The World Vegetable Center Newsletter
Published by Communications
20 June 2008

Can small feed all?

Choose the key word in the following sentence: "The World Vegetable Center helps small-scale farmers safely produce high value, nutritious vegetables."

If the world is to be fed in the future, the word to focus on is "small." As Nobel economist Amartya Sen first observed in 1962, there is an inverse relationship between the size of farms and the amount of crops they produce per hectare. The smaller they are, the greater the yield.

Confirmed again and again, in studies from India to Thailand to Brazil, Sen's finding continues to confound the conventional economic wisdom associating efficiency with large scale. Small agricultural producers are less likely to own machinery, lack access to credit, and often don't know about the latest technology. How can they be more productive than a 500-hectare agribusiness?

The answer can be found in the fact that small-scale farmers use more labor (mostly members of their own families) per hectare than big farmers. With more labor, farmers cultivate their land more intensively: they sow more frequently, and often raise several different crops in the same field.

When peasant farmers make a good living off the land, they begin to channel some of their profit into small businesses; the economic vitality of countries like South Korea and Taiwan sprouted from ventures funded with capital amassed by thousands of smallholder farmers.

The World Vegetable Center provides the tools to help smallholder farmers do what they do best: farm. In Africa, the Center is developing 100 vegetable varieties bred for local conditions and working with public and private partners to set up seed distribution networks through the Vegetable Breeding and Seed Systems project (vBSS). In India, the Center's integrated pest management projects to control eggplant fruit and shoot borer have reduced pesticide use by 65–75%, leading to a reduction in the cost of production by 30%. IPM adopters have seen their net incomes increase by 60%. Several enterprising farmers launched small businesses to manufacture the sex pheromone traps used in the IPM strategy; as competition increased in the trap-making business, the price of traps decreased from US$1 to 0.10 – and more farmers can now afford to use the traps, further decreasing pesticide use and strengthening local economies.

Learn more:

"Our best chance of feeding the world," *The Guardian,* 10 June 2008

www.guardian.co.uk/commentisfree/2008/jun/10/food.globaleconomy

"Development of an Integrated Pest Management Strategy for Eggplant Fruit and Shoot Borer in South Asia," AVRDC – The World Vegetable Center Technical Bulletin No. 28

www.avrdc.org/pdf/TB28.pdf

The LIBRARY

New publications

... from Center staff

Pant, D., **Bhattarai, M.**, Basnet, G. (2008). Implications of bulk water transfer on local water management institutions: a case study of the melamchi water supply project in Nepal. Washington, DC : IFPRI. 27 pp.

You asked for...

Dr. Drissa Silue in RCA asked for publications on ***spider plant as an insect repellent or attractant plant.*** *Here's a brief selection:*

Knapp, M., Mugada, D.A., Agong, S.G. (2003). Screening tomato (*Lycopersicon esculentum* Mill.) accessions for resistance to the two spotted spider mite *Tetranychus urticae* Koch: population growth studies. INSECT SCIENCE AND ITS APPLICATION. v.23(1):15-19.

Machakaire, V., Turner, A.D., Chivinge, O.A. (2000). Agronomic and nutrition studies of two indigenous vegetables in Zimbabwe: *Cleome gynandra* (Shona=Nyeve, Ndebele=Ulude) and *Corchorus tridens* (Shona=Derere, Ndebele=Idelele). ACTA HORTICULTURAE. no.513:145-152.

Guo, Z., Weston, P.A., Snyder, J.C. (1993). Repellency to two-spotted spider mite, *Tetranychus urticae* Koch, as related to leaf surface chemistry of *Lycopersicon hirsutum* accessions. JOURNAL OF CHEMICAL ECOLOGY. v.19 (12):2965-2979.

Nihoul, P., Hance, T. (1993). Use of a damage index to evaluate the biological control of the two-spotted spider mite *Tetranychus urticae* Koch (Acari; Tetranychidae) on tomato crops. JOURNAL OF HORTICULTURAL SCIENCE. v.68(4):575-580.

Lee, W.T., Ho, C.C., Lo, K.C. (1990). Mass production of phytoseiids: I. Evaluation on eight host plants for the mass-rearing of *Tetranychus urticae* Koch and *T. kanzawai* Kishida (Acarina: Tetranychidae). JOURNAL OF AGRICULTURAL RESEARCH OF CHINA. v.39(2):121-132.

2007 Journal Impact Factors

We are pleased to announce that the **2007 Impact Factors** are now available on the library website for 64 of the **most important journals** our scientists use to publish their work. Please visit

libnts.avrdc.org.tw

and click on Author Guidelines to check the impact factor of your journal of interest.

— Fang-chin Chen, Communications

PEOPLE

Welcome

Buari, a research intern from PT East West Seed Indonesia, arrived at the Center on 15 June 2008 for two weeks of training. He will study "Evaluation for resistance to major fungal diseases of tomatoes and peppers" in the Mycology Unit under the supervision of Dr. Tien-cheng Wang. Contact Buari at 340 (office) and 871 (dormitory); email <buari@ewsi.co.id>.

— Lydia Wu, Communications

CORNUCOPIA

Making sure your e-mail arrives

A few issues have cropped up regarding the new **worldveg.org** email addresses.

First, when entering an email address in the **To:** box to send a message, do not place the *address* in quotation marks – double, single, or inverted. This will prevent it from being delivered. Simply write the person's full name separated by a full stop and let the system do the rest:

indy.jones@worldveg.org

If you accidentally send a message to an old or incorrect address it may be stored in your **Contacts** list and retrieved when you next try to send a message to that person. All the correct organizational addresses can be accessed by using the Contact picker. See FAQ 3 at **sites.google.com/a/worldveg.org/faqs/**

A fresh look at Africa

For a new view of a complex and fascinating continent, take a look at *Africa: Atlas of our Changing Environment*. Published by the United Nations Environment Program, this 400-page document, also available online, focuses on environmental change at more than 100 locations from Algeria to Zimbabwe. With current and historical satellite images, the atlas visually renders the impact of nature and humanity on the continent's environment over the past several decades. Visit this website for English and French versions, as well as related PowerPoint presentations, posters, images and maps:

na.unep.net/AfricaAtlas/AfricaAtlas/

SKETCH

Name: (Dr.) Shilpi Saxena

Home: I'm of Indian origin, but I was born in The Netherlands and grew up there, as well as in France, Germany, and the USA. Though I consider "Western Europe" as my overall home, currently it is Germany.

Position: Postdoc Geographer building up the organic vegetable marketing program in sub-Saharan Africa at RCA. I am also in charge of compiling and editing the newsletter from Africa, and for the inventory of our Africa offices.

Why you do what you do: During an internship in Geography in Darjeeling, India (1998), I saw the poverty of smallholder farmers in the Himalayan region, as well as small-scale organic vegetable projects conducted by NGOs. I decided to study this as my PhD, which took me back to Darjeeling and also to Japan. I completed my MSc and PhD from Mainz University, Germany and afterwards had the chance to work on the EU CORE Organic project (Coordination of European transnational research in organic food and farming), which gave me an idea of the organic research being conducted at a federal level in 11 European countries.

Why you do it at AVRDC: It is challenging and very interesting to see the differences and similarities of small-scale organic vegetable farming in my three project countries of Tanzania, Senegal and South Africa, and also to compare it to what I experienced in India and Japan.

Research: I'm researching how small-scale organic vegetable farmers market their produce, the constraints in the supply chain, consumer demands, and consumer awareness and willingness to pay for certified organic vegetables. Marketing is often neglected for small-scale farmers, and their produce is strongly geared to export markets, which neglects domestic opportunities. I hope to develop better marketing strategies for small-scale organic farmers and improve their incomes.

What's next? The future will tell.

Favorite vegetable: *Tinda* (Indian Squash).

FOCUS

Island connection

Setting roots: Planting a Madagascar Almond adjacent to the gate as a symbol for a productive partnership. From left to right: DDG Administration & Services Yin-fu Chang, DDG Research Jackie Hughes, H.E. Minister Ezechiel Joseph, H.E. Prime Minister Stephenson King, Mrs. Chou, and Taiwanese Ambassador to St. Lucia Mr. Tom Chou

It may be a tropical Caribbean paradise, but the island of **St. Lucia** faces many challenges to feed its 167,000 citizens. Rising food prices and turbulence in the banana export market are straining the island's agricultural sector. Opportunities to improve vegetable production were part of the discussion on 17 June, when St. Lucia's Prime Minister **Stephenson King** and his entourage, including **Ezechiel Joseph**, the country's Minister for Agriculture, Land, Fisheries and Forestry, visited AVRDC – The World Vegetable Center. The visit had been made possible by Taiwan's Ministry of Foreign Affairs.

After a presentation given by DDG-R Jackie Hughes, the delegation gained more insight into the Center's work on high-value vegetables through an exhibition of cucurbits and peppers. A drum-irrigation kit was on display as an example of resource-efficient technology. Snacks made from indigenous vegetables grown on campus were prepared and served. Bacterial wilt and anthracnose cause considerable losses to St Lucia's vegetable growers, and the delegation expressed a strong interest in the Center's resistant tomato lines and improved pepper lines. The links could grow stronger in the future: the Prime Minister welcomes the Center to work closely with the people of St. Lucia.

— Communications