



“To the people of poor nations, we pledge to work alongside you to make your farms flourish and let clean waters flow; to nourish starved bodies and feed hungry minds. And to those nations like ours that enjoy relative plenty, we say we can no longer afford indifference to suffering outside our borders; nor can we consume the world’s resources without regard to effect. For the world has changed, and we must change with it.”

-President Barack Obama (20 January 2009)

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**A Note from AIARD’s President...**

Dear AIARD Members,

Can you imagine a more exciting and challenging time to be working in international agriculture and rural development? I simply can’t. While many of us have seen changes in our day, the combination of current factors is downright eye-popping. Not only do we have an incoming Administration that is drawing a fresh roadmap, but we also have a dire economic backdrop that will shape things for years to come, a persistent global food security crisis, and a host of new field-based concerns, solutions, innovations and methods that keep our blood pumping.

All to say, the work of AIARD couldn’t be more timely or important – and I hope you’ll continue to be an active participant in it. Our goal as a voluntary organization of stakeholders is to influence decision makers by informing policy dialogues, to learn from each other by sharing the wealth of experience and practice within our community, and to ensure that the next and diverse generation of international agricultural and rural development experts are nurtured by mentoring their enthusiasm.

So what is AIARD doing? Here’s a sample - This year’s AIARD Capitol Hill Forum – with significant support from a number of organizations - will engage the policy community in an interactive discussion about key questions facing the agricultural development community. And our Annual Conference will provide a chance for us to visit with experts about factors that contribute to food insecurity. Our popular Future Leaders program will also be an integral part of the Annual Meeting.

Plan to join us for both important events. See the AIARD website for more info on both.

Beyond these meetings, our ongoing work continues through efforts done through AIARD committees that help us build our membership, present awards to deserving colleagues, raise funds for programs, develop education materials for the development community, and communicate AIARD’s good work to the world. If you have an interest in helping on these efforts, just speak up!

I hope you’ll enjoy reading through this Newsletter - and that you’ll share it with other potential AIARD members, use it as an excuse to network with current members and, most importantly, find it helpful in your daily and important work.

Thanks,  
Hiram

Hiram Larew  
AIARD President, 2008-9

***Save the Date***

*2009 AIARD Events*

**2009 AIARD Capitol Hill Forum—A Dialog:** Advancing Agricultural Development and Addressing the Global Food Crisis -- Present and Future  
March 3, 2009  
Washington, DC  
REGISTER ONLINE at <http://aiard.org>

**2009 AIARD Annual Conference and Future Leaders Forum**  
May 31-June 3, 2009  
Washington, DC



## AIARD COMMITTEE UPDATES

To learn more about AIARD Committees, visit <http://aiard.org/about/committees.htm>. If you are interested in serving on one or more of the AIARD Committees, we encourage you to contact the respective chair/co-chair.

### **Education and Advocacy Committee (Co Chairs: Susan Schram & Lloyd Le Page)**

The Education and Advocacy Committee has been busy planning the Capitol Hill Forum, which will take place on March 3, 2009 in Washington, DC, 11:30 a.m. to 1:45 p.m., B-338 - 339, Rayburn House Office Building. The committee urges all members to mark their calendars and to plan to attend that day. We will also be contacting members very soon about helping us assure that we have a good turnout of Congressional staff. The program will feature a keynote by Christopher Delgado, Agriculture and Rural Development, World Bank. Dr. Delgado will address the topic "The Global Food Crisis and Agricultural Development: Overview of Problems and Solutions." Following that overview, he will lead a discussion of experts including Rob Paarlberg (Chicago Council on Global Affairs); Josette Lewis (USAID, Office of Agriculture); Cheryl Morden (IFAD) and Devry Boughner (Cargill). After that discussion the audience will have a chance to ask questions of the expert panel.

A subcommittee of the Education and Advocacy Committee will be revising our issue paper on international agriculture, to be distributed at the Capitol Hill Forum.

### **Awards Committee (Chair: Albert Ayeni)**

**Call for Nominations for AIARD Awards**—Members of AIARD are asked to nominate candidates for the AIARD awards for these categories: a) **Distinguished Service**, b) **Special Service**, and c) **Young Professional**. Nominations are made by submitting electronically a letter of nomination, 3-5 support letters from objective individuals, and a one-page biographical/professional statement that includes complete information for contacting the nominee. Nomination packages should be submitted to [ayeni@aesop.rutgers.edu](mailto:ayeni@aesop.rutgers.edu) by **FRIDAY MAY 01, 2009**. For a description of selection criteria for each award, visit <http://aiard.org/about/awards.htm>. In order to maintain the integrity of these awards and to meet the goals of AIARD to recognize worthy individuals, nominations will be accepted **ONLY FROM ACTIVE MEMBERS**. If you have any questions, please contact the chair of the AIARD Awards Committee, Albert Ayeni at [ayeni@aesop.rutgers.edu](mailto:ayeni@aesop.rutgers.edu); you may also call him at 732-932-9711 x211.

### **Communications Committee (Chair: Stephanie Curs)**

The Communications Committee is currently seeking a Part Time Web Content Manager (approximately 20 hours per month; \$20/hour). If you or any of your colleagues are interested in this position, please contact Stephanie Curs at [SACurs@ag.tamu.edu](mailto:SACurs@ag.tamu.edu). Additional information on the position can be found at <http://aiard.org/web.htm>

### **Finance Committee (Co-Chairs: Bob Haggarty & Ruth Mendum)**

The purpose of the AIARD Finance Committee is to: 1) advise on and periodically audit the financial affairs of the Association, and, 2) discuss, devise and suggest ways to increase and sustain AIARD revenue so that we may improve our ability to inform and promote international agriculture and rural development to a broad audience ranging from elected officials and private industry to the general public. Current activities are focused on raising funds from outside sponsors to support the 2009 Future Leaders Forum, held in conjunction with the 2009 AIARD Annual Conference May 31-June 3, 2009 to be held in Washington, DC.

### **Membership Committee (Co-Chairs: Ryan Moore & Eloise Carter)**

The Membership Committee works to build the Association's membership. It does so by *engaging* a wide and diverse array of university faculty, students, private sector representatives, government staff, NGO and *international development sector* colleagues and others who are interested in international agriculture and rural development to join the Association. The Membership Committee is seeking new, motivated, and diverse members. If you have contacts at institutions/organizations that work within agriculture and/or rural development, we would like to contact them about AIARD membership. Email Ryan Moore, [ryan.moore@ars.usda.gov](mailto:ryan.moore@ars.usda.gov)

## What AIARD is tracking...

### Lugar-Casey Global Food Security Bill (S.3529)

*A bill to authorize appropriations for fiscal years 2010 through 2014 to provide assistance to foreign countries to promote food security, to stimulate rural economies, and to improve emergency response to food crises, to amend the Foreign Assistance Act of 1961*

**Purpose:** To improve the U.S. emergency response to food crises; to establish a Global Food Security Strategy overseen by a Special Coordinator for Global Food Security; to increase resources for long-term rural development programs; and to enhance human capacity through higher education for agriculture and extension.



## The International Community Recognizes IFAD's Critical Role in Global Food Situation with Significant Funding Increase

Member states of the International Fund for Agricultural Development (IFAD) agreed to contribute \$1.2 billion to the eighth replenishment of the Fund's resources in December 2008. This funding level represents a 67 percent increase over the previous three-year replenishment period. It is also the largest contribution from IFAD Member States since the first replenishment of the Fund's resources in 1981. This substantial increase in funding, despite the current global economic downturn, confirms the international community's recognition of IFAD as a key institution in addressing increased food security issues worldwide. It is also a response to the far-reaching institutional reforms undertaken by IFAD in recent years to improve its overall development effectiveness, as well as its impact on the lives of rural poor producers and entrepreneurs.

The Department of the Treasury, which has oversight responsibility for the U.S. government's participation in IFAD, announced a provisional pledge of \$90 million. This amount represents a 67 percent increase over the U.S. contribution to IFAD's seventh replenishment and is equivalent to the increase in the overall replenishment total of 67 percent. The pledge is subject to approval by Congress and the new administration.

The \$1.2 billion in member state contributions will translate into \$3 billion in IFAD loans and grants, which will leverage additional resources from IFAD partners for a potential total of \$7.5 billion to assist poor rural people in developing countries. These resources will enable IFAD to further strengthen its response to increased global food insecurity. IFAD has been an active member of the United Nations Secretary General's High Level Task Force on the Global Food Security Crisis. In December 2008, the Task Force agreed on its workplan for 2009, which includes a strong emphasis on supporting actions at the country level. The Secretary General recently announced that the hub for the Secretariat of the High Level Task Force will be housed at IFAD headquarters in Rome, Italy.

For more information on IFAD's work, please contact:

International Fund for Agricultural Development  
North American Liaison Office  
1775 K Street, NW  
Washington, DC 20006  
202-331-9099  
[www.ifad.org](http://www.ifad.org)

Submitted by Thomas Pesek, AIARD Member

## Scientific Society Honors De Datta

By Miriam Rich  
Editor and communications  
coordinator, IPM CRSP



S.K. De Datta, administrative principal investigator for SANREM CRSP, was named a Fellow by the American Association for the Advancement of Science (AAAS) at the society's 2009 meeting.

De Datta was recognized for his contributions to global food security, the Green Revolution, and environmental stewardship in a global context. Election as a fellow is a distinction given to AAAS members by their peers. This year, 486 of the organization's 119,045 members were honored.

De Datta, associate vice president for International Affairs at Virginia Tech and director of the university's Office of International Research, Education, and Development, has led the office in the management of several multimillion-dollar grants from USAID to raise the standard of living in developing countries. Before coming to Virginia Tech in 1991, De Datta worked at the International Rice Research Institute in the Philippines. As a young agronomist there, De Datta published his research findings that a variety of rice known as IR-8 could produce 10 times the yield of conventional rice. This kind of rice was critical in the Green Revolution of the 1960s, the development that allowed agricultural production to keep pace with the population growth of that time.

Over his career, De Datta has been named Fellow of the American Society of Agronomy, the Soil Science Society of America, and the Crop Science Society of America; he has received the Norman Borlaug Award for Outstanding Contribution to Agricultural Sciences; and four years ago was presented with a citation in Manila by Philippines President Gloria Macapagal Arroyo for his contribution to the Filipino people.

AAAS is the world's largest general scientific society and publisher of the journal *Science*. Founded in 1848, the nonprofit society comprises 262 affiliated societies and academies of science.

This year's AAAS fellows were announced in the News and Notes section of *Science* on Dec. 19. The awards were presented at the AAAS annual meeting Feb. 14 in Chicago.

Click here to learn more about Dr. De Datta's work:  
<http://www.oired.vt.edu/New/Faculty/sk.htm>

2008 AIARD Capitol Hill Forum  
Agriculture: The Fuel for Sustainable Agricultural Development  
Proceedings NOW AVAILABLE

[Click HERE](#)

## Coffee Break in Colombia

By William M. Rivera, AIARD Member  
University of Maryland, College of Agriculture and Natural Resources

The National Federation of Coffee Growers of Colombia (NFCC), Colombia's largest member-owned producer cooperative, celebrated the 70<sup>th</sup> anniversary of the establishment of its National Research Center – Cenicafe. In honor of Cenicafe's anniversary, the NFCC invited scientists and scholars from various countries and international organizations to participate in a three-day seminar titled "Science and Tropical Agriculture in the 21<sup>st</sup> Century."

Of the 25 scientists who participated, three were from the University of Maryland: Dr. David A. O'Brochta, Professor, Center for Biosystems Research at the University of Maryland Biotechnology Institute; Dr. Raymond John St. Leger, Professor in the Entomology Department, Plant Sciences, and Dr. William Rivera, Professor of International Adult and Extension Education in the College of Agriculture and Natural Resources.

Dr. O'Brochta spoke on "Transgenesis and the future of this technique as a strategy for controlling insects." Dr. St. Leger addressed the issue of "Biological control agents for vegetable protection." And Dr. Rivera reviewed "Agricultural extension system reforms and the challenges ahead." Colombia's NFCC has a special relationship with the University of Maryland, with ongoing research projects relevant to the coffee industry.

The NFCC, headquartered in Colombia's capitol, Bogotá, was founded in 1927 as a form of non-profit syndicate aimed at fostering collaboration, participation and innovation in the coffee industry. It currently comprises 373,000 Colombian member coffee growers. Cenicafe, its research laboratory was established in 1938 in Chinchiná. Its agricultural extension service is a major component in its efforts to advance research and to remain a leader in the highly competitive global marketplace for coffee exports.

Internationally, Cenicafe maintains agreements with Cornell University, the University of Maryland, and institutions such as the IRD (Institute for Research on Development) in France, the Common Fund for Commodities (an inter-governmental fund established by the United Nations), CABI (a not-for-profit organization specializing in scientific publishing, research and communication) and the CIFC in Portugal. These international connections also bring the University of Maryland scientists into greater communications with colleagues from other countries and organizations. The opportunity to collaborate with NFCC is another step in our University's informational connectivity and the building of our world class university.

## USDA/FAS and World Cocoa Foundation (WCF) Norman E. Borlaug International Agricultural Science and Technology Fellowship Program

**Abu Mustapha Dadzie**, Cocoa Research Institute of Ghana, completed his fellowship visit from September 14 to November 13, 2008, at the USDA/ARS/SHRS, in Miami, Florida. His mentor was Dr. Raymond Schnell, Molecular Geneticist, Department of Plant Science, USDA-ARS- SHRS, Miami. Excerpts from his report:



### **Research work carried out during the training program:**

Factorial crosses were made in an experiment designed by personnel of CRIG to widen the genetic base for resistance to *Phytophthora* and identify parents with good combining abilities for yield and black pod resistance. The mating design included three males and 10 females. This trial was established with 25 trees per plot in six replications, giving a total of 150 trees per cross. Two crosses, (Pound 7 x P30) and (PA7 x P30), have been selected for this study. The male parent selected, P 30 belongs to the *Amelonado* group, while the female parents belong to the *Upper Amazon* group. Various traits are being recorded on a per tree basis including reaction to black pod infection under laboratory conditions.

### **The overall objectives of the study are to:**

1. Verify the identity of parents used in the existing factorial trial using SSR and SNP markers, and to use the informative markers to fingerprint their progenies to determine the fidelity of the crosses
2. Identify SNP and SSR markers linked to loci for resistance to *P. megakarya* in the two cocoa populations.
3. Develop SNP markers for black pod QTL identification and also screen for off-types.

### **Achievements:**

- Thirteen microsatellite markers have so far been used to amplify the DNA samples of the 206 accessions.
- Off-type trees in the two populations have been identified.
- Genescan eletropherogram peaks have been converted successfully into actual allele sizes to generate data for statistical analysis.

In the course of the fellowship, I had the opportunity to travel to Iowa to participate in the World Food Prize Symposium and side events organized by the Borlaug Fellows Program office of USDA. I was privileged to meet other fellows; we shared ideas and had fun together. The presentation made by some eminent scientists and other dignitaries was an eye opener. Issues addressed at the Symposium included the present world food crisis and the way to combat it, especially in the Sub-Saharan African region. I also had the privilege to meet and interact with Dr. **Norman Borlaug**. During the last week of the fellowship, WCF organized a visit to some of the leading

companies in cocoa bean storage, processing and chocolate manufacturing including Camden International Commodities Terminal LLC in New Jersey; and Blommer Chocolate, The Hershey Company and Mars Inc. in Pennsylvania. This revealed to me technologies used in the handling of cocoa beans from the warehouse to the finished product. I hope to complete the entire research by June 2009. This was made possible through a working arrangement between CRIG and USDA/ARS Miami.

**Joseph Chuks Anikwe, CRIN,** Nigeria, completed his program on *the integrated pest management of the brown cocoa mirid, Sahlbergella singularis*, from November 11 to December 22, 2008. His mentor was Dr. Aijun Zhang, USDA-ARS-Plant Science Institute, Invasive Insect Biocontrol and Behavior Laboratory, Beltsville, MD 20705.



#### Excerpts from his report:

This is the very first time that a cocoa scientist would be trained on the techniques of pheromone application in controlling mirids on cocoa in Nigeria. The specific area of integrated pest management that I focused my research activity on was done with Dr. Aijun Zhang (my mentor) who is an expert in the use of pheromones as a tool in IPM. Up till now, I am not aware of the use of pheromones on any agricultural crop in Nigeria, and certainly none has been done on the use of pheromones as an IPM tool for managing the brown cocoa mirid in Nigeria.

I joined Abu Mustapha Dadzie from Ghana and Christiant Kouebou from Cameroon at the USDA facility in Beltsville, Maryland. We were conducted around Dr. Aijun Zhang's laboratory. The Fellows gave their presentations later that same day at the conference room of the WCF in Washington DC. The day's activities peaked with the attendance of a memorial dinner in honor of Bishop John T. Walker, hosted by Africare in which President George W. Bush was present to give a speech.

The following activities were achieved within the short duration of the fellowship:

It was a rare privilege for me to be exposed to techniques and modern equipment and also to be trained by a world-class scientist. I have thereafter been given the responsibility of studying the behavioral ecology of the Brown Cocoa Mirid (BCM) in-country. Details of work to be done in-country have been spelled out and samples of volatiles to be collected as well as specimens of age-specific mirids in solvents are to be sent to my mentor for further analysis and possible detection of a pheromone for BCM. It is worthy of mention that the objectives of the Borlaug Fellowship Programme which include networking between scientists from cocoa producing countries and their US counterparts have been achieved through this fellowship.

A major technique of particular interest to me as an entomologist and which I also learned for the first time was the dissection of *Euschistus heros* to identify and extract the pheromone gland. This insect belongs to the same order (Hemiptera) and sub-order (Heteroptera) as the cocoa mirid. I was taught how to dissect the insect under microscope. GC-MS analyses were carried out and the results showed the presence of three earlier reported pheromones in the reproductive organ. Thanks to the USDA and WCF for this wonderful opportunity for research into alternative control of cocoa mirids, vis-à-vis the ban on some pesticides in my home country that left farmers with limited and ineffective methods of control of the pest.

In addition to my research activity at Beltsville other programs and meetings I attended were the roundtable meeting with cocoa scientists at the USDA, interactive session with the desk officers for Nigeria, Ghana and Cameroon at the State Department, and the biggest of all was the tour to Camden International Commodities Terminal, Barry Callebaut and The Hershey Company. The fellowship wouldn't have been a complete success without these tours. The 'bean to bar' experience was my very first and my interactions with Scientists at Hershey and staff of the other companies allowed me to identify some missing gaps and opened doors for targeted research work back in Nigeria. I therefore have the responsibility to enlighten cocoa farmers through structures such as the Farmers' Field Schools (FFS) on the need for good agricultural practices (GAP) to obtain good quality chocolate and also inform farmers of the consequences of sharp practices at the farm level. My fellowship ended with a seminar presentation of my research activities on 19th December, 2008.


The overall success of this project when completed will benefit cocoa farmers immensely because their over-dependence on synthetic pesticides with all its attendant side-effects would be greatly minimized. This will subsequently lead to increase in production of good quality cocoa.

Submitted by Bill Guyton, AIARD Member



**Did you know...**

**Dr. Norman Borlaug celebrates his 95<sup>th</sup> birthday on March 25<sup>th</sup>!**



**Happy Birthday!**

## 20 nifty potatoes facts

The International Potato Center, known by its Spanish acronym CIP, seeks to reduce poverty and achieve food security on a sustained basis in developing countries through scientific research and related activities on potato, sweet potato, other root and tuber crops, and on the improved management of natural resources in the Andes and other mountain areas. To promote of the International Year of the Potato, CIP released this list of facts and figures.

1. The potato (*Solanum tuberosum*) is one of the most important food crops in the world, with annual production of more than 300 million tons.
2. China is the world's biggest producer of potatoes, growing more than 70 million tons a year.
3. In the past 40 years, the potato has changed from a northern crop, with only 15 percent produced in the south, to one in which more than half of the world's potato production is in less-developed countries.
4. Today, more than a billion people worldwide eat potato.
5. The potato is now grown in about 125 countries and all 50 of the United States.
6. There are about 5,000 varieties of potato, mostly found in the Andes.
7. Potatoes can grow from sea level to 4,700 meters above sea level, and from Chile to Greenland.
8. One hectare of potato can yield two to four times the food value of grain crops.
9. Potatoes produce more food per unit of water than any other major crop.
10. The potato plant has attractive flowers that are five-lobed, 2 to 3 cm in diameter, and varying in color from white to deep bluish purple. Some varieties have a strong, attractive perfume.
11. Potatoes are usually grown from other potatoes called seed tubers. However, potatoes also have berries, which produce seed like any other plant.
12. The potato is a member of the nightshade family (*Solanaceae*) along with chili peppers, eggplants, tomatoes, and tobacco.
13. The potato is not related to the sweet potato.
14. Green potato skins and sprouts contain a toxin called solanine and may be hazardous to your health.
15. Potatoes are very low in fat, with just 5 percent of the fat content of wheat, and one-fourth the calories of bread. Boiled, they have more protein than corn, and nearly twice the calcium.
16. One medium-size potato provides about 110 calories, with almost 3 grams of protein, no fat, and almost 23 grams of carbohydrates.
17. When boiled, a medium-size potato contains about half the daily adult requirement of vitamin C, as well as significant amounts of iron, potassium, and zinc.
18. Do not store potatoes in a refrigerator. The starch in them will begin to change into sugar, giving them a sweet taste and turning them dark when they are cooked.
19. Potato starch is used to make biodegradable golf tees.
20. The International Potato Center (CIP) near Lima, Peru, maintains the largest collection of potatoes in the world, including almost 5,000 varieties of about 100 wild species. The collection is maintained in trust under the auspices of the United Nations.

Source: CIP. (NOTE: this report modified from its original version)

Links: <http://www.cipotato.org/> , <http://www.boliviabella.com/mamani-mamani.html> <http://proinpa.org/>

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### In Bolivia's Marketplaces, Women Rule

By Deanne Estrada  
*Editor and communications coordinator, SANREM CRSP*

When Bolivian farm families bring their produce to the sprawling market in Tiraque, husbands help their wives carry in the huge sacks of potatoes that are the main commodity, and the women take over from there.

"Men rule the fields, but women rule the markets," said Nadezda Amaya, a master's degree student in the Department of Agricultural and Applied Economics at Virginia Tech. Her analysis of male and female roles in the farming communities of the Andes is part of the SANREM CRSP's research on gendered access to markets in seven countries.

In Tiraque, a province in the central Bolivian highlands, eight of the market's 10 wholesalers are women. Through a social network that increasingly depends on cell phones to gather information, they set the prices based on supply, demand, and quality. Men do not know how to bargain with the majority female wholesalers, they say: "Between women there is more understanding."

Amaya's findings contradict the conventional wisdom that Andean societies are strongly male-dominated, with women relegated to reproductive responsibilities in the home. It is true, she said, that in mixed company women tend to be shy and not to speak up. In the marketplace, however, they are in charge, managing the money and making the decisions. Their clout is significant. Wholesale merchants can sell more than \$60,000 worth of potatoes a week.

Amaya is one of eight students participating in the SANREM gender project, which pays for part of their field research. She was initially recruited to complete her master's degree at Virginia Tech by Jeffrey Alwang, principal investigator for SANREM's Long-term Research Award Activity 3: Watershed-based Natural Resource Management for Small-scale Agriculture in the Andes. In 2007, she joined the gender cross-cutting initiative.

She presented some of her findings Nov. 20, 2008, as part of Virginia Tech's Women in Development (WID) Discussion Series. Led by Maria Elisa Christie, WID program director, SANREM researchers are studying the role of gendered networks in market access and enhanced livelihoods in Bolivia, Ecuador, Peru, Indonesia, the Philippines, Vietnam, and Zambia.

Among questions guiding the research are: Which products are sold by women and which by men? Do men and women get different prices for the same products? If so, why? How do coalitions and networks arise? How are they sustained? How do they benefit people?



**"A merchant negotiates a sale at the Tiraque produce market."**

[Click here](#) to learn more about SANREM's gender work.

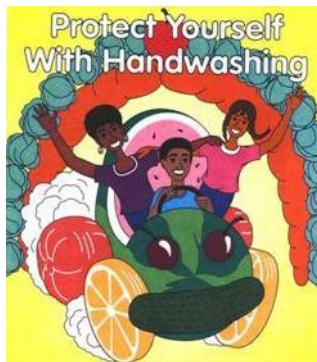
[Click here](#) to see Nadezda Amaya's Nov. 20 presentation.

## Profits Go Hand in Hand with Hygiene

By Deanne Estrada

Editor and communications coordinator, SANREM CRSP

In Zambia, where hygiene and safety are critical issues in food processing, researchers are using a new tool to get their message across: a coloring book for kids. "Protect Yourself With Handwashing" features three smiling youngsters in a cartoon car of citrus, melons, and vegetables in vibrant hues. Though its target audience is children of employees at food processing and distribution centers in Lundazi and Mfuwe, the book also reminds parents that good hygiene begins at home.



The campaign is part of a broader program begun five years ago by zoologist Dale Lewis of the Wildlife Conservation Society. COMACO—Community Markets for Conservation—is a SANREM CRSP partner organization that uses rural trade in agricultural products to give farmers profitable alternatives to slash-and-burn forest clearing and wildlife poaching. SANREM and COMACO researchers are offering hygiene and safety workshops to expand the sales potential for rice, peanuts, soybeans, and other crops in the profitable export market. The training is essential for COMACO to meet export standards and to win certification to sell HEPS – a high-energy protein supplement for HIV patients and malnourished children.

"COMACO has come up with a novel and effective approach," said Alex Travis, assistant professor of reproductive biology at Cornell University and principal investigator for one of SANREM's five global long-term research activities. "We are helping them by providing research expertise in areas ranging from improving their soil to helping document their impacts on wildlife and the local economy."

This year COMACO began marketing a line of organically grown soybean products, including snack foods, soy milk, and meat substitutes. The latest, Yummy Soy, is a high-protein, high-fiber organic mix to stir into water or milk for an energy drink, or to eat as hot or cold cereal. By posting profits on such products, COMACO hopes to motivate farmers to rotate other crops with soybeans, which improve the soil, thus reducing the need to clear trees for new fields. Researchers also hope the higher prices fetched by organic products will be an extra incentive to farmers not to use unnecessary pesticides or chemicals.

"Protect Yourself With Handwashing" was inspired by a book for children of U.S. farm workers. It was developed by Cornell researcher Elisabeth Bihn and colleagues in the university's National Good Agricultural Practices (GAPs) Program, led by Robert B. Gravani. In May, Carmen I. Moraru, assistant professor of food science at Cornell, and Catalin Moraru, senior food scientist with the International Food Network, distributed coloring books at a workshop in Lundazi where they

taught proper techniques for washing hands, controlling pests, and cleaning work surfaces, equipment, and utensils. The team also handed out supplies critical for hygienic food production: protective coats, gloves, hair and beard covers, shoe covers, and goggles, as well as kits for fast evaluation of potential microbial hazards such as *E. coli* and *Salmonella*.

"The entire workshop was a success," Carmen Moraru said. "Many participants were exposed for the first time to the fact that foods can harbor organisms invisible to the naked eye yet capable of causing illness or even death." Particularly helpful was a rapid-test kit containing paper strips to swab wet work surfaces. If the surface is not clean, the strip turns purple within 10 to 60 seconds. "Visual tools gave participants from workers to management a deeper appreciation of what it really takes to produce foods cleanly and safely," she said.

SANREM has been working with COMACO since 2005 to improve food security and rural livelihoods across southern Africa. COMACO, which now involves more than 30,000 families, is owned, led, and staffed by local citizens in ongoing collaboration with Lewis of the WCS. "It is very important for workers to realize that, despite the limited resources available locally, it is still possible to use good manufacturing practices," Moraru said. "They came out of our seminar with a different outlook on their responsibilities as food processors."

Click here to learn more about Alex Travis' work:

[http://www.oired.vt.edu/sanremcrsp/menu\\_research/LTRA-2.Sept.2007.php](http://www.oired.vt.edu/sanremcrsp/menu_research/LTRA-2.Sept.2007.php)

Click here to learn more about COMACO:

<http://www.itswild.org/home>

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## Native Foods are a Hot Commodity in the Philippines

By Deanne Estrada

Editor and communications coordinator, SANREM CRSP

The Philippines' native malunggay tree is a treasure – almost every part of it can be used for food. Its young pods can be prepared like green beans, its seeds can be roasted like nuts, and its dark-green leaves, rich in Vitamin C, protein, and iron, can be used fresh like spinach or dried as a seasoning.

When SANREM CRSP researchers introduced a new malunggay variety in the Philippines' Lantapan watershed, it was an instant hit. Farmers were surprised that it grew so well in the region's acid soil. They clamored for seedlings and cultivation guidelines. The slender trees are so much in demand that they are disappearing from test plots, says Agustin Mercado, a SANREM partner and World Agroforestry Center researcher. "I don't know whether this is bad or not," Mercado says, "but people are desperate to get our malunggay."

The malunggay, *Moringa oleifera*, is among indigenous trees and vegetables that SANREM researchers Mercado, Flordeliza Faustino, and Liwayway Engle are using to identify varieties

that prosper in agro-forestry systems. The scientists are sharing their findings – as well as seeds and seedlings – with local residents. At a village field day, more than 60 people sampled vegetables cooked and raw, commenting on their taste and appearance, as well as the pros and cons of growing them. Included were several native gourds; amaranthus, known locally as kulitis and used like spinach; green leafy roselle; katuray, whose white flowers can be used in salads; and exotic varieties of bell pepper, carrot, and tomato. Field-day participants took home not only plants and seeds but also recipes and leaflets on how to grow and use native varieties.

By reintroducing native foods in a region plagued by poverty and degraded natural resources, researchers hope to teach farmers how to use and conserve plants, improve family nutrition by diversifying the diet, increase incomes, and enhance biodiversity. They also are documenting residents' knowledge of native plants' medicinal values.

The vegetable field day was one in a series of workshops by SANREM's Long-term Research Award project in the Philippines, Indonesia, and Vietnam. The project's broad objective is to develop economically viable and ecologically sound agro-forestry systems that integrate vegetable crops with trees or trees with vegetable crops – under or beside them, simultaneously or in sequence. The project is also experimenting with low-cost drip irrigation, reduced tillage, pest management, and soil enrichment.

Field-day participants seemed most interested in the native plants that were least familiar to them. Generally, they preferred cooked vegetable dishes rather than salads. Of the 25 vegetables and trees introduced, which would they consider planting? The consensus among farmers was that any new crop would have to meet five criteria: high nutritional value, long shelf life, easy marketability as fresh produce, good taste, and availability of seeds.

The SANREM team, comprising more than 30 scientists, engineers, and other development experts, is working closely with the World Agroforestry Center and World Vegetable Center. Its principal investigator is Manuel Reyes, a biological and agricultural engineer at North Carolina Agricultural and Technical State University in Greensboro.

Reyes puts a positive spin on the malunggay thefts. "We must be having an impact," he says, "if people are so eager to get the trees."



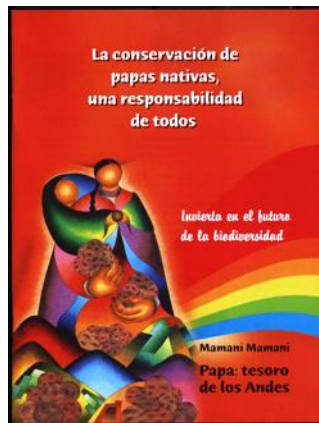
**"After touring tree and vegetable plots, field day participants compare notes."**

Click here to learn more about SANREM's work in Southeast Asia:  
[http://www.oired.vt.edu/sanremcrsp/menu\\_research/LTRA-5.Sept.2007.php](http://www.oired.vt.edu/sanremcrsp/menu_research/LTRA-5.Sept.2007.php)

## Fighting Poverty with Paintings and Potatoes

By Deanne Estrada  
Editor and communications coordinator, SANREM CRSP

Potatoes are the world's most important tuber crop, a food staple for more than a billion people. Recognizing how many people in developing countries depend on this prolific crop for their very survival, the United Nations declared 2008 the International Year of the Potato.



**"Paintings by artist Mamani Mamani celebrate the potato's amazing variety."**

In the Andean region of Peru and Bolivia, where the potato was first cultivated more than 7,000 years ago, the PROINPA Foundation, a SANREM CRSP partner, is promoting academic and cultural activities showing the significance of this highly nutritious food. Within this framework, the renowned Bolivian artist Roberto Mamani Mamani has joined PROINPA in the celebration with a series of paintings titled, "Potato: An Andean treasure." The pictures are dedicated to the cultural, historic, and economic value of the potato and pay homage to the men and women who conserve and cultivate this invaluable crop. All proceeds from sale of the paintings will be used for conservation of native potato genetic diversity. Details are online at <http://proinpa.org/potato2008/>

"Preserving the amazing diversity of Andean crops, especially the potato, is critical to guarantee food security and livelihoods in Bolivia and Peru," said Jeffrey Alwang, professor of agricultural and applied economics at Virginia Tech and principal investigator for one of SANREM's five long-term research projects. "Sale of these paintings will help PROINPA with its mission of sustaining the region's biodiversity."

The potato is easy and inexpensive to cultivate, adapting well to marginal environments such as poor soil and a short growing season. The International Potato Center (CIP) in Lima, Peru, a partner in two SANREM long-term research projects in South America, reports that potatoes produce more food on less land faster than any other crop: One hectare of potatoes can yield the nutritional value of 2 to 4 hectares of grain and twice as much protein as wheat. A single medium-sized potato contains half the daily adult requirement of vitamin C, more protein than corn, and nearly twice the calcium. Potato is also low in fat. All of these traits make the potato a valuable source of nutrition and income for poor people in developing countries.

There are thousands of potato varieties with a fantastic range of tastes, sizes, shapes, and colors, from pure white to deep purple. The genes of many potato varieties contain natural



resistance to disease and drought. Because just a few are grown commercially, however, many varieties are disappearing. There is a danger that today's cultivated varieties, repeatedly reproduced from previous tubers, may become weak and prone to disease. Yet the potato's genetic diversity provides the variation needed to develop new types that can resist emerging threats from disease, pests, social and environmental stresses.

PROINPA and SANREM researchers are helping small farmers by promoting technological innovation, food security, and the conservation and sustainable use of Andean genetic resources. Because Bolivia is one of the world's most biodiverse countries, the genetics of its native plants, especially potatoes, are of great scientific interest.

Fundación PROINPA – Foundation for Research and Promotion of Andean Products – is a partner in two of SANREM's five long-term research projects: "Watershed-Based Natural Resource Management in Small-Scale Agriculture: Sloped Areas of the Andean Region," directed by Alwang; and "Adapting to Change in the Andean Highlands: Practices and Strategies to Address Climate and Market Risks in Vulnerable Agro-Ecosystems," directed by Corinne Valdivia at the University of Missouri-Columbia. In Bolivia, Ecuador, and Peru, research focuses on crop varieties that farmers can grow and sell profitably while protecting the environment.

Among SANREM and PROINPA's primary goals is to teach local farmers new agricultural technology such as tilling methods, crop rotation, and proper use of pesticides and fertilizers. Both programs also are committed to including women in their research and education. Though women are active in growing and selling produce, they are not always considered in training and policymaking.

Valdivia said women's contribution is especially important in potato cultivation because a large number of varieties are grown for home consumption only. When SANREM and PROINPA researchers held a competition recently in Aroma La Paz, 400 people participated, bringing in 114 less-common varieties that researchers are now cultivating. Local farmers are partners in the project, sharing what they know about each type: which soil and climate it prefers, what it can withstand. "On the one hand, we are identifying which varieties are still being grown," Valdivia said. "And with PROINPA and the International Potato Center, we are identifying niche markets where the beauty of these potatoes – their diversity of colors, shapes, and textures –are valued by consumers."

Click here to learn more about SANREM's work in South America:

[http://www.oired.vt.edu/sanremcrsp/menu\\_research/LTRA-3.Sept.2007.php](http://www.oired.vt.edu/sanremcrsp/menu_research/LTRA-3.Sept.2007.php)

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