



8 June 2007



Smallholder Farming: A Sector at Risk?

Smallholder farmers produce most of the food that is consumed globally, and in the majority of developing countries they are the mainstay of the local economy. But North and South smallholder producers are facing more than the technological challenges of tilling their fields. International trade agreements, lack of supportive policies as well as other obstacles such as subsidies, weigh heavily on smallholder farmers who struggle for economic survival.

Farming has become difficult, but a dramatic rise in investments in rural areas of the developing world would likely slow the exodus from rural communities and reduce global poverty and hunger. This is the conclusion of a recent panel discussion titled "Failing the farmer?" on BBC, which assembled 14 top-class guests to discuss the future of smallholder farming from a broad perspective. The panel ranged from Kevin Cleaver, Assistant President of IFAD, and Pedro Sanchez of the Earth Institute at Columbia Institute to representatives of NGOs and farmers movements from Africa, Asia, and Europe.

Part of the smallholder dilemma becomes apparent when looking at the decline of prices of many agricultural products. In real terms, the prices for commodities such as coffee, cocoa, palm oil are only a fraction of their value to small farmers over a quarter of a century ago. Although poor people work in agriculture, it would be a fallacy to cease poverty by getting rid of agriculture, as one participant of the BBC

panel phrased it. However, appealing only to donors and the private sector would not be sufficient. According to numbers provided by the World Food Program, developing countries invest between 5 to 10 percent of their annual budgets on agricultural development while between 60 to 80 percent of their populations live in rural areas and depend on farming for a living.

Small scale farms are not disadvantaged per se and not restricted to specialized niches. There is abundant evidence that poverty levels are lower in areas of high horticultural production. High value crops such as vegetables come in as promising alternatives for smallholder farmers - and they gain importance in the international discussions by development experts and agencies. The proposed CG challenge program on high value fruits and vegetables, that is discussed this week by the Center's Senior Management and other key actors in Nairobi, reflects the demand for sustainable growth in the horticultural sector.

There is a future for smallholder farms. This view is also shared by the BBC panelists. The tens of millions of small farms are a win win for economic growth and poverty reduction: "They are more efficient than large farms. They keep large numbers of people in paid productive work and they ensure secure supplies of food".

You can find a transcript of the complete discussion on BBC on the AVRDC intranet.

- Communications

New Publications (Articles & Books) Received by the Library

Chevre, A.M., Adamczyk, K., Eber, F., Huteau, V., Coriton, O., Letanneur, J.C., Laredo, C., Jenczewski, E., Monod, H. (2007). Modelling gene flow between oilseed rape and wild radish. I. Evolution of chromosome structure. *THEORETICAL AND APPLIED GENETICS*. v.114(2):209-221.

Eshraghi, L., Barbetti, M.J., Li, H., Danehlouepour, N., Sivasithamparam, K. (2007). Resistance in oilseed rape (*Brassica napus*) and Indian mustard (*Brassica juncea*) to a mixture of *Pseudocercospora capsellae* isolates from Western Australia. *FIELD CROPS RESEARCH*. v.101(1):37-43.

Falade, K.O., Igbeka, J.C., Ayanwuyi, F.A. (2007). Kinetics of mass transfer, and colour changes during osmotic dehydration of watermelon. *JOURNAL OF FOOD ENGINEERING*. v.80(3):979-985.

Marchionni Baste, E., Pratta, G.R., Zorzoli, R. (2007). Genetic analysis of the in vitro culture response in tomato. *PLANT CELL, TISSUE AND ORGAN CULTURE*. v.88(2):233-239.

Mercau, J.L., Dardanelli, J.L., Collino, D.J., Andriani, J.M., Irigoyen, A., Satorre, E.H. (2007). Predicting on-farm soybean yields in the pampas using CROPGRO-soybean. *FIELD CROPS RESEARCH*. v.100(2/3):200-209.

Patrick, H.K., Ngai, T.B. (2007). A lectin with antifungal and mitogenic activities from red cluster pepper (*Capsicum frutescens*) seeds. *APPLIED MICROBIOLOGY AND BIOTECHNOLOGY*. v.74(2):366-371.

Singh, A.K., Behera, T.K., Chandel, D., Sharma, P., Singh, N.K. (2007). Assessing genetic relationships among bitter gourd (*Momordica charantia* L.) accessions using inter-simple sequence repeat (ISSR) markers. *JOURNAL OF HORTICULTURAL SCIENCE & BIOTECHNOLOGY*. v.82(2):217-222.

Tabaldi, L.A., Ruppenthal, R., Cargnelutti, D., Morsch, V.M., Pereira, L.B., Schetinger, M.R.C. (2007). Effects of metal elements on acid phosphatase activity in cucumber (*Cucumis sativus* L.) seedlings. *ENVIRONMENTAL AND EXPERIMENTAL BOTANY*. v.59(1):43-48.

Vanaja, M., Reddy, P.R., Lakshmi, N.J., Maheswari, M., Vagheera, P., Ratnakumar, P., Jyothi, M., Yadav, S.K., Venkateswarlu, B. (2007). Effect of elevated atmospheric CO₂ concentrations on growth and yield of blackgram (*Vigna mungo* L. Hepper) - a rainfed pulse crop. *PLANT, SOIL AND ENVIRONMENT*. v.53(2):81-88.

United Nations System Standing Committee on Nutrition (2004). Fifth report on the world nutrition situation: nutrition for improved development outcomes. Geneva: SCN. vii, 129 pp.

New Popular Magazines Now Available in the Library

The Economist: Cleaning up – 2nd–8th June 2007

Scientific American: Did this molecule start life?
– June 2007

Time: Africa's oil – 11 June 2007



Recommended Web Link of the Week:

IPNI – International Plant Nutrition Institute

IPNI– is a new, not-for-profit, scientific organization dedicated to responsible management of plant nutrients – N, P, K, secondary nutrients, and micronutrients – for the benefit of the human family. With established programs in Latin America, North America, China, India, Southeast Asia, and planned expansion in other

areas of the world, *IPNI* is a global organization to respond to the world's demand for food, fuel, feed, and fiber. Please visit <http://www.ipni.net/>

- Source: Fang-chin Chen/Library Services Unit

News from AVRDC-ARC: AVRDC-ARC Meeting with RDI-KPS

A meeting between AVRDC-ARC and Kasetsart University Research and Development Institute Kamphaengsaen (RDI-KPS) staff has been planned for Friday, 8 June 2007 at the RDI-KPS Office in KU Kamphaengsaen Campus, to discuss joint project

development between KU and AVRDC-ARC. This is a further step towards enhancing collaboration as identified in the Memorandum of Agreement signed between the two institutions on 10 November 1992.

- Source: AVRDC-ARC

AVRDC Library New Website Online

Over recent weeks the Center's entire website has been updated, and the library website has introduced new features along with easier access to its main services. Containing over 1000 staff publications and providing subscriptions to over 1500 journals, the library also provides a gateway to thousands more online journals freely available to all staff worldwide. Targeted information services to support our research have been upgraded. You can subscribe to regular updates of the best literature on alliums, crucifers, cucurbits, eggplant, mungbean, pepper, soybean, tomato and indigenous

vegetables through the SDI Crop Bulletins, and access the author guidelines for over 40 journals in which we regularly publish. Next time you are in the library, take the opportunity to check out the collection of 14500 books carefully selected to support your research and development work – or check all the electronic resources available on your computer now. Please visit at <http://libnts.avrdc.org.tw/> for your information access on library website.

- Source: Communications

Travel

Dr. M.L. Chadha, 14-16 June, to Ludhiana, to participate in the farmer's field day on Summer

Mungbean organized jointly by Punjab Agricultural University (PAU) and AVRDC.

- Source: Dr. M.L. Chadha/DC-RCSA

Visitors

Ms. Win Win Kyi, a candidate for the position of Small Scale Enterprise Advisor RETA 6208 project, will come to the Center for interview from 11 to 14 June.

A group of 10 participants of the PCARRD Continuing Education Program, the Philippines will visit the Center on 14 June. They hope to learn more about AVRDC's research activities.

- Source: Communications

Upcoming Seminar

Speaker: Ms. Win Win Kyi

Topic: Role of Food Processing in Community-Based Small Scale enterprise Development

Time: 0900–1000 hours, Wednesday, 13 June

Venue: Library meeting room

All are welcome!

- Source: Communications

New Staff



The Center warmly welcomes Mr. Tang Chen-ming 湯鎮明, Field Laborer at Legume Unit. Mr. Tang reported for duty on 1 June 2007. He can be contacted at ext. 322.

- Source: Felisa Wang/HR

Indian mustard: A Popular Choice for Tomato Farmers

Indian mustard has a good chance to become popular with tomato growers in the tropics. Field trials in Central Taiwan have demonstrated, that Indian mustard as a green manure is a promising component to Integrated Pest Management combating bacterial wilt, one of the most severe diseases tomato production under tropical climate is confronted with. Integrated management of tomato bacterial wilt under intensive cropping systems has been a research focus for AVRDC's Bacteriology Unit over the past two years, and the latest results that Jaw-Fen Wang and her colleagues observed last week on a field day in Central Taiwan were encouraging. "42 days after transplanting, the integration of Indian mustard alone could reduce the disease incidence by 40 percent, while all rootstock treatments showed only 0 to 9 percent wilting", says Jaw-Fen Wang. The on-farm trial is located in Rona village on 700m altitude in the Nantou area. Tomato has been grown over the course of 4 years on the selected spot, but in the past two years, bacterial wilt has increasingly become a problem. Therefore, the field day met a high response. The participants included representatives of Shiyi Farmer Association, specialists from Taichung



District Agriculture Improvement Center (DAIS) and more than 90 farmers from the area. "To establish a successful and sustainable disease management, training and capacity building on the concepts of rotation and field sanitation are integral", explains Jaw-Fen Wang. And what's next? Together with the local extension and 4 communities in the area, more trials are planned in the near future. The control mechanism is highly complex and with testing of other varieties of Indian mustard the researchers want to be assured, that there is no location effect.

*-Source: Dr. Jaw-Fen Wang/
Disease Screening Training Course Coordinator*

News from AVRDC Goodwill Club



A heartfelt thanks to Lydia and her staff for organizing the Goodwill fundraiser lunch and cake sale that was held last Wednesday. Special thanks to Mrs. Luther who spent the last 3 weeks baking cheesecake to fill the orders. Lunch and cake orders and sale of Indian items raised an estimated NT \$20,000. There are still a few items left for sale (handmade cards NT\$100 and Indian bags NT\$150). Please see Dr. Srinii if interested in any of these items. Thanks to all AVRDC staff who participated

in this event. Please see Tina Yang to renew your Goodwill Club membership for 2007. Any AVRDC current staff (at headquarters or regional centers) their dependents, relatives or friends or former staff of AVRDC may join the club. Annual membership is \$1200. Your ideas for future events are always welcome.

愛心社由衷地感謝餐宿服務吳穗芳經理領軍的全體餐廳同仁，在週三的印式募款午餐會上所展現的菜色及服務，也特別感謝盧卡婷在過去三個禮拜以來不斷地烘培起士蛋糕來滿足所有支持者的訂單。這次餐會總共募集了約有新台幣20000元，還有一些手工卡片（100元）及印度包（150元）尚未售出，還有興趣購買者請逕洽施瑞霖博士。謝謝所有朋友的參與及支持，別忘了向楊雅婷續繳您的2007年的會員費，也歡迎還沒有加入會員的亞蔬同仁及親朋好友踴躍參加並提供您寶貴的意見，愛心社一年的會費是新台幣1200元。

- Source: Dr. Kathryn Hamilton/AVRDC Goodwill Club Coordinator

Positions Announcement

AVRDC – The World Vegetable Center is seeking the following staff who will be working at Bulb Allium/ Pepper Unit and supported under two projects; (1) Vegetable Breeding and Seed Systems for Africa (VBSSA-Gates); (2) ACIAR-Chilli IDM-Pepper.

本中心球莖蔥組及番椒組將招募執行專案計畫之「田間作業員」、「田間助手」及「研究助理」。

Field Laborer (VBSSA – Gates Project), Bulb Allium Unit

球莖蔥組徵「計畫田間作業員」乙名

Scope of Responsibilities: Executes routine tasks in field, greenhouse, bulb storage, and seed management; generally involves significant physical labor. **Specific Duties and Tasks:** Conducts routine activities such as sowing, land preparation, mulching, transplanting, weeding, irrigation, fertilizer and pesticide application, constructing cage for seed production, harvesting, and post-experiment cleanup; prepares soil or cultural media, sterilized trays/ pots; conducts emasculation and hand-pollination during winter season; conducts seed extraction and prepares seed for shipment; prepares seed for sowing and manages seedlings nursery; assists in taking records at harvest, during storage, and other experiments; produces pollinator flies, and distributes to onion seed production cages; maintains ambient

storage trial materials (often odorous). **Qualifications:** Junior high school education or equivalent; Physically capable of significant heavy labor; Experience in field tasks and activities.

主要負責：田間、溫室、貯藏室、種子生產等耗體力的洋蔥試驗工作。田間工作：播種、整田、移植、除草、灌溉、施肥、噴藥、分級採收以及實驗結束後之清理；搭蓋採種網室、授粉虫媒蒼蠅的飼養與釋放；栽培介質的調配與消毒；人工去雄及授粉；種子萃取及包裝；儲藏試驗之清理與調查。應徵資格：國中畢業或相當學歷；耐粗重工作、具田間工作經驗者。

Field Helper (VBSSA – Gates Project), Bulb Allium Unit

球莖蔥組徵「計畫田間助手」乙名

Scope of Responsibilities: Provides skilled assistance to technical and routine aspects of the breeding program; Assists with glass house/screen house experiments and maintenance of these facilities. **Specific Duties and Tasks:** Conduct hand-pollinations according to experimental plans; prepare seed for sowing and manages seedling nursery for all experiments; assure maintenance of screen house/ experiments and facilities including manual irrigation; handle seed extraction, treatment, drying, packaging, weighing (counting), inventory, and storage with supervision by the research assistant; assist with routine data collection; assist with seed requests, shipments, and maintenance of supplies; cooperate with other units regarding interdisciplinary activities; cooperate with Research Assistant and Field Assistant to layout and transplant seedlings in all field trials; assist in yield trial data collection, including plant and bulb measurements, yield, and disease incidence; Establishes and manages seed production cages, including pollinator insect production; manages and collects data in Ambient

Storage trials and materials (may be smelly). **Qualifications:** High school education or equivalent; Physically capable of field work, such as pesticide application, transplanting, etc.; experience in greenhouse operations and management; ability to communicate in English as well as Mandarin/ Taiwanese; willing to work on weekends or holidays.

主要負責：協助育種相關之技術性工作；配置溫室/網室試驗與操作維護。洋蔥種子生產：包括人工雜交與授粉、網罩設置、虫媒蒼蠅與蜜蜂的飼養和釋放；種子萃取、處理、包裝、稱重、盤點與寄運；穴盤育苗、網室內盆株之栽培管理；協助田間助理進行田間試驗與儲藏試驗；協同研究助理與其他合作單位進行試驗；數據調查和資料整理，包括產量、病害等。應徵資格：中學畢業或相當學歷；能勝任田間工作例如噴藥、移植等；具溫室管理經驗；會說英文、中文及台語者尤佳；能配合假日加班者。

Research Assistant (VBSSA – Gates project), Pepper Unit

番椒組徵「計畫研究助理」乙名

Scope of Responsibilities: Executes the plans outlined by the senior scientist and Principal Research Assistant according to the objectives of Action Plans and the PMS (Project Management System); actively participate in facilitating the daily activities of the pepper breeding unit. **Specific Duties and Tasks:** assist with all aspects of the International Chili Pepper Nursery and International Sweet Pepper Nursery, as outlined by the senior scientist; manage seed harvests and seed inventory; execute seed requests and shipments at the instruction or approval of the senior scientist; cooperate with other units regarding interdisciplinary activities; prepares routine administrative forms (job orders, requisitions, leave requests etc.) and assure maintenance of unit facilities and equipment with the field assistant; assist with technical aspect of the breeding activities, including data collection, computer input and statistical analysis of research results, and actively prepares summary reports of research findings, in English and Chinese languages; assume responsibility for particular activities, including crossing blocks, assays, selections, generation advance, trials, and report preparation, in consultation with unit head and Principal Research Assistant; maintain computer files safely, with regular backups and archiving; maintain photographic database of yield trial entries, and other plant info; support activities in coordination with National Breeding Units established

under the Vegetable Breeding and Seed Systems for Africa project. **Qualifications:** Bachelor of Sciences degree or equivalent, in Horticulture or related subject; working knowledge of vegetable crops, breeding, or related skills; fluent in spoken and written Mandarin, Taiwanese, and English languages; experience in using computer programs such as Windows, Word, Excel, PowerPoint, Access, etc.

主要負責：依據專家或資深助理提出的研究工作；積極地參與番椒育種組試驗工作及日常管理工作。**工作執掌：**協助專家提出之所有國際性的辣椒及甜椒育種研究；管理種子採收及儲藏；種子索求及寄送事宜；與其他單位合作參與各學科間之研究；處理一般行政業務，例如打工作申請單、採購單、請假單等；試驗器材之管理與維護；育種研究之技術協助，如：收集研究資料、輸入電腦、結果統計與分析、準備中文及英文研究報告；與專家及資深助理商議有關雜交試驗、品系進代與選拔試驗；維護電腦檔案之安全、做備份、歸檔；產量試驗品系圖檔與資料維護與保存；協助非洲「國家育種」計劃之進行。**應徵資格：**園藝或相關科系畢業之學士或同等學歷；具作物、育種知識或相關技能；中、英文說寫流利，會說台語；熟悉Word, Excel, PowerPoint, Access等電腦軟體。

Field Laborer (VBSSA – Gates Project), Pepper Unit

番椒組徵「計畫田間作業員」乙名

Scope of Responsibilities: Execute routine tasks involving field, greenhouse, and seed management generally related to physical labor requirements. **Specific Duties and Tasks:** Conduct routine activities such as land preparation, sowing, transplanting, mulching, weeding, irrigation, fertilizer and pesticide application, constructing tunnels/cages, harvesting, and post-experiment cleanup (stakes, mulches, etc.); prepare soil or planting media, and sterilized trays/pots for sowing greenhouse or field experiments; conduct seed extraction; maintains cleanliness and organization of work rooms, facilities, and supplies. **Qualifications:** Junior high school education or equivalent; physically capable of significant heavy labor; experience in field tasks and activities.

主要負責：田間、溫室、種子管理等耗體力的工作。**工作包括：**整田、播種、苗移植、架枝備畦、鋤草、灌溉、施肥、噴藥、挖壕溝與尼龍網架之搭建、採收以及田間管理等；溫室及試驗田栽種介質之準備與消毒；剝種子；工作室、試驗器材之管理與維護。**應徵資格：**國中畢業或相當學歷；耐粗重工作；具田間工作經驗者。

Field Helper (ACIAR-Chilli IDM-Pepper project), Pepper Unit

番椒組徵「計畫田間助手」乙名

Scope of Responsibilities: Execute routine tasks involving field, greenhouse, and seed management generally related to physical labor requirements. **Specific Duties and Tasks:** Conduct hand-pollinations according to experimental plans; prepare seed for sowing and manages seedling nursery for all experiments; assure maintenance of screen house/ experiments and facilities including manual irrigation; handle seed extraction, treatment (Na_3PO_4), drying, packaging, weighing (counting), inventory, and storage with supervision by the research assistant; assist with routine data collection; assist with seed requests, shipments, and maintenance of supplies; cooperate with other units regarding interdisciplinary activities; cooperate with Research Assistant and Field Assistant to layout and transplant seedlings in all field trials; assist in yield trial data collection, including fruit and plant measurements, yield, and disease incidence. **Qualifications:** High school education or equivalent;

Application: Submit a letter of application, Curriculum Vitae, with names, and contact addresses (phone number and e-mail) of three referees. Send to: Ms Felisa Wang, Human Resources, AVRDC - The World Vegetable Center, P.O. Box 42, Shanhua, Tainan 74199, Taiwan; e-mail: jobapply@netra.avrdc.org.tw
losing Date: The closing date for applications is 30 June 2007.

Organic Rice for Sale 有機米出售

Rice from the Center's organic farm can be ordered starting today and will be delivered on 13 June. The prices are NT\$200 for 5 kgs (60 sacks available) and NT\$400 for 10 kgs (60 sacks available). Interested people please register at Farm Office, ext. 505.

Mosquito Control, Headquarters, Saturday, 9 June

The mosquito insecticide spraying within the Center's campus will be scheduled next Saturday, 9 June. The contractor will begin spraying at 0900 hours starting from the residential area and completing the whole campus around 1600 hours.

physically capable of field work, such as pesticide application, transplanting, etc.; experience in greenhouse operations and management; ability to communicate in English as well as Mandarin/Taiwanese.

主要負責：田間、溫室、種子管理等耗體力的工作。工作包括：人工授粉、栽種幼苗、網室試驗設施之維護，包括手動操作灌溉；在研究助理督導下剝種子、處理、乾燥、包裝、稱重、盤點、儲藏；協助收集資料、種子裝運、庫存管理等；與其他單位合作參與各學科間之研究；協同研究助理及田間助理設計試驗田及移植種苗；協助田間產量試驗數據收集，包括果實與植株性狀調查，產量與田間抗病率等。應徵資格：中學畢業或相當學歷；能勝任田間工作例如噴藥、苗移植等；具溫室經營及管理經驗者；會說英文、中文及台語者。

應徵方式：請將履歷表以及三位介紹人姓名、聯絡地址（包括電話、電子郵件信箱）寄到：亞蔬 - 世界蔬菜中心，台南縣善化鎮郵政信箱42號，人事室。

電子郵件信箱：jobapply@netra.avrdc.org.tw

截止收件日期：2007年6月30日

- Source: Felisa Wang/Human Resources

亞蔬有機田區生產的米即日起開始訂購於6月13日交貨。價格是5公斤裝每袋200元，共60袋；10公斤裝每袋400元，共60袋。有興趣同仁請向農場登記（分機505）。

- Source: Janice Chou/TSO

6月9日（星期六）上午9點至下午4點，中心園區將進行殺蟲劑噴灑作業，請大家注意安全！

- Source: Janice Chou/TSO