



Periodic Report

The ADM Institute's Periodic Reports provide updates on recent and upcoming activities, reports, events and accomplishments.

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Sinop Workshop and Video

In late October, ADM Institute Director Steve Sonka and institute faculty Dr. Peter Goldsmith, Dr. Barry Pittendrigh, Dr. Luis Rodriguez, and graduate student Anamaria Guadencio presented at the “Workshop de Perdas Pos-Colheita” or Workshop on Postharvest Losses. It was held at Embrapa Agrosilvipastoril in Sinop, Mato Grosso, from October 24-25.

The workshop was a joint venture between Aprosoja, Embrapa, and the ADM Institute, and addressed the 12.5% of Brazilian soy production lost in the processes associated with short- and long-distance transportation, grading, and storage.

A YouTube video produced by Aprosoja explains the outcomes of the workshop and the topics researchers are studying. The original video in Portuguese can be found on the [Aprosoja Youtube Channel](#). The ADM Institute has provided English captions for the video on its [Youtube channel](#). ¶



Screenshot of Sinop workshop video; institute faculty Barry Pittendrigh is featured on the right, speaking (2012)

SAVE FOOD Initiative – Partnership

The Institute is proud to announce its partnership with [FAO's SAVE FOOD - Global Initiative on Food Loss and Waste Reduction](#). The initiative aims to reduce global food loss and food waste by raising awareness, strengthening collaboration between public and private actors, developing policies, strategies, and programs, as well as investing in a variety of projects seeking to curb losses. The ADM Institute will participate in this important work by serving as an information hub on postharvest loss.



Scientific Animations Without Borders (SAWBO)

Scientific Animations Without Borders (SAWBO) is a program that uses animations to preserve and disseminate information and knowledge, particularly for low-literate populations. SAWBO's work has been brought to Brazil, Haiti, India, Uruguay, and many African countries. To deploy the animations, the SAWBO team has partnered with government entities, universities, and organizations. It also is partially funded by the ADM Institute.

The SAWBO program was established by Dr. Barry Pittendrigh from the Department of Entomology and Dr. Julia Bello-Bravo from International Programs and Studies in 2010. As the population owning mobile phones in developing countries is rising rapidly, Pittendrigh and Bello-Bravo thought mobile phones would be an effective approach in disseminating information. This approach is especially significant for low-

literate populations, since the image and audio features of animations allow people with low literacy to understand the information easily.

In addition to the easy dissemination of animations, audio overlays are another valuable feature in SAWBO videos. The characters in the animations are globally understood; thus, one animation can be overlaid with any language track. For example, there are 25 versions of the "Natural insecticide from neem seeds" video, each in a different language or the same language with different regional accents. The SAWBO videos provide an innovative and cost-effective way for information dissemination. The SAWBO group published two papers in 2012 regarding the accomplishments of the SAWBO program. The abstracts of these papers are available from [the Electronic Journal of Information Systems in Developing Countries website](#) and [the](#)

[Journal of the World Universities Forum website](#).

The SAWBO team has released four animations for postharvest loss prevention, including: 1) [bag transportation](#), 2) [bulk transportation](#), 3) [bag stacking](#), and 4) [storage](#). These animations provide tips for preventing postharvest loss during transportation and storage. In addition to postharvest loss, SAWBO video topics include agriculture, health and education, as well as women's empowerment, like "solar treating of cowpeas", "Cholera prevention", and "shea butter production". There are more upcoming topics related to environment, the market place, and so on.

For more SAWBO animations, please visit the SAWBO [website](#) or [YouTube channel](#). ¶

External Advisory Board Meeting

In October 2012, the ADM Institute held its second External Advisory Board Meeting in conjunction with the Borlaug Dialogue and World Food Prize in Des Moines, Iowa, in October 2012.

This year's location for the assemblage of advisory board members enabled members to attend events focused on related areas to postharvest loss, while also discussing agenda items for the ADM Institute's next year.

Key meeting outcomes were focused on:

- determining what the ADM Institute should be known for,
- the ADM Institute as an information hub,
- decision-making and tools for practitioners, and
- leveraging for the future.

The next External Advisory Board meeting will be held at the 2013 World Food Prize and Borlaug Dialogue in Des Moines, Iowa, in October. ¶



External Advisory Board members at the Borlaug Dialogue in Des Moines, Iowa

Student Engagement @ Illinois

The ADM Institute strives to educate and engage students from the University of Illinois on postharvest loss issues. Recently, the institute supported two study abroad trips involving both undergraduate and graduate students. Professor Udatta Palekar led a ten-day study tour in India where agricultural and biological engineering and supply chain management students observed the causes of loss firsthand. ADM Institute staff also helped to prepare undergraduate students prior to their departure for Sierra Leone, where they will participate in a semester-long service-learning project on rice and postharvest loss.

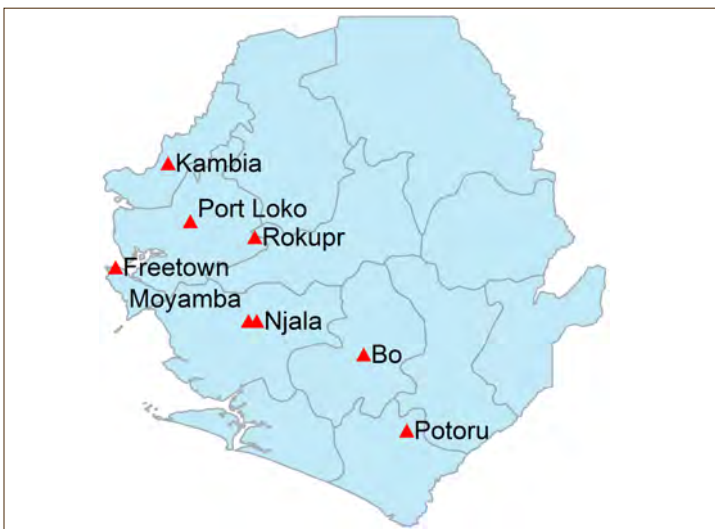
Additionally, the institute maintains strong connections with faculty and departments in order to involve students in important campus visits. During a recent visit from [Compatible Technology International \(CTI\)](#), a non-profit organization working to provide engineered services and solutions to



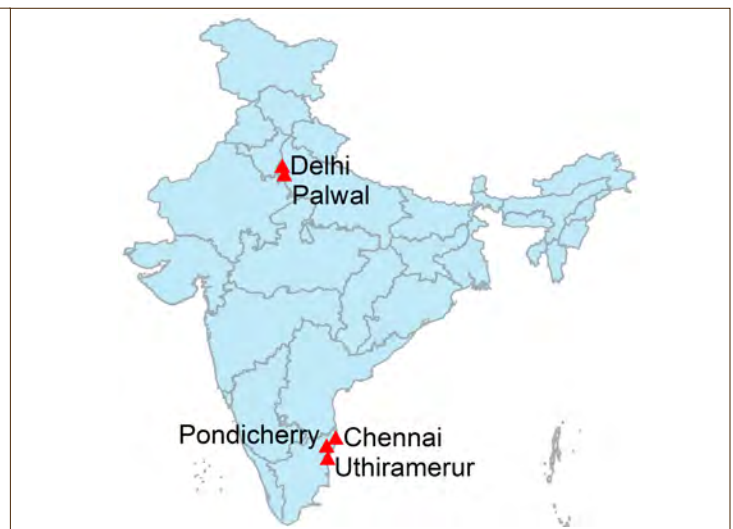
Supply chain management and ag-bio-engineering students at Pancha Rathas, India

smallholder farmers, the institute hosted interested faculty and students for a Q&A session with CTI President Roger Salway. The institute is committed to providing information, resources, and guidance to the academic community, and currently is engaged with the

following courses: ABE 469 Industry-Linked Design Project; BADM 337 Practicum in Supply Chain Management; BADM 533 Sustainable Product and Business Plans; and ENG 315 Learning in Community. ¶



Cities students in ENG 315 Learning in Community visit for the semester-long project in Sierra Leone



Cities students in BADM 533 Sustainable Product and Business Plans visit in India during winter break

Students Explore Supply Chains for Grain in India

2013 started out with a student trip to India to study the supply chain and technical aspects of the Indian postharvest system.

Fourteen undergraduates in supply chain management and agricultural and biological engineering, as well as a PhD student in ABE, were accompanied by Professor Dr. Udatta Palekar and ADM Institute staff Grace Kenney.

Over the course of one week, the students were given the opportunity to interact with different players along the supply chain. Through the aid of translators and Madhu Viswanathan's Market Literacy Group, students interviewed farmers, women's self-help group members, and local governmental agents.

The University of Agricultural Sciences Dharwad was a site of much discussion,

and afforded undergraduate students the opportunity to understand the research topics currently being addressed by postgraduate students on the various facets of the postharvest system.

Several site visits were made to local farmers as they processed their harvest in-field through portable, small-scale technologies. Students were able to witness postharvest losses (some for the first time) as it was happening.

ADM India invited the students on a factory site visit to see the complexities of the soy processing chain – introducing the technologies, methods, and outputs of the harvested product, as well as learning about the company's impact on the local region.

The cultural component of the trip allowed students to understand the

eating and shopping habits of their host country, as well as experience the Indian transportation network through long bus rides in jammed traffic and several in-country flights. Some small trips were made to markets and historically-significant sites to allow students to understand the issues faced by the food production system within the greater context of the country and its operating systems.

Students will prepare response papers covering the different stages of postharvest loss, as well as include recommendations based on their observations and interviews by the end of the semester. ADM Institute staff member Grace Kenney is currently creating a video on the Indian postharvest system which will be debuted later this semester. ¶



L-R, Supply Chain Management students interact with rice at a mill in Chennai and help farmers feed maize to the processor on a farm visit

Philippine Postharvest Rice Training at International Rice Research Institute (IRRI)

In late October, ADM Institute staff member Grace Kenney attended the “**Rice: Postproduction to Market Training Course**” held at the [International Rice Research Institute](#) in Los Baños, Philippines. The course was comprised of participants from research, extension, NGOs, and the private sector, who came from countries in Africa, South Asia, and Southeast Asia, predominantly.

The course covered three main aspects of postharvest rice study: how to identify and measure losses along the post-production chain, the evaluation of technology options for paddy (rice plant) harvesting, threshing, drying, storage, and milling, as well as analyzing the use of certain methodologies and tools to assess local postharvest chains, mapping actors, and use of a business plan for introducing or scaling out suitable options.

The course required participants to spend both time in-lab studying quality issues inherent to paddy; a substantial amount of time in lectures learning



Participants examine rice quality post traditional processing methods

about the rice postproduction system, as well as how to develop business plans and project proposals; and in the field harvesting the crop, estimating losses, and understanding traditional Philippine rice agriculture.

After the two-week course was completed, all participants took the final examination, which was a cumulative review of all things theoretical and practical covered in the course. Staff member Grace Kenney passed both evaluations and is now a certified IRRI Postharvest Basic Trainer.

Ms. Kenney presented her main takeaways of the course participation after returning to the University of Illinois campus, sharing her insights on the importance of extension and training, the challenges of cultural history and tradition in traditional agricultural practices, as well as potential impactful entry points.

In addition to the training and trip report, Ms. Kenney will also be releasing a video including footage from the trip, and analyzing the different stages of the Philippine rice postharvest system. The institute also retains an IRRI Quality Kit for training and other purposes.

For more information on takeaways from this course or resources available through the institute, please check the website or contact the institute through email at

postharvestinstitute@illinois.edu. ¶

Topics covered in the course included:

- National knowledge management and sharing through the Rice Knowledge Bank
- Physical quality/measurement; IRRI quality kit
- Measurements and quantification
- Sensory quality testing for rice
- Harvesting and threshing
- *Field Exercise:* Yield estimating and harvesting rice
- *Field Exercise:* Mechanized harvesting of rice
- *Field Exercise:* Cleaning and quantification of rice
- Rice drying: Sun vs. Mechanical
- Storage of rice grain and seed; Storage technologies and experiments
- Field trips to PhilRice in Nueva Ecija, AgriNet Grain Rice Mill, Banaue Rice Terraces in Ifugao Province, GrainPro plant in Subic
- Farmer villages and post harvest practices
- Rice market field visit
- Research partnerships
- By-product utilization
- Storage technologies for grain/rice
- Milling practices (modern rice mill, pounding, micro mill, Satake mill) and sample analysis
- Fan testing
- Calibration of equipment and instruments; data loggers; settings in agricultural machines

Recent Events

The ADM Institute has been involved both domestically and internationally in events concerning postharvest loss and agricultural development. Below is a partial listing of recent and upcoming events in which representatives of the ADM Institute participated and will participate:

November 2012:

28th – Executive Director of Compatible Technology International, Roger Salway, visited the ADM Institute to discuss CTI's development of postharvest processors for developing countries with faculty and students, as well as set up a collaboration with the institute and the University of Illinois.

December 2012:

18th – The ADM Institute hosted a Philippine trip debriefing session, "Operation Postharvest: Discovering preventions for Philippine rice loss". Grace Kenney, Project Coordinator at the ADM Institute, presented her experience at the International Rice Research Institute and with rice postharvest loss in Philippines.

January 2013:

1-10th – Agricultural and Biological Engineering and Supply Chain Management students were accompanied by institute faculty and staff on a field trip visit to five cities in India to study postharvest loss of corn and soybeans.

30th – Director Steve Sonka presented at "[The Economist: Feeding the World, 2013](#)" conference in Amsterdam, The Netherlands, focusing on food security.

February 2013:

19th – Director Steve Sonka presented at the "Food security and minimizing postharvest losses" event hosted by the Department of State to discuss the public-private partnership of the ADM Institute.

If there is a conference or event that should be brought to the ADM Institute's attention, please do not hesitate to inform us.



The Banaue Rice Terraces – example of traditional Philippine rice culture



Sun drying rice at a processing center in Philippines



Students walk along rice paddies near Chennai, India, during a field visit



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Prevention of Postharvest Loss**

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