanan Cocoa Community Alliance or AMARKATA (*Aliansi Masyarakat Kakao Tabanan*) for 120 people, including 40 heads of farmer's groups from Tabanan District that are currently involved in the AMARTA cocoa training program, at the Tabanan Regent Office. Through the Office of Forestry and Estate Crops Services, the Tabanan Government agreed to support AMARKATA. The Tabanan Government has revised its budget accordingly to accommodate the AMARKATA request for support. In fiscal year 2008 the Government of Tabanan provided three cocoa dryers valued at Rp. 84 million for AMARKATA. The official declaration of AMARKATA on October 27, 2008 was attended by the Vice Regent of Tabanan District, Tabanan District Forestry and Estate Crops officials, local cooperatives, and representatives of farmer organizations in the region. Wayan Suarma, the head of AMARKATA, expects that the organization will have a significant impact on government policies linked to the cocoa value chain. In addition, he also expressed his gratitude to the Forestry and Estate Crops Office of Tabanan District for accommodating the construction of solar dryers for three farmer's groups proposed by AMARKATA.

“The construction of solar dryers is very useful for farmer groups, particularly those who produce fermented cocoa beans. As proposed by AMARKATA, the government will assist farmers in using applicable methods for drying in achieving better quality. This solar dryer is a new technology for cocoa post-harvest handling and should be replicated in other places.”

Ir. Putu Budiasa, MMA- The head of Section for Plantation Product Processing, Estate Crops Services, Tabanan Regency

Jakarta Horticulture RACA

In collaboration with the Directorate General of Horticulture, AMARTA held a public-private dialogue on “The Role of a Floriculture Exporter's Association in Expanding Indonesia's Export of Horticulture Products” at the office of the Directorate General of Horticulture on February 11th, with keynote speaker Nancy Laws, an AMARTA consultant, and moderated by Dr Dimiyati, Directorate General of Horticulture. The event was attended by 40 participants representing 11 inter-ministerial agencies, 14 private companies, seven business associations, and two research institutions.

Aquaculture

Grouper Nursery and Grow Out Development in Loh Mbongi

AMARTA inaugurated a new boat in March 2008 for grantee PT. Karamba in Flores to support the distribution of fingerlings to the grouper grow-out fishing villages. Also, the old and unstable jetty (wooden dock) was replaced by a



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PT Karamba's new boat takes it's first trip at sea

new jetty with higher quality timber, allowing easier distribution of fingerlings. The hatchery and nursery rehabilitation are improving the capacity of tanks, while the electricity supply and buildings are being refurbished in order to ensure the target production of 20,000 grouper fingerlings per month is achieved. The existing hatchery grouper operation produced 7,500 fingerlings since the season started in early 2008.

Construction of six new additional concrete hatchery tanks and the nursery building, including the plumbing for both facilities, was completed, as well as new concrete live feed (rotifer) tanks. A new generator was also installed and is running properly to maintain a constant supply of electricity. The final structural work will be completed in January 2009, providing full production in order to meet the goal of producing 20,000 healthy humpback grouper fingerlings per month. PT Karamba is planning to install a new filtration system that will include a new UV system, different sizes of sand filters, and carbon active devices in order to prevent disease and virus outbreak. Ten more fiberglass nursery tanks will be produced and delivered to the facility.



New hatchery building completed



Part of the 20,000 6cm fingerlings

Village Based Net Cage Pilot Program in Warloka Village

The grouper pilot project delivered 1,800 fingerlings to Warloka Village net-cages on March 24th, to officially launch the project. Subsequently, every four months approximately 2,500 fingerlings were distributed to the village to sustain a harvest of one ton every four months. Approximately 10 selected members of Warloka Village received intensive training and have established the Warloka Mariculture Business Association. The opening ceremony was attended by local government officials, fishery service officers, national park representatives, more than 50 villagers, grantee PT Karamba, AMARTA, and USAID CTO, Rafael Jabba. The local government strongly supports the AMARTA program in developing high value aquaculture products with tremendous outside investor appeal that will provide a positive impact on local economic growth. The national park appreciated the pilot program, since it will reduce the pressure by fishermen to collect high value fish from the coral reef environment within the Komodo National Park conservation area.



**Left: Warloka Village fishermen welcome USAID and AMARTA to the newly constructed net cages
Right: AMARTA COP, David Anderson, and USAID CTO, Rafael Jabba, provide the first fingerlings to Warloka**

As of December 2008, about 3,200 fingerlings and maturing grouper fish were growing well, and 16 cages were being utilized fully. By August 2009, villagers will harvest approximately 500 fish weighing a total of 250kg with a total market value of more than \$10,000, benefiting over 400 people in Warloka. AMARTA also supported two villagers from Warloka and one staff member of PT Karamba to attend intensive grouper propagation training in Lampung, while one key staff of PT. Karamba joined a quality control management training, organized by the Directorate General of Aquaculture in Cisarua, Bogor, in order to obtain a certificate of Best Aquaculture Practices for grouper production.



Warloka Village net cages expanding production

Rehabilitating Shrimp in Aceh

In January 2008, the hatcheries laboratory in Aceh officially opened as grantee PT Windu Lestari began operations with equipment donated by AMARTA to ensure that post larvae sold to shrimp farmers in the region are pathogen free. The objective of the project is to revitalize the black tiger shrimp, a species native to Aceh. Shares in the company were issued in exchange for capital, and shareholders currently consist of hatchery owners, shrimp farmers, traders and other stakeholders. AMARTA will

provide assistance to the company, though the eventual goal is for the company to operate independently and profitably as a commercial entity.

AMARTA continued working with the grantee throughout 2008. All of the equipment, including: the PCR system, autoclave, microscope, oven, and incubator were installed, while chemicals and glassware were also provided. The two key staff members and their assistants responsible for operating the laboratory were trained by the vendor on using the equipment properly, and also trained by AMARTA's aquaculture consultant on selecting appropriate samples, tests, and analysis.



The PCR installed and ready for use

On December 11th, the laboratory was officially inaugurated and opened for commercial use. The ceremony held at the laboratory was attended by local government officials, NGOs, hatchery and shrimp pond businessman, local journalists, and other stakeholders. During his opening speech, Mr. Razuardi a representative from the Bireuen Bupati's office mentioned that this laboratory and its services will be a valuable local economic resource since the region has at least 5,000 hectares of productive shrimp ponds. The local government also emphasized their commitment to support the rehabilitation of aquaculture in the area. PT Aceh Windu Lestari also provided one hatchery facility as an in-kind contribution that was renovated into a quarantine station; this new facility will provide high value overall support to the project.



The new laboratory opens for business



Tour of the quarantine center provided by the grantee

Livestock

AMARTA grantee Puskud NTT provides training and technical assistance to 20 participating farmer's groups in West Timor who are engaged in cattle breeding activities. Due to the lack of breeding cattle, AMARTA provided support to purchase 300 cows distributed to 235 male farmers and 65 female farmers, and Puskud has added an additional 54 from their own funds to bring the total to 354. Through 2008, the breeding program produced a total of 63 calves, 38 are still alive and in good health (21 females and 17 males)- a 60% survival rate which is significantly higher than other programs in Indonesia according to leading experts.



A mother and new calf in Kupang, West Timor

On November 12th, AMARTA COP, David Anderson, met with the Governor of NTT, Dr. Frans Leba Raya, and explained the objectives and projects in NTT and stressed the need for replication of successful pilot projects by the government. The Governor thanked AMARTA on behalf of the community and noted that he wants to promote beef cattle in West Timor. If the AMARTA model is successful he is willing to support and extend efforts. AMARTA also met with Amirudin



AMARTA COP, David Anderson, stands with the Governor of NTT and other partners in West Timor

Pohan of BPTP, to request assistance in helping to disseminate new technology to farmers, and finally met with the Dinas in Kupang to meet with Dr. Maria Geong. Discussions included the threat of diseases impacting livestock, and AMARTA and Puskud noted that all cows are free of brucellosis and are blood tested for diseases and then vaccinated.

Secretary of the Directorate General for Livestock Services (DGLS) and the Director of Livestock Breeding Visit Beef Cattle Program in Kupang

On September 11th, the Secretary of the Directorate General for Livestock Services (DGLS), Professor Syamsul Bahri, and the Director of Livestock Breeding, Dr. Gunawan, along with other government officials, visited the beef cattle breeding program in Kupang, West Timor. After receiving a briefing and visiting the site, the Head of Dinas Peternakan NTT, Professor Syamsul Bahri promised to invite the Director General of Livestock Services to also visit Kupang, and agreed to make a video recording supporting the project that will be distributed to farmers throughout Indonesia. The Vice President of Indonesia, Mr. Josef Kalla, was also updated about the progress of the activity and planned to visit the project in 2008, however his trip was postponed. He is rescheduling for some time in 2009. Mr. Kalla told the Governor of NTT that the region needs to become the leader in livestock cattle production in Indonesia.



The delegation from DGLS, Livestock, and other officials visit the cattle program in Kupang

Bio-fuels

AMARTA continued assisting farmer's groups in the villages of Legu and Uluwae, on the island of Flores, to experiment with technologies that can substitute jatropha oil for fossil fuels. The nursery at Legu includes 456 households who produced about 75,000 jatropha seedlings that were supplemented by an additional 25,000 plants previously grown from cuttings.



Jatropha plants growing in Legu

The first harvest is expected in February 2009. Dynamos to generate electricity have been installed in each location. These will be operated on jatropha oil, as soon as a sufficient quantity of seed has been harvested. A total of 718 farmers have received training in jatropha production. These farmers, as well as others, will also receive training in the uses of jatropha oil.

The farmer's associations built small warehouses in each village, using materials provided by AMARTA. Oil expellers and manual filters have been installed, along with welding machines, and jatropha crude oil (JTO) processing machines. Production demonstrations were conducted on March 25th and 26th, attended by villagers, cooperative members, local government staff, CV. Lion Lestari, AMARTA staff, and USAID CTO Rafael Jabba. Initial tests of the machines resulted in an extraction efficiency of 25% (filtered oil volume divided by seed weight). The processed oil can produce a number of useful products including the following:

- Using jatropha oil or briquettes made from jatropha seed cake for cooking
- Lamps which can burn jatropha oil for lighting
- Production of soap from jatropha oil
- Operating a diesel engine on jatropha oil, using the dual fuel tank system where the engine is started and stopped using diesel fuel, while the rest of the time it operates on crude jatropha oil
- Using an engine running on jatropha oil to generate electricity

In April, AMARTA staff met with the Coordinator of the government's Energy Self-Sufficient Village program, also known as Desa Mandiri Energi (DME). This high profile program was launched by President Yudhoyono in 2007, with the goal of creating 1,000 energy self-sufficient villages by 2010. Legu and Uluvae are now enrolled in the program, and can apply for regional and central funding to expand their efforts. AMARTA will assist the villages in preparing proposals for future activities.



Jatropha press machines extracting oil



Villagers producing soap in Uluvae

Cocoa

AMARTA Sulawesi Kakao Alliance (ASKA) Program Basic Training Activities

The third cycle of Basic Training for 350 farmer's groups (FGs)- approximately 8,750 cocoa smallholders continued throughout 2008. The decline in productivity linked with Vascular Streak Dieback (VSD), trunk kanker, and black pod (*Phytophthora sp.*) has been so severe that production declines have dropped to below 200 kgs per ha per year in some locations. The Indonesian Government has responded by declaring a \$150-200 million, three year rehabilitation and replanting program. A specialized training program was initiated in the last week of September, with approximately 60 FGs from Mamuju receiving training in cocoa garden evaluation, analysis, and technical aspects linked with replanting and rehabilitation efforts.

In South Sulawesi, a total of 80 FGs were involved in Basic Training Cycle 3, 10 FGs from Pinrang and 70 FGs from North Luwu District. AMARTA targeted 2,000 participants in both districts. In West Sulawesi, 120 FGs comprised of 3,000 farmers participated in the ASKA program, with 60 FGs from Polewali Mandar, Polman and Mamuju District respectively. A total of 3,059 participants received training in the first and second week of September. In Southeast Sulawesi, 150 FGs or approximately 3,750 farmers participated in basic training, with 80 FGs from Kolaka and 70 FGs from North Kolaka Districts.



Cocoa clinic for women in PT Olam's buying station

Follow-Up Training Activities



A women's FG practices pruning techniques in Pinrang

After the first cycle of basic training finished in December 2007, ASKA technical assistance continued with follow-up training for 116 FGs or approximately 2,900 farmers located in three districts in South Sulawesi (Luwu, North Luwu, and Pinrang Districts), two districts in Southeast Sulawesi (Kolaka and North Kolaka) and one district of West Sulawesi (Polewali

Mandar). Implementation of the follow-up training focused on several topics including garden evaluation and cocoa tree revitalization, controlling pests and diseases, and preparing organic fertilizer and use of natural pesticides.

In South Sulawesi, 56 FGs or approximately 1,400 farmers participated in the follow-up program, 26 FGs from North Luwu, 20 FGs from Luwu, and 10 FGs from Pinrang District. Five topics were delivered to attendees. In Southeast Sulawesi, 50 FGs totaling 1,250 farmers began follow-up training activities in the province, with 40 FGs from Kolaka and 10 FGs from North Kolaka Districts. The 1,250 participants continued enthusiastically learning about cocoa garden management during the three months. In West Sulawesi, 10 FGs or about 250 farmers from Polewali Mandar District were involved in ASKA follow up training with 230 cocoa farmers participating.

SustaIndonesia Kakao Alliance (SKA) - Smallholder Training in Bali

The first cycle of SKA Basic Training was conducted for 40 FGs in Tabanan District, Bali and was completed in June, 2008. A total of 12 training topics were taught to farmers from four sub-districts (Selemadeg Barat, Selemadeg, Selemadeg Timur and Penebel). Following a positive response, SKA training was extended to Jembrana District under a second cycle of training. The training implementation involved 40 FGs including 1,000 farmers from two sub-districts, Pekutatan with six villages and Mendoyo with nine villages. The first training session included socialization and basic concepts and began on August 22nd with baseline surveys fielded during this session. Cocoa garden evaluations began in the second week of September 2008 and were attended by 1,016 participants consisting of 997 farmers, 19 village leaders from local governments, as well as local agricultural extension agents from Jembrana District. The participatory approach and interactive learning process used by AMARTA trainers encouraged farmers to implement techniques directly in their fields and share their experiences with colleagues.

“We were very glad to join in the SKA cocoa training program delivered by AMARTA. We had actually already participated in previous cocoa trainings programs but the techniques we learned from AMARTA were different. AMARTA focuses on the practical aspects on the technologies trained. Direct participation in the SKA study gardens is the best technique we have seen as we ‘learned by doing’. We also liked the current training since AMARTA field trainers invited extension workers to conduct training.”

Mr. I Gede Putera, Chairman of Langun Udiana Sari Farmer’s Group, Yeh Sumbul Village, Jembrana

LPMAK Field Visit to Bali

From October 29th-31st, 2008, AMARTA facilitated a short field visit by members of Amungme Kamoro Community Development Foundation (LPMAK), a social and economic development organization sponsored by Freeport, Timika District, Papua with the aim of learning how AMARTA trains cocoa farmers and works with the private sector. The delegation was led by John Nakiaya, Executive Secretary of LPMAK, and other members, Matheus Adadikan, Leonard Piry, Mathias Katagame, and Yohanes

Arwakon. The group visited SKA FGs in Jembrana and Tabanan Districts and hopes to provide similar agriculture training in Papua.

“Smooth cooperation among local people [FGs], the government, and AMARTA in Bali is very exciting to learn about. The program in Bali is extremely well run and improving the welfare of farmers. In the future, local people of Timika should be here to learn much more about these relationships since we hope AMARTA can replicate successes for LPMK.”

Mathias Katagame, member of LPMK

Tabanan Regent Visits Cocoa Farmers in Kolaka District, Southeast Sulawesi

In an effort to increase and strengthen the capacity of local government officials and cocoa farmers, AMARTA facilitated a comparative study tour to Kolaka District, Southeast Sulawesi. The goal was to provide information about the application of cocoa technologies recommended by AMARTA to FGs, as well as enabling direct observation of the cocoa production systems and introducing the partnership between PT Olam Indonesia and local farmers. Twelve participants, including: The Regent of Tabanan, Mr. N. Adi Wiryaama, the Secretary of Tabanan, Head of Estate Crops, Head of Development Planning Board, agricultural extension workers, and cocoa farmers attended the study tour from November 13th-16th. Listening to Sulawesi farmer’s experiences convinced the Regent to adopt new technologies introduced by AMARTA, such as: Side grafting and pruning techniques, sanitation, propagation techniques, and usage of solar dryers that will be extensively developed in Tabanan District.

“This is the first time I practiced pruning cocoa trees and I will now prune my own cocoa trees in Tabanan and show farmers how to control diseases and improve production. The lessons I learned in Sulawesi will assuredly help improve cocoa in Tabanan.”

N. Adi Wiryatama, Regent of Tabanan

Solar dryers and farmer study gardens

Solar dryer training and construction continued to extend and develop in other ASKA program locations, though with a range of different modifications including size, design, and material used. Seventy eight solar dryers have been erected across eight districts of South, Southeast, and West Sulawesi, 56 of which were replicated by cocoa farmers of Kolaka District,



A farmer spreads cocoa in a solar dryer in Kolaka

Southeast Sulawesi. Following positive response and feedback from farmers and stakeholders, recently AMARTA supported 50 solar dryers for 30 FGs in Polewali Mandar and North Luwu, and 20 solar dryers for groups in North Kolaka.

Overview ASKA farmers daily data tracking results

Daily data tracking of farmers assisted continued throughout 2008 in monitoring cocoa farmer's achievement in production, quality, and income per individual. A total of 320 randomly selected farmers from all the FGs of Cycles 1 and 2 provided information on selling dried cocoa beans to exporters or local traders between January and August 2008. Daily data tracking results showed improvements after intensive basic training for six months, including:

- Improved access to market – By August 2008, a total of 72% of farmers accessed export markets compared with 7% in June 2007.
- Increased Production - 44% in West Sulawesi, 37% in South Sulawesi, and 27% of farmers in Southeast Sulawesi have increased production in 2008 compared to 2007.
- Improved Cocoa Quality - 48% of farmers are now achieving appropriate bean count, 35% moisture content, 47% waste, and 40% mould according to various export based quality standards.
- Improved price per kg – There was a significant trend for farmers receiving a higher price when selling to exporters. On average, the total increase in price across the eight month period was Rp. 4,768 per kg, however for those farmers who initially sold to local traders and then changed to sell to exporters the average increase in price per kg was Rp. 5,624- a premium of between 20-26% directly linked to improved quality of cocoa, market access, and price transparency.



Farmers selling cocoa to an exporter

Training Films Receive Praise

Positive responses and feedback for cocoa garden management and appropriate post harvest handling training VCDs have been received, not only from AMARTA targeted smallholders, but also national, provincial, and district estate crops officials. In addition, AMARTA partners like PT Olam Indonesia, UD Tunas Jaya, and PT JBP Armajaro, and research institutes have responded favorably to the smallholder films. Following the widespread positive response and tied with the increasing severity of the crisis currently affecting the Sulawesi cocoa sector, AMARTA has produced a technical package and approach to the massive challenge facing the industry in the form of rehabilitation or replanting. An important contribution will be the production of a second film series which focuses on cocoa garden evaluation, rehabilitation, and replanting. The video will be completed and distributed in 2009.

“Success to the AMARTA-Kolaka team who has trained 3,000 cocoa farmers from 120 farmer’s groups and is planning to train 2,000 more farmers in follow-up trainings. The intensive trainings from AMARTA bring optimum benefits for our farmers, such as improved on farm management, improved access to export markets, and cocoa bean quality, which in the end will improve farmer’s income.

Ir. M. Kasim Madaria, The Head of Kolaka Estate Crops

Vascular Streak Dieback (VSD) technical meeting

On June 25th, AMARTA facilitated a technical meeting on the issue of Vascular Streak Dieback (*Oncobasidium theobromae*) which has recently increased dramatically in cocoa gardens, particularly in West Sulawesi. AMARTA organized the meeting with national and international experts. The event was attended by the Director of the Indonesian Coffee Cocoa Research Institutes (ICCRI) and a strong contingent of cocoa experts, technical experts from the Australian Center for International Agricultural Research (ACIAR), including Professor Philip Keane, David Guest, and Peter McMahon, national and provincial crop estate department representatives (Jakarta, South, West and Southeast Sulawesi), and ASKA private sector partners PT Olam Indonesia and PT JBP-Armajaro who provided an overview of the industry perspective on declining productivity and quality. As a result of the event, a number of short, medium, and long term strategies were proposed by ACIAR and ICCRI to assist farmers, including regular pruning of VSD affected trees, organic fertilizing, and ensuring the availability of shade trees.

ASKA and SKA Relations with Government Agencies

As the ASKA and SKA programs continue to evolve, government agencies are becoming increasingly interested in strategies, materials, and new technology being developed. In addition to the close collaboration with ICCRI as a fundamental component to support government relations, numerous district and sub-district extension agents frequently attend ASKA and SKA training to provide support. AMARTA field coordinators also routinely conduct monthly coordination meetings with district counterparts and district agencies who are responsive to replicating ASKA/SKA initiatives. AMARTA has-

through its ongoing efforts to liaise with government extension services- also invited extension personnel to internal training and training-of-trainers activities.

The Mamuju District government has been extremely supportive and interested in sponsoring and replicating the AMARTA replanting program for cocoa farmers. District government agencies have proposed that 40 government extension workers should be trained by AMARTA technical staff. AMARTA has already shared training materials, training implementation modules, budgets and other background materials with district agency staff to assist in developing 2009-2010 district cocoa initiatives. AMARTA personnel from both Makassar and Bali have also conducted discussions and coordination efforts with Tabanan and Jembrana District agencies with positive responses from both district agencies.

BAPPENAS Field Visit to Bali

From September 17th-19th, AMARTA welcomed a contingency from BAPPENAS during a field trip to Bali to observe cocoa activities. Eka Chandra Buana and Ms. Rika of Bappenas joined Jacky Hendrawan from USAID in discussions with government estate crops agents and personnel from Jembrana and Tabanan Districts. Field visits were also conducted with farmers from a number of different FGs to explore training activities and progress, as well as a site visit to AMARTA grantee, Big Tree Farm's, central cocoa processing unit to learn more about the role of the private sector in the program.



Sutarmi, a 33 year old coca farmer, has increased her income by 70% since joining ASKA and learning advanced technologies



Bapak Sappe is a 43 year old farmer, one of 4,179 cocoa farmers in South East Sulawesi, who attended the Solar Dryer Training. Mr. Sappe and other members of his farmers group built a solar dryer together and AMARTA provided the plastic. Normally during the rainy season, farmers have to dry the cocoa for one week under the sun in order to get dry beans with lower than 8% moisture, though with solar drying it only takes four to five days. Mr. Sappe noted, *“Last year during the rainy season I sold my cocoa beans to local traders for only 5,000 Rupiah [\$0.50] per kg, but now that I’m using a solar dryer I can sell my beans to PT OLAM for 22,00 Rupiah [\$2.20] per kg. I am very happy! I never got a higher price for my beans in my life. My friends and I want to thank USAID/AMARTA.”*

Coffee

Arabica Coffee

AMARTA supported the establishment of a national trade association: The Specialty Coffee Association of Indonesia (SCAI), which was launched on February 12, 2008 at an event attended by more than 70 Arabica coffee farmers, exporters and retailers. The organization now has 56 members from all segments of the industry. The largest segment continues to be exporters, followed by farmer’s cooperatives and retailers. The seven coffee cooperatives that have joined the association represent 8,050 members. SCAI members export or roast 50% of Indonesia’s total Arabica coffee, worth over \$100 million per year.

An important goal of SCAI is to continue increasing the quality of Indonesia’s Arabica coffee. In addition to physical attributes like absence of defects and good flavor, traceability is a key component of quality. Importers are willing to pay more for coffee if they can be sure of its origin. To increase traceability, SCAI is working in three areas, with financial and technical support from AMARTA:

1. Educating coffee farmers, government staff and the private sector about Indonesia’s new Geographical Indications (G.I.) law
2. Developing maps of all the Arabica production regions in Indonesia
3. Producing “Type” samples of coffee from each region to educate importers and roasters about the flavors of coffee from different origins

In recognition of its role in the development of G.I.s, SCAI was asked to present its activities at a meeting organized by the Directorate General for Intellectual Property Rights and the World Intellectual Property Organization (WIPO), which took place in Bali from December 10th to 13th. One hundred and fifty two people attended this workshop, including many high ranking government staff from Bali and Jakarta.

SCAI also completed its first activity- training 46 industry members in coffee “cupping” in Jakarta and Medan. These trainings, introduced the new Q-cup grading system that has been developed by the Coffee Quality Institute. Worldwide, the specialty coffee industry has adopted the Q-Cup system to measure the quality of specialty coffee. This system, developed by the Coffee Quality Institute (CQI), exists in every major coffee

consuming and producing country in the world, except Indonesia. To rectify this constraint to competitiveness, AMARTA and SCAI organized a series of coffee quality trainings for the staff of SCAI members. Ultimately, 24 members of SCAI completed the Q-Grader certification course. This intensive course, which was the first in Indonesia, covered all aspects of evaluating coffee quality, including taste, smell, and appearance. To become licensed, participants had to pass 22 separate tests. Worldwide, the average pass rate for this course is less than 50%. In the Indonesian course however, 100% of participants passed and they now join the 518 other Q-Graders in the world.



The 22 newly certified Q-cuppers display their certificates

Attending the Specialty Coffee Association Annual Trade Show

A delegation from SCAI attended the Specialty Coffee Association of America (SCAA) trade show and conference in Minneapolis, Minnesota between May 2nd and 5th, 2008. More than 7,300 people attended, making it the most important event in the industry. AMARTA's support allowed SCAI to rent an exhibition booth and send a delegation of four members to represent the association. Members sponsored by AMARTA were joined by other SCAI members, who traveled with funding from the Association of Indonesian Coffee Exporters (AEKI) or their own funding. Brochures about Indonesia's Arabica coffee and the association's activities were distributed to more than 1,500 visitors to the booth. Highlights of the event included a strong showing at the Cup of the Year sampling competition as coffee samples submitted by SCAI members were ranked 3rd, 5th and 6th among all the samples submitted from the Pacific, Asia and Hawaii. In addition, a number of key contacts were made with potential buyers.

International Buyers Visit Coffee Centers

In November, SCAI hosted a visit for five coffee importers from the U.S. and Europe. These buyers traveled to Lake Toba, Takengon and Toraja, visiting SCAI members in each area. These buyers are interested in working with Indonesian cooperatives and exporters to improve quality, and are currently finalizing significant export orders.



Geoffrey Watts from the U.S. sampling parchment coffee in Toraja, Sulawesi

AMARTA Coffee Grantees

During 2008, PT Gajah Mountain Coffee (GMC) purchased 161 tons of coffee from the Gayo Mountain Cooperative. GMC sorted and graded the coffee using the equipment purchased under the AMARTA grant. The company exported a total value of \$598,931. Grantee CV Lion Lestari purchased \$105,678 of coffee from cooperative members and exported 40 tons with a total value of \$114,750.

Brocap trap to combat Coffee Cherry Borer

The Coffee Cherry Borer (CCB) is a major coffee pest in Indonesia. AMARTA and its partners have distributed 1,000 Broca Traps to 150 farmers in Sidikilang, Toraja and Aceh to combat the pest. Data collected by farmers in Sidikilang indicates that the traps can reduce the damage caused by this pest from 27% to 7%. Coffee beans with holes are counted as defects, and coffee with 27% defective beans would be classified as Grade 3, while coffee with 7% damage could still be sold as Grade 1. The economic impact is significant, since a reduction of two grades could reduce the contract price by 10% or cause the entire shipment to be rejected.



A coffee picker in Uluvae, Flores supplies AMARTA grantee Lion Lestari with fresh beans

High Value Horticulture

High Value Horticulture Development Program in West Java

AMARTA's Lembang Office, located at the Indonesian Vegetable Research Institute (IVEGRI) office complex was launched on April 15th, 2008. Collaboration continued throughout the year as IVEGRI is conducting trainings for farmers who are involved in AMARTA's high value horticultural activities in West Java, while contributing office facilities for AMARTA staff, post-harvest facilities, and land to be used for the trainings and on-farm demonstration plots.

Strawberry Program in Rancabali-Bandung

Efforts continued on the "Red-Ripe Strawberry" activity that began in November 2008. AMARTA trained farmers on covering strawberry plants using a thin transparent plastic sheet to protect them from damage that can reduce yields by 50%. The easy to use system covers the fruit during severe rain, and can simply be rolled up when the weather is mild. It is a simple and inexpensive technology that only costs about Rp. 1,500 per meter of strawberry planting row.

Two buyers have agreed to purchase ASGITA Red Ripe strawberries: Lotus Distribution and Amazing Farm companies who are willing to purchase the fruit at double the current market price for common strawberries, Rp. 20,000 per kg compared to Rp.10,000-essentially doubling farmer's current income.



Covering strawberry plants

The strawberry program received enthusiastic support from the Bandung Local Government, including the Regional Agricultural Service. Padjajaran University, using funding from the regency, has provided business training and cooperative management to growers. The Bandung local government also provided cold storage resources worth Rp. 130 million, plus an additional Rp. 120 million in support totaling Rp. 250 million. The Social Service Institute of Padjajaran University (LPM-UNPAD) also contributed around Rp. 50 million for the ASGITA institutional development training program. AMARTA is also working with these partners on ensuring the project is sustainable.



ASGITA cold storage facility



Bappenas, USAID, and ASGITA discuss future strategies

BAPPENAS and USAID Field Visit

From December 1st – 3rd, three staff from Bappenas chaired by Mr. Nono Sutarno, along with Ms. Dina Syarifa from USAID visited Rancabali, observing AMARTA’s “Red-Ripe” sites, as well as Dinas Pertanian and had a general discussion on the future of AMARTA-Dinas collaboration, while Ms. Syarifa also visited AMARTA’s broccoli program demonstration plots in Lembang-Bandung. Both ASGITA and Dinas Pertanian were very appreciative of AMARTA’s contribution towards Bandung horticultural development and are hoping that the AMARTA program can continue to broaden its commodity coverage.

ASGITA’s Red-Ripe Strawberry Displays

In commemoration of The World Food Day, Indonesia conducted a food and agriculture product exhibition in Bandung from December 1st-4th. Dr. Anton Apriantono, Indonesian Minister of Agriculture, visited the ASGITA display and requested that the “Red-Ripe” Strawberry program expand and consider adding processed strawberries. Similar appreciation came from Mr. Achmad Heryawan, the Governor of West Java, when he visited ASGITA’s stand as mentioned in Tribun Jabar Daily Newspaper on December 3rd.



Dr. Anton Apriantono, Minister of Agriculture, visits ASGITA’s display



BUAH STRAWBERI - Gubernur Jawa Barat Ahmad Heryawan (tengah) mengamati buah Strawberry asal Kabupaten Bandung saat meninjau stan pameran Pesta Rakyat 2008 di Sabana Budaya Garut, Jalan Tamansari, Bandung, Selasa (2/12).

Mr. Agus, one of ASGITA's Chairmen explains the "Red-Ripe" Strawberry program to the Governor of West Java

Broccoli Program in Lembang-Bandung

AMARTA continued to strengthen the 1,000 m² broccoli demonstration plot in Manoko, Lembang run by the Palmarosa-3 Farmer's Group. The produce was sold to Carrefour Supermarket through a specialized wholesaler, CV Bimandiri. The new nursery cost Rp. 9 million and helped curb the instances of club root disease caused by a virus that attacked through the root during transplanting. Utilizing 30 total plots, farmers generated Rp. 15 million in revenue with production costs of Rp. 8.1million; leaving a profit of Rp. 6.9 million and providing a compelling case for the new technology since the nursery house lasts for three years. The nursery house also provides the Palmarosa-3 Farmer's Group with the opportunity to provide high quality seeds. It can sell 3,000 broccoli plants- enough to grow 1,000 m² – including replacement seed for Rp. 500,000.

Bimandiri Pack-House Expansion in Garut

Anticipating the widely held belief that Garut will become a major vegetable production area replacing Lembang, Bimandiri Company is expanding its pack-house in Garut. AMARTA is supporting this effort by providing a grant for establishing a pack-house and renovating grading equipment. This activity started in December 2008 and is scheduled



Bimandiri pack-house before renovation...



....and after renovation

to be completed by February 2009. The expansion is expected to increase Bimandiri's procurement from local farmers from the current 2.5 tons to 6.5 tons per day within three years and, more importantly, link more small farmers into the high value urban markets.

Post-Harvest Training with IVEGRI and the Indonesian Retail Association

Vegetable perishability can lead to high price fluctuations over a very short period of time, dramatically impacting farmer's income. It is reported that in developing countries product loss due to post-harvest handling is as high as 30-40%. In order to address this issue, AMARTA and the Indonesian Vegetable Research Institute (IVEGRI) in collaboration with the Indonesian Retail Association (APRINDO) conducted a two day workshop on fresh vegetable handling utilizing supermarket procurement quality practices. APRINDO trained farmers in wrapping techniques to match supermarket standards, as well as providing insight into sorting and grading. IVEGRI also introduced sterilization equipment, designed by the Indonesian Science Institute (LIPI). This equipment can kill bacteria and reduce pesticide residue, using ozone gas. The event provided farmer's with an understanding of quality demands required by the local market.



Sterilization equipment



Wrapping technique training provided by supermarket staff

Establishing the West Java Agribusiness Action Group (WJAAG)

The formation of the West Java Agribusiness Action Group (WJAAG) is a result of complaints by growers, agribusiness stakeholders, and government officials that there is insufficient exchange of communication and information regarding agribusiness opportunities and challenges. The information and communication gaps include a lack of crop production mapping, prices, business opportunities, access to financial services, and government advocacy support to develop a strengthened enabling environment. AMARTA is collaborating with Padjadjaran University's Social Service Institute who invests in-kind support by providing a meeting room, equipment, and staff for organizing events, while AMARTA contributes technical assistance and other resources.

After a series of meetings it was agreed that the WJAAG will conduct discussions every month with a focus on different agribusiness topics. It was also suggested by the founding members that WJAAG should focus on credit for agribusiness as a key goal. In January 2009, WJAAG will invite experts and practitioners on credit to present options for farmers.

Increasing Karo Citrus Farmers Capacity Through Sustainability Training

A total of 2,768 farmers from 33 villages received follow-up training at the citrus field schools in Barus Jahe, Tiga Panah, Berastagi, Kabanjahe, and Munthe with a total of 2,005 male farmers and 763 female farmers participating. As a result of the ongoing technical assistance, AMARTA's evaluation determined field production increased 9.5 tons per ha and increased farmer's income by an average of Rp. 28.5 million per ha, or Rp. 3,000 per kg. In addition, collaboration between farmer's groups (FGs) has helped establish seven new branches of the Indonesian Citrus Society and Bukit Maju Bersama Citrus Cooperative (KSU MJI). The new cooperative is developing capacity to facilitate the sale of high quality production supplies, while also providing consulting services to farmers on good agriculture practices, such as: Managing soil, controlling pest and diseases, and preparing organic fertilizer. The cooperative anticipates earning between Rp. 1-3 million per day in revenue. AMARTA and KSU MJI are in the process of securing a loan from Bank Mandiri in Medan to increase working capital for distribution to cooperative branches in each village where it is active.



Female farmers discuss citrus practices during training

1st and 2nd Cycle of Citrus Training of Trainers (TOT) in Karo Regency

In conjunction with the Indonesian Citrus Society of North Sumatera, AMARTA conducted the first and second cycle basic training of trainers (TOT) from October 27th-30th for 35 participants. Efforts continued with the second cycle from November 24th-27th where 30 participants learned skills in order to provide additional assistance to local FGs on the following topics: Identifying and correcting soil problems, controlling pests and diseases, pruning trees and fruit, creating organic fertilizer, and post harvest handling. A total of 91 FGs participated, including 1,242 (77%) male and 378 (23%) female. The participants trained and encouraged other farmers by sharing their successes in implementing good agriculture practices (GAP). AMARTA has achieved tremendous success in citrus production, increasing quality, income, and yields, as well as rejuvenating once barren land in North Sumatera.



TOT participants participate in Karo Regency in the class and in the field

A Standard Operating Procedure (SOP) Manual was provided, and citrus training conducted throughout 2008. In Kabanjahe, 1,099 citrus farmers were trained by AMARTA partner Indonesia Citrus Society (MJI). Trainees included 282 females (26%) and 817 males (74%), covering 855 hectares of land from 12 villages and six Sub-districts. The training covered: fertilizing, pest and disease control with biological stem and chemical techniques, tree pruning, and thinning. In addition to the training, AMARTA facilitated the establishment of 10 business cooperatives in 10 villages.

“It’s more than I expected, I am motivated to tend to my orchard, and I believe in one year my citrus trees will have normal production again.”

Mr. Ngamanken Pelawi, citrus farmer from Karo District who nearly abandoned his orchard after four years of declining production and losses of Rp 42,000,000

Transforming the Berastagi Carrot Farmer’s Group into the Karo Carrot Agribusiness Association

AMARTA continued providing training and technical assistance for 150 carrot farmers from five carrot FGs on production techniques in Berestagi. The villages of Merdeka, Basam, Sukadame, Singa and Gongsol- covering 37 ha of fields- have seen dramatic improvements resulting in increased yields from 1,500 kg per ha up to 3,000 kg per ha, and prices increased from Rp 1,000 per kg up to 1,500 per kg. The overall impact was based on selecting improved seed, better soil, and using organic fertilizer. On



AMARTA’s carrot demonstration plot in North Sumatera with a rich harvest

November 11th, Berastagi carrot FGs established the Karo Carrot Agribusiness Association, a cooperative that will continue to collaborate with AMARTA for the remaining nine months of activities, and continue supporting members well beyond that time, based on reinvesting profits into the organization. One critical objective is promoting local carrot varieties to compete with imported carrots from China.

Training on Best Practices for Bananas in Deli Serdang District

AMARTA continued training farmers, government extension agents, university students, and Government Agriculture Research Station representatives (BPTP). AMARTA has trained a total of 603 male and 186 female farmers in six villages, in addition to eight students, 19 government extension workers, and five government researches. Fifteen of the top students were selected to disseminate the training in their respective villages.

Harvesting AMARTA's Double Row Demonstration Plots in Deli Serdang

Beginning in October 2008, AMARTA's double row demonstration plot in Negara, Kuta Jurung and Biru-biru produced a total yield in Negara Village of 288 bunches with 1,800 hands, sold at Rp. 4,500 per hand. The plot in Kuta Jurung Village harvested 184 bunches with 1,086 hands, sold at Rp. 5,000 per hand, while Biru-biru harvested 43 bunches with 220 hands, sold at Rp. 4,500 per hand. Compared with traditional growing practices where farmers only produced 250 bunches per 1,000 population, AMARTA's demonstration plot doubled production to 2,000 bunches per ha, increasing yields by 100% due to higher density of planting and implementing good agriculture practices.



Harvesting and transporting bananas in Biru-biru

Banana Packing House Completed

AMARTA completed a banana packing facility in Tiga Juhar Village, North Sumatera in May. The facility will help improve the quality of shipments and improve efficiency for farmers by decreasing the time required to package and distribute to market. The packing plant is 5 x 12 meters and located next to the main road in STM Hulu Sub-district, Deli Serdang District. The village harvests approximately 7,000 hands per month. Additional pack houses will be constructed at Negara, Talun Kenas, Kuta Jurung, and Biru-Biru. There are more than 30 hectares of land and approximately 170 banana growers growing Lacatan banana in Tiga Juhar Village.



The banana packing house in Tig Juhar during construction...

.....and after

A vital component of the AMARTA program is to provide advanced technology to farmers and government officials in an effort to replicate successful interventions. Developing the capacity of local beneficiaries, who in turn, transfer that knowledge to others, provides sustainable and far reaching consequences- particularly when projects become institutionalized through government agencies.

In an effort to build local capacity, AMARTA invited a host of participants including the Assessment Institute for Agricultural Technology (BPTP) in Medan- a government agency- to a seminar in Medan in July 2007. The seminar introduced double row banana planting technology to all of the participants, including Mr. Besman Napitupulu, one of BPTP's Department Managers.

As a result of the training, Mr. Napitupulu adopted the double row technology and planted Lankantan bananas in Talun Kenas at BPTP's demonstration plot. According to Mr. Besman *"The double row system adopted by BPTP from USAID/AMARTA will improve the banana production up to 80% compared to the system currently available. The system in place has only produced 1,100 to 1,300 banana trees per hectare, however by implementing the double row system yields can increase up to 2,000 to 2,200 banana trees per hectare."*



Mr. Besman Napitupulu of BPTP demonstrates a fertilizing technique on banana trunks at the Talun Kenas demonstration plot

Floriculture

Prototype Greenhouses Provide Flexibility to Meet Demand

Chrysanthemums are one of the most popular flowers to be used as decorations in parties and ceremonies in residences, hotels, restaurants and other public places. Many farmers in Berastagi, especially in Raya Village, Karo Regency, North Sumatera have cultivated chrysanthemums traditionally, making them highly dependent on climate and weather that is not always conducive to quality production. To resolve this issue, AMARTA provided training for 128 farmers, and constructed a greenhouse prototype that incorporates irrigation and light control systems. Chrysanthemums will bloom two months after planting, and in order to ensure a simultaneous harvest, additional lighting is required to imitate daylight.



Chrysanthemums blooming after only two months

Chrysanthemum Farmers Field Day in Berastagi

AMARTA's objective in floriculture is to establish commercial quality cut chrysanthemums grown in greenhouses in Berastagi, North Sumatera. The greenhouse models show farmers first-hand proper cultivation techniques. AMARTA beneficiaries harvested all of the chrysanthemums at the greenhouse demonstration plot and sold the entire supply within minutes at Rp 3,000 per stem or Rp. 30,000 per bunch of 10 stems, Rp 21,000 more than the Rp 9,000 per bunch predicted in the feasibility study-



STTA Benny Tjia meets with female participants during the Farmer's Field Day

approximately the same price farmers receive for their crop in Java. Farmers are now convinced that they can recoup their investment within 8-9 months, after two growing cycles, by growing in simple bamboo and plastic houses. The major obstacle for these low income farmers is generating Rp 4-5 million to purchase UV plastic. AMARTA is exploring opportunities with the farmers to expand the project and address abundant markets in Aceh, Medan, Palembang, and even in Batam.



The greenhouse in Karo District, North Sumatera during construction...

.....and after

Replanting Chrysanthemums Cuttings in AMARTA's Prototype Greenhouse in Berastagi

After completing the chrysanthemum field day in September 2008, where participating FGs netted Rp. 5 million in profit selling all of the flowers in one day, the farmers planted new seedlings for the second season on October 15th. The profits were reinvested in replanting new varieties delivered from Bogor. AMARTA STTA, Benny Tjia, also donated 5,952 cuttings for the project. All of the new varieties were planted in pots providing a critical opportunity to reuse the high quality cuttings in future seasons. In addition to traditional cut flowers, AMARTA has also introduced chrysanthemums in pots and several new leafy flowers, which are new to Berastagi flower markets and will differentiate their products from competitors.



Potted planting material being prepared by trainees

Rubber

Clone Purification and Certified Budwood Gardens Provide Improved Planting Material in South Kalimantan

Between November 18th-24th, AMARTA's clonal nursery rubber component, in collaboration with the Indonesian Rubber Research Institute (IRRI) Getas, facilitated clonal purification of 1.5 hectares including 10,128 rubber trees in smallholder nurseries

at Bentok Darat, Kait-kait Lama, Kait-kait Baru and Martadah Villages, South Kalimantan. AMARTA, Bridgestone, and the provincial estate crops agencies have been working together on this pilot project to help smallholders develop rubber nursery businesses provide high quality clonal materials in the market, for which there is great demand. As a result of this clonal purification process, smallholder rubber nurseries have an average purity of 96.5%. Based on the IRRI Getas's experience, this result is the highest clonal purity that has ever been produced in inexperienced nurseries. This is a great success and ultimately impacts the demand for rubber throughout the region. The results are superior to a private run estate in Central Kalimantan as graded by IRRI Getas, an astounding feat considering the resources and capacity of the farmers.



IRRI Getas at the Sutijab budwood garden

Market Access for Rubber Planting Material in South Kalimantan



Mr. Sutarjo, the head of Karya Mufakat FG monitors planting material

Karya Mufakat, a farmer's group from Bentok Darat Village supported by AMARTA, has been selling their rubber planting materials to GAPKINDO since May 2008. In November 2008, they provided 10,000 rubber planting materials in polybags ordered by GAPKINDO, and sold 75,000 budded stumps at a price of Rp. 1,100 per unit. In addition, they signed a contract with PT DAI SALUM, the winner of the Government of Indonesia tender to supply 25,000 units of rubber planting materials.

Tapping Technique Training Increasing Rubber Productivity

Currently Indonesia is the second largest natural rubber producer in the world with 84% of the total production area managed by smallholder rubber plantations. However, rubber smallholders tend to have lower productivity and quality than estate plantations. AMARTA supported training to transfer technology from Bridgestone Kalimantan Plantation (PT BSKP) to rubber smallholders in order to increase latex productivity. As a result of this activity, farmers



Tapping training participants practice

have decreased their bark consumption, providing a longer lifespan for the trees and increasing productivity.

Certified Rubber Nurseries Produce Improved Planting Material in South Kalimantan

On July 29th, 2008 in the South Kalimantan Provincial Estate Crops Office, AMARTA and Bridgestone Kalimantan Plantation, together with the South Kalimantan Estates Crops Office, provided rubber nursery certification credentials (*Tanda Registrasi Usaha Pembibitan - TRUP*) to four farmer's groups: Sari Murni from Kait-Kait Village; Karya Mufakat from Kait-Kait Baru Village; Karya Bersama from Martadah Village; and Karya Baru from Bentok Darat Village. The event was opened by the Director of Estate Crops Services of South Kalimantan with representatives from the South and Central Kalimantan Branch of the Indonesia Rubber Association (GAPKINDO), Bridgestone Kalimantan Plantation, Greenfield Malaysia, the East Kalimantan Forestry Training Center, and other farmer's groups.



Newly certified rubber farmer's groups

"I also want to thank AMARTA and Bridgestone for facilitating TRUP certification for rubber farmers in our area and explaining the importance of clone purification. After so many years of doing things wrong, I am happy to finally be doing things right."

Mr. Sugeng, a rubber farmer from Bentok Darat Village, South Kalimantan

Contract with Gapkindo Kalselteng Provides 40,180 Trees and a Market

AMARTA and Bridgestone supported the following FGs in Kalimantan: Sari Murni, Karya Mufakat, Karya Bersama, and Karya Harapan. These FGs banded together to form a union, and on May 27th, 2008 signed a contract to produce 40,180 units of planting materials in polybags to sell directly to Gapkindo Kalselteng at a price of Rp. 2,500/polybag (\$.27). The total contract value is Rp. 100,450,000 (\$10,900). Gapkindo Kalselteng supplies rubber to eight crumb rubber factories in South and Central Kalimantan.

Coordination with South Kalimantan Local Government

On November 21st, AMARTA visited Mr. Ir. A. Yuliani, the Chief of Estate Crop Services in Tanah Laut District, who complimented ongoing efforts and noted that the AMARTA program is strongly supported by the government, particularly in clone

purification efforts and following up on the results through re-grafting and cutting impure trees.

Seaweed

AMARTA is assisting farmers to begin and expand existing seaweed production at two locations in Northern Sulawesi, Lemito in Pohuwatu District and Kwandang in North Gorontalo District. This program is implemented in conjunction with the Makassar-based NGO, SEAPlant Net, which is providing technical assistance and planting material. AMARTA and SEAPlant staff are working with 39 FGs – 15 in Kwandang, 14 in Anggrek, and 10 in Pohuwatu. The 390 farmers in these groups sold a total of 83 tons of seaweed during the reporting period, worth approximately \$83,000. Sales would have been higher; however farmers in both areas are reinvesting for the future by replanting a significant portion of their harvest. This will increase production in coming months. About two thirds of the harvest will be processed for domestic markets, with the remaining one third bound for the export markets.

Farmers in Lemito Bay have experienced crop losses due to illegal fishing. In an effort to halt this activity, 10 seaweed farmers have formed a monitoring committee called POKMASWAS, to document and report illegal fishing to the relevant government authorities. This group presented itself to the Marine and Fisheries Affairs Department (DKP) in October and received strong support. DKP promised to fund POKMASWAS operational costs in next year's budget.



A farmer removing silt from his crop in Lemito

“Growing seaweed now allows me to easily fulfill my family’s needs. For example, it has paid for my daughter’s elementary school fees and uniform.”

Mr. Kadus, seaweed farmer from Gorontalo

Papua Agriculture Development Alliance (PADA)

The Papua Agriculture Development Alliance (PADA) is a public private partnership between USAID/AMARTA and PT Freeport Indonesia bringing economic development to remote areas of Papua. AMARTA is providing technical assistance, training and grant awards for fishing activities in Kokonao, coffee development in Wamena and Moanemani, and livestock and rice in Agimuga. The goal is to work in partnership to design, implement, and assess integrated programs in sustainable agriculture and economic development in Papua for the benefit of the communities involved with the following objectives:

- Increasing revenues and jobs of Papuan communities through the development of agriculture and agribusiness
- Combining shared funding, resources, personnel and materials to ensure that development funds are used effectively and transparently to maximize the participation of local communities
- Providing demonstrations of adaptable technology through implementation of pilot projects in selected communities as agreed upon with all stakeholders
- Encouraging improvements in farming and fishing livelihoods to discourage migration from rural villages to Timika
- Creating local capacity to manage similar initiatives beyond the end of the current project

Kokonao

Ice Factory and Fish Production

The project to support the community in Kokonao, West Mimika, Papua with an ice factory culminated in the first 200 blocks of ice produced on April 24. The ice factory is now fully functional with ice production occurring eight hours per day producing 3,000 kg of ice per day, and the operation now has a full time manager from the Maria Bintang Laut Cooperative. The factory is operated by two full time technicians from the local community that received training from AMARTA.

Fishermen were previously paying Rp.15,000 to Rp. 20,000 for 15kg of ice from a Timika based ice plant, a substantial amount since they only make Rp. 30,000 for the largest fish that they sell. The Cooperative only charges Rp 12,500 per block of 15 kg ice and the affordable price enables fishermen to purchase more ice to bring with them on the water in styrofoam boxes provided by PADA.



Fishermen selling fish and buying ice at the ice factory in Kokonao

Fortunately, the price of fish in Kokonao experienced a 20% increase over previous prices as the amount paid for Baramundi fish rose from Rp. 10,000 to Rp. 12,000 per kg, while the price for mixed fish, other than Baramundi, rose from Rp. 8,000 per kg to Rp. 10,000 per kg. In October, the Cooperative spent Rp. 34,734,500 (\$3,150) to purchase fish from local fishermen in Kokonao and the surrounding villages, providing substantial income for the fishermen and their families.

In order to assure the operational reliability of the ice plant, PT Freeport Indonesia has purchased two 60 KVA diesel generators as a backup electricity supply for the plant, essentially guaranteeing a fail-safe operation. Officials from Amungme Kamoro Community Development Foundation (LPMK) have visited the Kokonao ice plant and are requesting PADA assistance to possibly replicate this pilot project in at least two more coastal villages using LPMK funding. In the past, the price of fish was determined by size or length, and not necessarily the weight of the fish. After discussions with the fishermen organized by PADA, the Cooperative decided that it would pay Rp10,000 per kg of Baramundi fish and Rp 8,000 per kg of other fish varieties. With these prices the fishermen earn more because payment is made per kilogram, and therefore they do not have to accept the flat price usually dictated by the buyers such as local businesses and traders. As a result of these activities participating fishermen have seen a dramatic increase in their daily income from Rp. 20,000 to Rp. 75,000 based on access to ice for storing their catch and selling based on weight rather than size. Over Rp 34,000,000 of income was earned by fishermen in Kokonao in 2008.



The newly established cool storage site



A happy crowd with the first blocks of ice produced

Fiberglass Boat Construction

Another focus of PADA activities in Kokonao is introducing a new method of boat construction and repair by using fiberglass material to cover the outer part of the wooden boats and canoes currently used along the Mimika River, and for making new canoes. Training was provided for 25 participants, all local men, focusing on fiberglass handling procedures and building fiberglass molds for different fiberglass objects. At the end of the training session in June participants managed to coat four boats with fiberglass material. These boats include three canoes and one medium sized boat. An



Building fiberglass molds

additional 200 kg of fiberglass materials were purchased by AMARTA and were delivered to Kokonao. The additional supplies will be used to further train local beneficiaries and support the creation of the fiberglass boat building enterprise. The goal is to encourage local villagers to open small shops and put their new skills into action, creating new jobs and another income source.



Three completed canoes

Local fishermen can now purchase a larger size fiberglass canoe 20% cheaper than an equivalent wooden canoe, and can do so on credit. The access to locally manufactured boats has already produced significant economic advantages for both buyers and sellers.

Transport Boat Construction

The body of transport boat KM Maria Bintang Laut was completed in the beginning of March and was transferred to the Cooperative. The engine, gear box, and propulsion system were installed and tested. Subsequently, the electrical system, bilge pump, and telecommunication system was installed by local workers. Ten people were trained on different systems and responsibilities in order to properly operate the boat and its equipment. The provision of this boat has solved a major impediment to regular and reliable delivery of fresh fish to the Timika market, creating more demand for this high

value fish. In addition, PADA is utilizing a local boat builder to construct a seven meter boat for use by the Agimuga community to transport products to the Timika market.



The transport boat receives the final touches in Kokonao

Soft Shell Crab Production

The soft shell crab and crab fattening site was completed in June 2008. Trade activities initiated in July, in conjunction with two days of training activities from PADA and Maria Bintang Laut Cooperative on technical procedures for the women owned soft shell crab operators. The event also provided both AMARTA and the Cooperative an idea of how many women were capable of actively participating, as well as determining the quantity of tools and equipment necessary. It is expected that the increase in production and supply of high value soft shell crab will have a significant impact on women's income, usually resulting in a higher level of savings and wiser expenditure of income.



Future crab farmer in Kokonao

Wamena

Wamena Coffee Development

On December 11th, the Estate Crops Department in Jayawijaya Regency hosted a ceremony to officially inaugurate the first shipment of 12-tons of Arabica coffee from

the Baliem Valley for export. Present at the event was the Head of Regency of Jayawijaya, the Provincial Head of the Estate Crops Department, Provincial Head of the Trade and Industry Department, The Provincial Head of the Cooperative Department, the Jayawijaya Regency Head of the Estate Crops Department, and the other government officials from the Jayawijaya Regency. The export quality coffee was purchased throughout the year by the Baliem Arabica Cooperative, supported by PADA with equipment for the processing unit in Jagara. The Estate Crops Department of the Jayawijaya Regency contributed Rp. 104,000,000 (\$9,450) to the Cooperative to help pay for transportation and coffee buying. In addition, the Department committed to provide two extension workers to help with quality control and promised to help with other administrative matters required for the export of the Arabica coffee from the town of Wamena to the port city of Jayapura. The Cooperative Department of Jayawijaya Regency provided Rp. 20,000,000 (\$1,800) to the Cooperative to run the processing unit. As a result of this initiative, the pilot project has received government funding to replicate the successful initiative, as well as a promise to continue to provide public funding for the benefit of coffee farmers throughout the Baliem Valley.



Women sorting coffee at the Jagara processing unit



Transporting coffee from the Baliem Valley even after a landslide

The supply line was established early in 2008 and three trucks continue to be used to purchase and transport coffee from collecting points throughout the Baliem Valley to the processing facility, which is producing 500kg to 1 ton of green coffee daily. PADA aims to hit the target of 36-tons of coffee exported before the end of March 2009. As a result of PADA's efforts, farmers are now generating income up to Rp. 1,875,000 per month per hectare of coffee where they previously received an average of only Rp. 400,000- an increase of 370%.

After significant quality control verification and numerous meetings with local coffee growers, 12 tons of processed green coffee was transported by air to the town of Jayapura and is currently being stored in the warehouse provided by the government, awaiting final inspection from PT. Menacom who will verify quality for Starbucks Corporation. The final approval of the quality and shipment of one container of Papua Arabica coffee is expected to take place in early 2009. The Cooperative is waiting for the next harvest season at the end of the year to continue coffee buying activities in order to fulfill the shipment of 36 tons of processed coffee to the marketplace. The processing facility at Jagara currently produces up to one ton of green coffee daily.



Ms. Lena, a PADA beneficiary, shows off her beans

The numerous successes of the AMARTA/PADA Papua coffee program were presented to the President of Indonesia, Mr. Susilo Bambang Yudhoyono, by Government of Indonesia officials. In addition, the USAID Administrator in Washington, DC received a summary of the successes during a weekly briefing in the beginning of July.



The new coffee huller machine



Learning to use the coffee grader

Moanemani

Moanemani Coffee Development

The AMARTA-PADA project collaborates with the Cooperative Santo Isidorus of the Catholic Church Diocese, to create the management system and appoint personnel to assist in the project. The Cooperative has set up the processing facility, including a new generator to run the unit and began purchasing coffee in August in different locations throughout the Kamu Valley in Moanemani, Papua. Didimus Tebay, from the Cooperative, continues working with two extension agents, conducting village-to-village coffee quality control and assisting farmers in completing organic certification. Prices paid to farmers have risen from Rp. 5,000 to Rp. 17,500 increasing income by 250%. Samples of the coffee were collected and sent to the market in November for assessment. In January 2009 the Cooperative will provide village level coffee buying and quality control training and technical assistance and begin processing stages.



A coffee farmer in Moanemani

Agimuga

Road Construction and Pig Production



Reconditioned road between Aramsolki and Kiliarma

PADA and the villagers of Agimuga were able to complete reconditioning of the 12km supply road between Aramsolki and Kiliarma and rehabilitating 2 km of road to the swine farm. Aramsolki Village is remotely located far away from other towns and villages. PADA designed a project to create sustainable farming, and eventually extend the benefits throughout the District of Agimuga in the Mimika Regency. Currently, the people of Aramsolki depend heavily on the market in the town of Timika for daily subsistence, including

purchasing rice. To reach the town of Timika, villagers have to first travel 12km by foot to the Kiliarma Village where they then board a wooden boat and travel for 8-12 hours to Timika, depending on the condition of the water tide.

Rice Production

PADA seeks to assist Aramsolki Village to become self sufficient by planting and producing their own rice for consumption and selling the excess to nearby villages and districts. In addition, the project will assist local groups by building a swine farm where they can raise pigs to sell in Timika. Two rice hullers donated by CV Lion Lestari were delivered and installed in Agimuga along with two hand tractors and one trailer provided by AMARTA. The renovation of the building for the rice processing unit was completed and a test run of the rice processing unit was conducted successfully. Rice planting continued and additional farmers have joined the initiative as five new plots have been cleared for rice planting. The rice hulling equipment has been installed and farmers in Agimuga are now able to process rice that has been sitting idle waiting for processing since the 2005 and 2006 season. Already, two tons of rice have been processed using the new equipment and has been added to the local food supply. Each farmer is now saving approximately 50% of his monthly living costs through the



PADA Coordinator, Kornel Gardner, provides rice huller training to Aramsolki women...

machinery installed by PADA. Previously, villagers were forced to purchase imported rice at Rp. 350,000 per 25 kg bag, where today they can produce 25kg of rice for only Rp. 80,000. Finally, a medium sized, four-wheel drive John Deere farm tractor was purchased by AMARTA and was delivered to Timika. Construction of a trailer to move the tractor is ongoing and will enable final transportation to Agimuga.



..... While the men receive training on operating the new small tractor

Government Coordination

The PADA program was recognized by the Governor of Papua, the Provincial Department of Agriculture, and local officials as an exemplary program promoting development of better agriculture/agribusiness livelihoods in Papua. The Governor of Papua requested that PADA present at a workshop he sponsored, in September 2008, due to the outstanding progress and results, and as proof to the different districts that there is a very successful way to work at the district and village level. The numerous successes of PADA were also presented to the President of Indonesia and to the USAID Administrator in Washington, DC during a weekly briefing in July 2008.

AMARTA-PADA also facilitated a trip for LPMK to Bali from October 29th-31st, where LPMK representatives learned how AMARTA trains cocoa farmers and works with the private sector, as well as to Flores and West Timor from November 17th-21st to see coffee, biofuels, and livestock pilot projects on those islands. LPMK was impressed with the working style and results achieved by smallholder farmers, and are interested in developing an alliance with PADA for future work in Papua.

AMARTA Progress Indicators for January 1 - December 2008

INDICATORS		Aqua culture	Natural Rubber	Cocoa	Coffee	Beef Livestock	Vegetables	Tropical Fruit & Flowers	Biofuels	Seaweed	RACA	Total
Number of additional hectares under improved technologies or management practices as a result of USG assistance	Actual 2007	-	-	4,215	-	-	-	1,137	-	-	-	5,352
	Target 2007	-	-	4,260	2,700	-	-	-	-	-	-	6,960
	Actual 2008	-	2,191	29,365	8,289	-	735	3,176	40	-	-	43,796
	Target 2008	-	500	20,100	10,313	-	550	1,630	60	-	-	33,153
Number of additional units of animal, fish and other aquaculture products under improved technologies or management practices as a result of USG assistance	Actual 2007	-	-	-	-	-	-	-	-	-	-	-
	Target 2007	-	-	-	-	100	-	-	-	-	-	100
	Actual 2008	38,200	-	-	-	339	-	-	-	2,729	-	41,268
	Target 2008	120,330	-	-	-	300	-	-	-	300	-	120,930
Number of producer organizations, water user associations, trade and business associations, and community-based organizations (CBOs) receiving USG assistance	Actual 2007	-	-	150	-	-	-	9	-	-	-	159
	Target 2007	-	-	160	-	-	-	14	-	-	-	174
	Actual 2008	5	18	900	301	16	121	204	2	15	129	1,711
	Target 2008	29	38	910	247	6	97	64	2	24	60	1,477
Number of agriculture related firms benefiting directly from USG supported interventions	Actual 2007	-	-	3	-	-	-	4	-	-	-	7
	Target 2007	4	4	7	7	4	17	17	2	2	-	64
	Actual 2008	11	10	15	20	2	16	10	1	2	24	111
	Target 2008	61	5	4	20	3	49	4	1	2	5	154
Number of individuals (men and women) who have received USG supported short-term agriculture sector productivity training	Actual 2007	-	-	10,100	-	-	957	579	-	-	-	11,636
	Target 2007	-	-	5,680	2,720	100	-	-	150	-	-	8,650
	Actual 2008	464	692	44,128	7,736	275	1,046	4,204	718	366	1,083	60,712
	Target 2008	920	595	32,000	10,100	300	3,162	1,610	2,900	600	900	53,087
Percent change in value of international exports of targeted agricultural commodities as a result of USG assistance	Actual 2007	-	-	-	-	-	-	-	-	-	-	-
	Target 2007	-	-	-	-	-	-	-	-	-	-	-
	Actual 2008	-	-	100	100	-	-	-	-	100	-	100
	Target 2008	46	10	100	100.0	-	30	20	-	50	-	51
Percent change in value of purchases from smallholders of targeted commodities as a result of USG assistance	Actual 2007	-	-	-	-	-	-	-	-	-	-	-
	Target 2007	-	-	-	-	-	-	-	-	-	-	-
	Actual 2008	100	-	100	100	-	-	100	-	100	-	100
	Target 2008	83	50	42	47	-	42	90	-	100	-	65
Number of new technologies or management practices made available for transfer as a result of USG assistance	Actual 2007	-	-	5	-	-	-	5	-	-	-	10
	Target 2007	-	-	-	-	-	-	-	-	-	-	-
	Actual 2008	24	14	25	13	1	28	29	3	6	-	143
	Target 2008	25	15	24	14	1	24	29	3	5	-	140
Number of additional surveillance and/or control systems in place for agricultural threats	Actual 2007	-	-	-	-	-	-	-	-	-	-	-
	Target 2007	-	-	-	-	-	-	-	-	-	-	-
	Actual 2008	6	2	2	3	1	-	1	-	3	-	18
	Target 2008	6	2	1	3	1	3	2	1	1	-	20
Number of public-private partnerships formed as a result of USG assistance.	Actual 2007	-	-	2	2	1	-	-	-	-	4	9
	Target 2007	-	-	-	-	-	-	-	-	-	-	-
	Actual 2008	2	3	4	4	1	2	1	1	-	-	18
	Target 2008	3	3	4	3	1	3	1	1	-	1	20