

fresh

News from AVRDC – The World Vegetable Center



June 3, 2011

www.avrdc.org

Vegetables have their Day in Cameroon

Pages 6-8



AVRDC researchers host field day for Taiwan scientists

Page 4



A project ends—but progress continues



As activities of the *Vegetable Breeding and Seed Systems to Alleviate Poverty in Africa (vBSS)* project come to a close, the impact is beginning to be felt across the continent



vBSS participants at the end-of-project workshop in Arusha, Tanzania.

After nearly five years, the **Vegetable Breeding and Seed Systems to Alleviate Poverty in Africa (vBSS)** project successfully completed operations and ended on 31 May 2011. The project sought to increase vegetable adoption, production, marketing, and

consumption, and spark greater activity in seed agribusiness in sub-Saharan Africa.

Funded by the **Bill & Melinda Gates Foundation**, the vBSS project started in December 2006. The largest single project undertaken

by AVRDC – The World Vegetable Center, *vBSS* has had a significant impact throughout sub-Saharan Africa's vegetable value chain.

It was implemented in four hub countries (Tanzania, Mali, Cameroon, and Madagascar) and 16 surrounding spoke countries, all of which benefited from *vBSS* activities through a networking system.

vBSS marked numerous successes, including:

- the release of **40 new vegetable varieties** into the African market
- participation in the processes to harmonize the region's **seed certification procedures**
- **training for farmers and private seed producers** in

seed pathology and seed health technology

- increased public awareness of the **potential of the vegetable seed sector** to boost the agricultural sector in sub-Saharan Africa

The project's **Innovation Platforms** brought together participants in the vegetable value chain from the four hubs, including private seed producers, farmers, policy makers, and public sector representatives. Through these interactive networks, participants shared ideas and discussed ways to address bottlenecks to vegetable seed production in Africa. The limited availability of quality seeds and inappropriate varieties in sub-Saharan Africa hinders farmers' efforts to produce vegetables

profitably.

Quality seed of adapted varieties is an essential input for the production of healthy and nutritious vegetable crops. Breeding and distributing quality seed requires technical know-how, business acumen, and policy support. The Innovation Platforms have put a mechanism in place for countries to move forward on issues involving seed production and seed policy.

vBSS drew on the strengths and expertise of many across the vegetable value chain. Their comments are testimony to the value of *vBSS*, and their commitment to building on the project's accomplishments will be the true mark of success.



Diallo Dioukamady, Director, Central Laboratory for Seed Quality, Mali

vBSS provided the opportunity for us in the region to integrate our national efforts. The sustainability of this effort is key to enhancing the production, marketing and consumption of vegetables in the long run.



Peter Hanson, Tomato Breeder, AVRDC – The World Vegetable Center

I am encouraged about the quantity of varieties released within the relatively short period of the project. The development of varieties and the knowledge of the needs of farmers and markets will be useful for future projects.

Mwamburi Mcharo, Association for Strengthening Agricultural Research in Eastern and Central Africa (ASARECA)

*The feedback we have received about the *vBSS* project is that it has been a catalyst for a viable seed system in the region.*



Baldwin Shuma, Tanzania Seed Trade Association

vBSS has been an asset for us in Tanzania because the private seed companies have accessed germplasm and used them for their businesses. A major constraint with the closure of the project will be the absence of expert staff.



Albert Rouamba

Albert Rouamba, Onion Breeder, AVRDC – The World Vegetable Center, Mali

*We have achieved a lot by way of the number of varieties released under *vBSS*. Our challenge remains to make the varieties accessible and affordable to African farmers to improve their production and thus consumption of vegetables. This should be our next focus.*

More comments from vBSS participants...



Charles Randrianantoandro, Director, SEEDFAS Madagascar

Through the vBSS project we now have more varieties, more information and knowledge on seed varieties and marketing techniques and opportunities. We intend to use the knowledge gained to advance a universal platform and good relationship with regional bodies.



Chris Ojiewo, Vegetable Breeder, AVRDC – The World Vegetable Center, Tanzania

It is a good feeling to receive e-mail from a number of private sector partners acknowledging the impact of the training we have provided them.



Sonja Venter, Agricultural Research Council, Vegetable and Ornamental Plant Institute, South Africa:

We must make sure that the achievements, challenges and lessons learnt from this project are embedded into policy areas that affect not only agriculture but health and nutrition as well.

Jackie Hughes, Deputy Director General – Research, AVRDC – The World Vegetable Center:

vBSS demonstrated good partnership building experience. Future projects will ensure that partners are brought in from the conceptual stage to ensure ownership and sustainability.

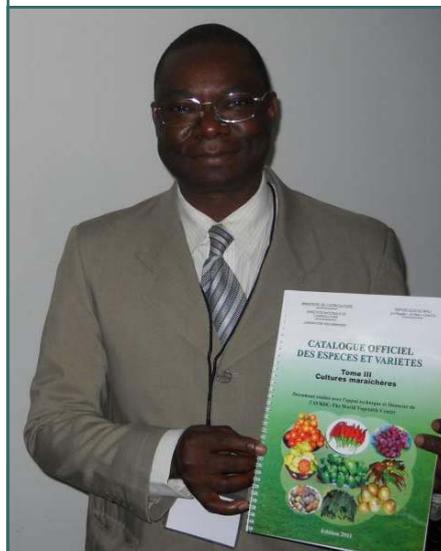


Silvest Samali, Director, HORTI-Tengeru, Tanzania

Usage of the released varieties by farmers has been extensive across the country and elsewhere because farmers were involved in the selection process. vBSS demonstrated an effective participatory approach.

Abdou Tenkouano, Director, AVRDC Regional Center for Africa, Tanzania

In terms of getting new varieties out on the market and making national institutions pay attention to some of the critical issues on vegetables, we have made a lot of strides.



vBSS promoted improved lines of amaranth and okra to benefit Africa's farmers and consumers.

Researchers meet to explore ideas, exchange knowledge



AVRDC – The World Vegetable Center held a field day entitled “**Information Exchange and Field Demonstration of Vegetable Breeding Research**” on 20 May 2011 at headquarters for

vegetable breeders from institutes affiliated with the Taiwan Council of Agriculture. The field day was organized by the Center’s Global Technology Dissemination group in collaboration with the breeding

units. More than 30 collaborators from Taiwan agricultural organizations attended the event.



(top) **Yin-fu Chang** (left), Deputy Director General for Administration & Services, opens the event; researcher **Jin Shieh** (center) shows the latest colored bell peppers. (bottom) Tomato breeder **Peter Hanson** (left) and pepper breeder **Paul Gniffke** (right) lead the field tours.



AARNET meets in Borneo

The **6th ASEAN-AVRDC Regional Network for Vegetable Research and Development (AARNET)** Steering Committee Meeting was held in Brunei Darussalam on 24 May 2011. **Robert Holmer**, Regional Director, AVRDC East and Southeast Asia, attended for the Center. **Philip Chew Hong**, chairman of AARNET, praised Brunei Darussalam's drive to attain self-sufficiency in food production. "I give Brunei a lot of credit for almost achieving self-sufficiency in vegetables (89% in the year 2010) and I think Brunei is on the right path to ensure that they are self-sufficient in some of the crucial and critical food items," he said. He noted the country is interested in seeing how each AARNET member develops its indigenous vegetables and promotes self-sustaining production to decrease reliance on imports.

Indigenous vegetables possess many possibilities for AARNET countries. Many have health benefits, and delegates said this is an area where science and technology must go hand-in-hand to improve vegetable production. "To start, we must create a vibrant local indigenous vegetable industry in each country," Hong said. "After that, we can look at more advanced scientific techniques to improve the varieties as well as the functional health benefits indigenous vegetables can provide." He revealed that Brunei will soon propose a project on how to promote research and development on indigenous vegetables.

<http://www.borneobulletin.com.bn/wed/may25h6.htm>



Robert Holmer, Regional Director, AVRDC East and Southeast Asia (front, second from left), **Dayang Hajah Aidah**, Acting Director of Agriculture and Agrifood, Brunei (front, third from left) and **Philip Chew Hong**, AARNET Chairman (front, fourth from left), with delegates from ASEAN countries.

Photo by HH Azaraimy

Asean official praises Brunei's food self-sufficiency drive

By James Kon

CHAIRMAN of the Asean-AVRDC Regional Network for Vegetable Research and Development (AARNET) yesterday praised Brunei Darussalam's drive to attain self-sufficiency in vegetables and food production.

Philip Chew Hong, AARNET Chairperson who is in Brunei Darussalam to attend the 6th Steering Committee Meeting of the Asean-AVRDC Regional Network for Vegetable Research and Development (AARNET), told Bulletin in an interview, "I must give Brunei a lot of credit for almost achieving self-sufficiency in vegetables (89 per cent in the year 2010) and I think Brunei now is also looking at paddy plantation.

"I think Brunei is on the right path to ensure that they are self-sufficient in some of the crucial and critical food items."

He added, "It is good that Brunei is looking at self-sufficiency in food seriously and developing its own food security policies to ensure that the population has enough food in case of a global food crisis."

In the meeting, he revealed, "Brunei Darussalam is very interested in looking at the various programmes to see how each AARNET member develops its indigenous vegetables and promotes self-sustaining source so that there will be less reliance on imports."

Indigenous vegetables, he said, "possess many possibilities whereby many may have health benefits as well as certain natural ingredients. This is an area where science and technology must go hand-in-hand to improve the vegetables production."

"From the start, we must create a vibrant local indigenous vegetables industry in each country. After that, we can look at more advanced scientific techniques to improve the variety as well as the functional benefits of health that the indigenous vegetables can provide."

He revealed that during the meeting, Brunei will table a project on how to promote research and development on indigenous vegetables.

In terms of technology in Asean and developed countries like Japan, he commented, "We can't compare the technology because each country has a different situation. In Japan, land is very scarce and expensive, therefore they have to (use) high technology to produce crops, while the situation in Asean is different unless urbanisation has pushed the land around the region to be scarce."

Officiating the meeting was Dayang Hajah Aidah binti Hj Mohd Hanifah, Acting Director of Agriculture and Agrifood, Ministry of Industry and Primary Resources.



Visitors



Paul Degreeef, Global Head, Breeding; **Sharan Angri**, Head of Breeding, India; and **Chatpracha Sonklien**, Product and Sales Specialist from **Nunhems**, a multinational commercial seed company, visited AVRDC East and Southeast Asia on 20 May 2011. Cucurbit Breeder **Narinder Dhillon** discussed the Center's bitter gourd breeding project and the feasibility of screening pumpkin accessions for rootstock selection.

Narinder Dhillon (r) and visitors from Nunhems

Vegetables have their day in Cameroon

A special event
promotes
sustainable
vegetable
production for
food security,
health, and income



AVRDC – The World Vegetable Center and the **National Agricultural Research Institute of Cameroon (IRAD)** organized a **Cameroon Vegetable Day** in Yaoundé, at Nkolbission, on 11 May 2011. The event aimed to promote sustainable vegetable production for food security, health and income. **Dr. Ngeve**, IRAD Director General, officially opened the event. **Nuza Syxtus** from the **Ministry of Agriculture and Rural Development** conveyed the ministry's gratitude for the Center's effort in developing improved and adaptable varieties for Cameroon's farmers, and noted the work is in line with government policy to ensure national food security.

Selected and improved vegetable lines and varieties and various vegetable production techniques were showcased, including one okra (PI496946), five chili pepper (PP 9852-173, PP0237-7508, PP 97-9195-1, PP 9955-15 and PP 0337-7562), three tomato (CLN 1464A, CLN 1462A, CLN 1464B), four African

eggplant (AB2, N13, DB3 and Oforiwa), four jute mallow (Aziga, Bafia, IP2 and UG), two amaranth (AC-NL and AM-NKGN,) and six African nightshade (SS52, BG24, BG 14, MW25, BFS 1 and TZSMN 55-3). The lines and varieties carry superior traits such as high yield, disease resistance, good appearance for marketability, high mineral content, and good shelf life. All have been proposed for registration in Cameroon's Official Catalogue of Species and Varieties.

Participating seed companies (**GMR**, **Semagri**, and **Prosemcam**) expressed strong interest in commercializing the improved crops.

Vegetable production techniques demonstrated include mulching, potted plants, nursery substrate sterilization, container and seed bed nurseries, and drip irrigation.

Commercial vegetable peri-urban farmers in Yaoundé displayed amaranth, jute mallow and nightshade grown from AVRDC selected materials. **RISE UP**, a



Ngeve Mbua, Director General of IRAD and Innovation Platform Chairman

NEWS FROM THE REGIONS



Growing vegetables in containers is a good production strategy for urban farmers with limited space: plastic pots (l), metal drums (r)

nongovernmental organization (NGO) from Nigeria, also took the opportunity to share success stories about using the Center’s pepper and tomato lines in Cross River State. About 100 farmers and representatives from NGOs, government institutions, universities, seed companies, international research institutions and United Nations organizations took part in this event. A total of 584 brochures in French and English about growing amaranth,

nightshade, jute mallow, okra, cowpea, tomato, pepper and eggplant were distributed to visitors during the event. A **Livelihood, Urbanization and Natural Resources in Africa** (LUNA) student presented a poster on his research findings on the impact of urbanization on the vegetable production system.

-- Takemore Chagomoka
Liaison Officer for Cameroon and Seed Business Specialist
AVRDC Regional Center for Africa



Center right: Nuza Syxtus, Representative of the Ministry of Agriculture and Rural Development
Bottom: (l) Participants in the hall; (r) Farmers exhibit AVRDC selected lines.



Comments about Cameroon's Vegetable Day

Neakoh Mengyi, an agronomist working for the Ministry of Agriculture and Rural Development in Cameroon with a special interest in developing ecosanitary projects for urban and peri-urban areas in Cameroon, also attended the event:

[At the Vegetable Day] AVRDC - The World Vegetable Center showcased many new vegetable varieties, most of which were collected around Africa such as tomato, eggplant, nightshade, amaranth, etc. The key point that caught my attention was the fact that these varieties were disease resistant, highly productive, and with high nutritious value. Such varieties help to reduce the use of pesticides by close to 70%, help achieve food security, and avoid some diseases caused by

*malnutrition. A host of production techniques such as drip irrigation, mulching, soil treatment by vaporization, and growing vegetable in pots were exciting to see and learn. **Takemore Chagomoka**, AVRDC Liaison Officer, explained the Center's purpose: To manage germplasm, develop new varieties, improve production, etc. There may be an opportunity to collaborate with the Center and develop an ecosan project to promote vegetable production in Cameroon.*

*With kind regards,
Neakoh Mengyi*

Niyi Adegun (yellow cap) of RISE-UP (Rural Infrastructure Services for Underserved Populations) attended the Cameroon Vegetable Day and shared this compliment with AVRDC's **Takemore Chagomoka**:

*Please accept my gratitude for the reception accorded me during and after the Cameroon Vegetable Day. I did enjoy every aspect of the event—the Field Visit, meeting with other participants from various backgrounds, exchange of ideas and establishment of contacts. I do congratulate you on your success. Our brainstorming sessions on possible ways of collaboration between our two organizations is a positive step toward the realization of our common goals to sustain vegetable production for food security, health and income. I appreciate your resolve to take positive actions on issues discussed. My gratitude to all your staff, with particular reference to **Regine Kama**, **Njoh Wanduku** and **Lyliane Pousseu**. They were all wonderful.*

Regards
Niyi Adegun, RISE-UP



Pierre Leumassi, Director of PROSECAM seed company-Douala, pointing at new okra variety (PI496946) and **Guy Satsa Blaise**, Director of SEMAGRI (Tropicasem) 3rd from left in blue suit, looking closely at the variety.

A rare find: “Buddha’s hand” eggplant in AVRDC fields



Readers of *Fresh* may be familiar with “Buddha’s fingers citron” or “Buddha’s hand citron,” a member of the Citrus family (*Citrus medica* var. *sarcodactylis*). It is a bright



yellow, fragrant fruit segmented into numerous, long, finger-like sections, with 5-20 sections per fruit. The fruit has a thick, aromatic peel and only a small amount of white flesh, which is not juicy and does not contain seeds. The peel is usually candied.

Germplasm curator **Tien-hor Wu** of AVRDC’s Genetic Resources and Seed group recently discovered a “Buddha’s hand” *eggplant* in the Center’s eggplant collection.

He found it growing in the germplasm regeneration fields on plants of a *Solanum melongena* accession that originated in Thailand, from an eggplant variety called ‘MA-KHUEA-YAAO.’

“It’s a very rare find indeed!” Tien-hor said. “It appears to be a somatic mutation with five stiles fused together, which were fecundated to produce the ‘Buddha’s hand’ fruit. Only one plant in the entire population produced this kind of fruit.’

AVRDC – The World Vegetable Center holds the world’s second largest collection of eggplant germplasm, with 14% of the 21,032 accessions existing worldwide.

-- Tien-hor Wu and Andreas Ebert
Genetic Resources and Seed

World Bank-East West Co. seed project raises vegetable revenues in Philippines



The *Manila Bulletin* recently reported that a **World Bank-East West Seed Co.** partnership raised vegetable revenue of selected agrarian reform communities in the Philippines by P92,000 for every P5,000 added investment in hybrid seeds through an integrated

productivity-marketing enhancement program. Also funded by the DEG (Deutsche Investitions- und Entwicklungsgesellschaft mbH), the program enabled farmers in Quezon, Zambales and Bataan to realize an additional income of P18 for every P1 investment in hybrid vegetable seeds.

The program linked farmers to the Rural Banks of Atimonan and Pitogo for financing of farm inputs. It provided individual farmers loans in-kind for production inputs, a common collection area for the delivery of their produce, and extension services given by

agricultural technicians who monitored their weekly progress.

The World Bank financed the project’s Farmers Field Schools (FFS) with a strong marketing focus. The project team noted a key to helping farmers become more successful entrepreneurs is to encourage a more market-oriented approach to vegetable production.

<http://www.mb.com.ph/articles/319596/wbeast-west-seed-project-raises-vegetable-revenues-arcs>

The Center in the news

The **Taiwan Environmental Center** reprinted “Hot and dry? No problem for some indigenous vegetables” from the 15 April 2011 issue of *Fresh* on its website. The story noted the benefits of C4 plants like spider plant, which have unique photosynthetic pathways. The same story was featured in the “Low-carbon Life” blog hosted by the **Delta Foundation**, and also is published on the website Taiwan’s Environment Protection Administration. Thanks to Tien-hor Wu, Genetic Resources and Seed, for his assistance on the article.

Taiwan Environmental Information Center
<http://e-info.org.tw/node/66986#comment-228136>

Eco Life, EPA

<http://ecolife.epa.gov.tw/Cooler/newsitem.aspx?key=7795>



The Center’s workshop and field day on 20 May 2011 to share information on the latest developments in vegetable breeding with researchers from Taiwan’s Council of Agriculture institutes was covered by several media outlets. Pepper breeding researcher **Jin Shieh** was featured with her “colored bells” bell peppers in the Liberty Times.

Liberty Times

<http://www.libertytimes.com.tw/2011/new/may/21/today-south14.htm#>

UDN

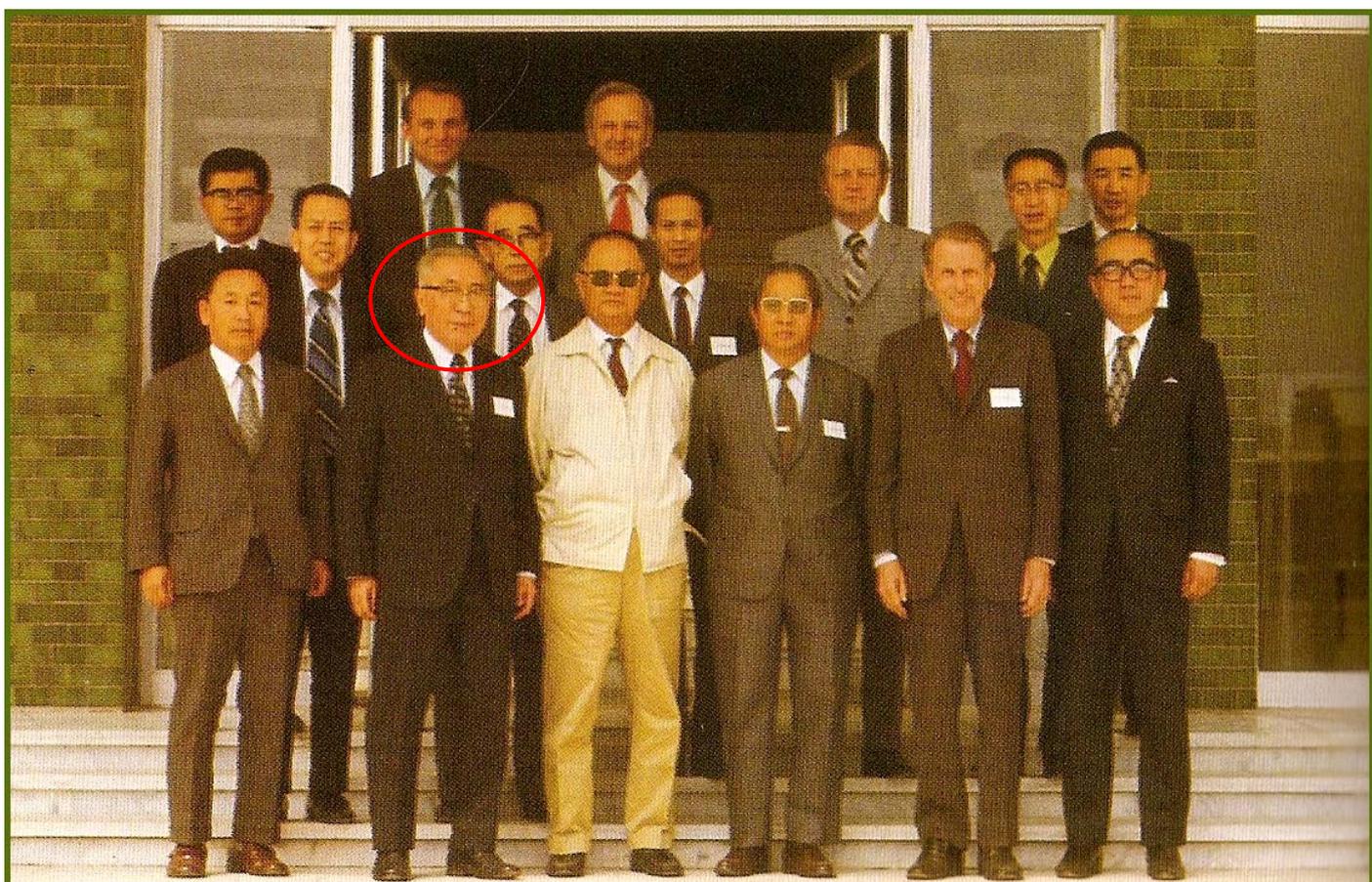
<http://udn.com/NEWS/LIFE/LIF1/6350039.shtml>

China Daily News

<http://www.cdns.com.tw/20110521/news/nsxw/U91005002011052018082795.htm>



40 years of service to tropical agriculture



The first meeting of the Board of Directors of the **Asian Vegetable Research and Development Center** was called to order by **Chairman T.H. Shen** (circled in

photo) on 24 May 1971. The meeting was held at the headquarters of the Sino-American Joint Commission on Rural Reconstruction (JCRR) in Taipei.

The architectural firm of Chen & Lee was selected to draw the construction plans for the new center.

