

REPORT OF THE

International Conference on Sharing Innovative Agribusiness Solutions

From Farms to Markets: Providing Know-how and Finance
26 – 27 November 2008 Cairo, EGYPT



UNITED NATIONS
INDUSTRIAL DEVELOPMENT ORGANIZATION

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Contents

1. INTRODUCTION	1
1.1. The Conference	1
1.2. Innovative Approach of the Conference.....	2
1.3. Global Context and Thrust of the Conference	3
2. THE CONFERENCE	5
2.1. Conference Agenda	5
2.2. Opening Session	10
Opening remarks.....	10
Interactive panel discussion.....	11
2.3. Session I: Introduction and discussion of themes and solutions	12
Supply/value chains, market access and linkages.....	12
Compliance with standards and conformity assessment.....	14
Technology and value addition	17
Innovative forms of financing	26
2.4. Introduction by Mr. Helmy Abouleish.....	30
2.5. Tour of SEKEM Farm	30
2.6. Session II: Solution Sharing and Matchmaking.....	36
Matchmaking sessions	36
Presentations and discussions of individual solutions	39
2.7. Award-winning solutions.....	46
2.8. Closing Session	52
Conclusions on the thematic discussions.....	53
Closing ceremony.....	55
3. RESULTS AND FOLLOW-UP ACTIVITIES.....	57
APPENDIXES	59
A. Opening remarks.....	59
B. List of solutions submitted	63
C. Summary reports of the four Conference themes	69
D. Conference Application Forms	123
E. Special Thanks	128



1. INTRODUCTION

1.1. The Conference

The first International Conference on Sharing Innovative Agribusiness Solutions, held in Cairo, Egypt, from 26 to 27 November 2008, brought together over 400 agribusiness stakeholders from more than 65 countries, including representatives of private and public institutions (technical and financial), international organizations, donor countries, civil society, universities and research institutions to share innovative agribusiness solutions. The Conference was organized by UNIDO, in close cooperation with the Government of Egypt and the SEKEM initiative; it was also supported by the Food and Agriculture Organization (FAO) and co-financed by the Italian Development Cooperation and the Swiss State Secretariat for Economic Affairs, as well as local sponsors.

The Conference highlighted innovations and best practices that have proven successful in specific countries or regions, but have not yet been shared globally, and encouraged their up-scaling and replication in other developing countries. Many different players in the agribusiness value chain were able to find partners or solutions to specific problems, and/or to share experiences and discuss ways to replicate them.

The solutions that were shared during the event were particularly helpful to small-scale farmers and producers in entering domestic and international food value chains, by enhancing compliance with international food quality, safety and traceability standards and regulations. Other solutions focused on innovative forms of financing and technology and have helped to increase productivity, reduce post-harvest losses, minimize environmental

Opening session, Sekem Farm





damage and improve access to essential information, such as market prices, for small-scale farmers in remote areas.

The Conference encouraged both North-South and South-South cooperation and the numerous new partnerships that resulted from the event are being actively supported by UNIDO through its network of Investment and Technology Promotion Offices and Units (ITPOs/IPUs) and UNIDO partners.

A range of follow-up activities has been initiated, including a new project, supported by the Italian Development Cooperation, to extend ETRACE's (UNIDO's Egyptian Traceability Centre for Agro-Industrial Exports was the inspiration for the Conference) activities and assist other developing countries or countries in transition in the establishment of similar centres. Further follow-up initiatives to the Conference focus on promotional and outreach activities such as the development of an interactive networking and matchmaking platform for agribusiness practitioners, which will allow sharing more innovative solutions and best practices with more participants on a continuous basis and thus foster more business and development partnerships.

1.2. Innovative Approach of the Conference

The Conference inspired new approaches to interactions throughout the agribusiness value chain. Unlike most conferences, where problems are discussed and needs assessed, the Cairo Conference fostered the exchange of concrete solutions and best practices, giving participants the opportunity to interact in an informal panel discussion format inspired by the famed World Economic Forum in Davos, Switzerland. The conference encouraged lively debates among a wide range of agribusiness actors and facilitated numerous bilateral meetings between potential partners.

The first day of the Conference was held on the well-known SEKEM Farm outside Cairo, which has been awarded the Alternative Nobel Prize in 2003 for a "21st century business model which combines commercial success with social and cultural development". This was the first time that an international conference had selected a farm as its venue. It gave participants from Africa, Asia, Europe, Latin America and the Middle East an opportunity to interact in an informal environment and gain first-hand experience on how innovative solutions are being applied in Egypt, including biodynamic agriculture, ecological waste management and carbon footprint certification.

Viable agribusiness solutions were demonstrated through case studies. Participants submitted more than 120 innovative solutions, which were assessed and rated by a panel of experts prior to the Conference. The most innovative solution in each of the four conference themes was recognized by an award during the closing ceremony. In addition, three special awards were presented for outstanding achievements in agribusiness development.

One of the most praised components of the Conference was the organization of bilateral matchmaking meetings between participants. The Conference organizers adapted the unique UNIDO Investment and Technology Promotion Network methodology for business matchmaking to give private businesses, farmers and farmers associations, technical and financial institutions, international organizations, NGOs, government institutions and academics the opportunity to discuss concrete business and cooperation opportunities and forge new alliances.

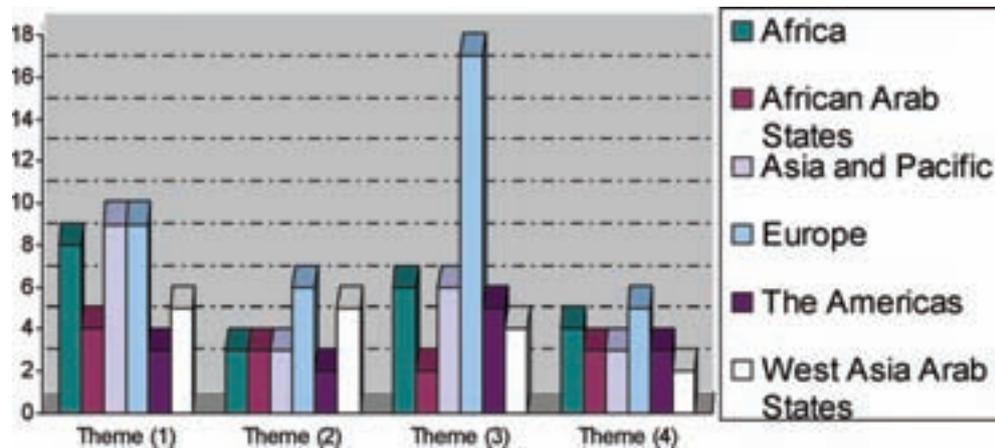
The process of selecting conference participants was also innovative. In line with the



conference objective of bringing together solution seekers with solution providers, rather than being based on government nominations, all participants were selected by a technical committee. Selections were based on their applications, which described either the innovative solution they were presenting and/or their motivation and origin of their interest in seeking a solution. (The forms that were used to submit and seek solutions are included in the appendixes of this report.)

Finally, even the financing of the event was innovative, using funds from UNIDO (39%), from donors and FAO (32%) and funds from local sponsors (29%).

Submitted solutions by theme and region



1.3. Global Context and Thrust of the Conference

Three quarters of the world's poor live in rural areas; they depend directly or indirectly on agriculture-based activities for their livelihood. The 2008 food crisis, which was further exacerbated by the financial crisis, showed the extreme vulnerability of developing countries to fluctuations in food prices and supplies. At the "Global Agro-Industries Forum – Improving Competitiveness and Development Impact" organized by UNIDO, FAO, IFAD and the Government of India in New Delhi, 8-11 April 2008, as well as at the World Food Summit held in Rome in June 2008, the international community called for urgent measures that would benefit farmers and food producers in developing countries, to be deployed towards increasing productivity, strengthening capacities in quality, standardization and conformity assessment, and integrating local, regional and international markets.

As an immediate response, and based on UNIDO's expertise and comparative advantage in these fields, its Director-General, Dr. Kandeh K. Yumkella, suggested hosting a conference that would actively foster the exchange of best practices and concrete solutions to these



problems, which had the potential to be scaled-up and/or transferred to other countries or regions. The approach promoted by UNIDO, the United Nations' specialized industrial agency, is to enable developing countries to help themselves. One of the Organization's main activities is building trade capacity, helping developing countries to comply with market requirements and standards, to develop their production and supply capabilities and to attract investments. Thus, UNIDO fosters developing countries' access to export markets, while protecting consumers and the environment.

Following the Director-General's recommendation, the UNIDO Trade Capacity Building Branch took the lead in developing the Conference's strategic approach, its focus and activities. A major inspiration for the Conference was the UNIDO ETRACE programme, which illustrates the Organization's trade capacity building assistance to its Member States. UNIDO, together with the Italian Development Cooperation and the Egyptian Ministry of Trade and Industry, launched the Egyptian Traceability Centre for Agro-Industrial Exports (ETRACE) in Cairo in July 2004 to help the country's food producers and exporters comply with international food quality, safety and traceability standards. Until today, ETRACE has reached around 45,000 farms and has benefited nearly 5 million Egyptians.



2. THE CONFERENCE

2.1. Conference Agenda

WEDNESDAY 26 NOVEMBER 2008 - SEKEM FARM, Belbeis

9:15- 11:15

OPENING SESSION

Moderator: Todd Benjamin (CNN International, Contributing Financial Editor)

a) Opening Remarks

- Dr. Ibrahim Abouleish, Founder of SEKEM
- Dr. Yoshi Uramoto, Deputy to the Director-General, UNIDO
- H.E. Counsellor Giovanni Maria De Vita, Head, Commercial Office, Italian Embassy to Egypt
- On behalf of H.E. Amin Ahmed Abaza, Minister of Agriculture and Land Reclamation, Egypt: Dr. Saad Nassar, Special Advisor to the Minister
- On behalf of H.E. the Egyptian Prime Minister, Dr. Ahmed Mahmoud Mohamed Nazif: H.E. Dr. Othman Mohamed Othman, Minister of Planning and Local Development

b) Interactive panel discussion (Davos format) with members of the "International Advisory Board" on Sharing Innovative Agribusiness Solutions

Panelists:

- Dr. Yoshi Uramoto, Deputy to the Director-General, UNIDO
- Dr. Ibrahim Abouleish, Founder of SEKEM
- Mr. M. Albraithen, Assistant Director-General for the Near East, Food and Agriculture Organization of the UN (FAO)
- Mr. Nasser Al-Kahtani, Executive Director, Arab Gulf Programme for United Nations Development Organizations (AGFUND)
- Mr. Ian Bretman, Director of Strategy and Policy, Fairtrade Labeling International
- Mr. Alan Bryden, Secretary-General, International Organization for Standardization (ISO)
- Mr. Mansour Cama, UNIDO Goodwill Ambassador and CEO, Senegalese Investment Company
- Dr. Ashok Gulati, Director in Asia, International Food Policy Research Institute (IFPRI)
- Mr. Michael Essex, Director for the Middle East and North Africa, International Finance Corporation (IFC), Member of the World Bank Group
- Father Godfrey Nzamuju, Director-General, Songhai Center
- Mr. Ranjit Page, CEO, Cargills (Ceylon) Ltd.
- Mr. Mangina Srinivas Rao, ITC Ltd. Agri Business Division
- Mr. Daniele Rossi, Director-General, Italian Food Industry Association (Federalimentare)
- Mr. Abdul-Rahman Taha, General Manager, Islamic Corporation for Insurance of Investments and Export Credits (ICIEC)

11:45 -17:30

SESSION I: INTRODUCTION AND DISCUSSION OF THEMES AND SELECTED INNOVATIVE AGRIBUSINESS SOLUTIONS

11:45

a) Supply/value chains, market access and linkages

Presentation by: Prof. Thomas Reardon, Department of Agricultural, Food and Resource Economics, Michigan State University, USA (UNIDO Expert)

Moderated by: Mr. Doyle Baker, Chief, Rural Infrastructure and Agro-Industries Division, Food and Agriculture Organization of the UN (FAO)



Panelists:

- Mr. Mangina Srinivas Rao, TC Ltd. Agri Business Division, "Choupal Saagar & e-Choupal: Hub and spokes as Rural Business Platform", India
- Ms. Bhushana Karandikar, Mahagrapes, "Enabling small farmers to access overseas markets", India
- Mr. Pradeep Neermul, Ministry of Agro Industry, Food Production and Security, "Seafood Hub", Mauritius
- Mr. Sy Mohamed Lamine, Association Africa agro Export (AAFEX), "The experience of Association Africa agro Export", Burkina Faso

12:30 b) Compliance with standards and conformity assessment

Presentation by: Dr. Marian Garcia Martinez, Senior Lecturer, University of Kent, UK (UNIDO Expert)

Moderated by: Mr. Alan Bryden, Secretary-General, International Organization for Standardization (ISO)

Panelists:

- Mr. Mahmoud El Bassyouny, Etrace, "Traceability of Agro Industrial Products for the European Market", Egypt
- Mr. Apollo Onyango, Kenya Horticultural Exporters Ltd., "Providing market opportunities to Smallholder Farmers through Simple Quality Management Systems", Kenya
- Ms. Morag Webb, Europe-Africa-Caribbean-Pacific Liaison Committee Pesticides Initiative Programme (COLEACP-PIP), "Supporting compliance within the ACP Fresh Fruit and Vegetable Sector", ACP Countries
- Mr. David Denton, Chartered Institute of Environmental Health (CIEH), "CIEH-UNIDO partnership in food safety qualifications" (The case of Sri Lanka), UK
- Prof. Hamish Gow, Partnership for Food Industry Development (PFID), Michigan State University, for the "Global food Safety Initiative (GFSI)", USA

13:15 c) Technology and value addition

Presentation by: Prof. Achille Franchini, Head of Department of Food Science, University of Bologna, Italy (UNIDO Expert)

Moderated by: Mr. Daniele Rossi, Director-General, Italian Food Industry Association (Federalimentare)

Panelists:

- Mr. Alberto Ghiraldi, NOMOS SRL, "Passive refrigeration for post-harvest/post-slaughter/post-fishing/post-milking storage and transport of perishable foodstuff", Italy
- Mr. Baoxing Zhao, Beijing Liangmo Technology Development Co. Ltd., "Grain Storage Technology", China
- Mr. Guy F. Reinaud, Pro-Natura International, "Green charcoal and biochar", France
- Mr. Ayed Amr, Higher Council for Science and Technology, "Role of Science & Technology in Agribusiness", Jordan

14:00 d) Innovative forms of financing

Presentation by: Mr. Ron Kopicki, former Senior Private Sector Development Specialist, World Bank, USA (UNIDO Expert)

Moderated by: Mr. Nasser Al-Kahtani, Executive Director, Arab Gulf Programme for United Nations Development Organizations (AGFUND), Saudi Arabia

Panelists:

- Mr. Fritz Monking, Horus Food & Agribusiness Equity Fund / Rabobank, "Provision of Risk Capital", Egypt
- Mr. Ranjit Page, CEO, Cargills (Ceylon) Ltd., "Linking Small Farmers to the Market Place", Sri Lanka
- Mr. Michael Essex, Director for the Middle East and North Africa, International Finance Corporation (IFC), Member of the World Bank Group, Egypt
- Mr. Coast Sullenger, GAIA International, "GAIA World Agri Fund", Switzerland

14:45 Introduction by: Mr. Helmy Abouleish, Managing Director of the SEKEM Group and Chairman of the Management Council of Egypt's Industrial Modernization Centre (IMC)

15:00 Organic lunch hosted by SEKEM

16:00 e) Tour of SEKEM Farm: Applied Agribusiness Solutions



THURSDAY 27 November 2008 - FAIRMONT HOTEL, Heliopolis, Cairo

8:30-15:00 SESSION II: SOLUTION SHARING AND MATCHMAKING

8:30-15:00 a) Individual matchmaking to promote replication/scaling up of innovative agribusiness solutions
WHITE CONFERENCE HALL

8:30-11:45 b) Parallel sessions: presentations & discussions of individual agribusiness solutions and other topics
COLOURED CONFERENCE HALL

THEME 1: SUPPLY/VALUE CHAINS, MARKET ACCESS AND LINKAGES

GROUP 1.1 Chair: Dr. Ashok Gulati, Director in Asia, International Food Policy Research Institute (IFPRI), India
Rapporteurs: Prof. Thomas Reardon, Department of Agricultural, Food, and Resource Economics Michigan State University, USA (UNIDO Expert), Ms. Kavery Ganguly, IFPRI, India

Panelists:

- Dr. Mohamed Esham, Sabaragamuwa University of Sri Lanka, "Farmer-Agribusiness Linkages -- A Case Study of Hybrid Maize", Sri Lanka
- Ms. Bhushana Karandikar, Mahagrapes, "Enabling small farmers to access overseas markets", India
- Mr. Ranjit Page, CEO, Cargills (Ceylon) Ltd., "Linking Small Farmers to the Market Place", Sri Lanka
- Mr. Ian Bretman, Director of Strategy and Policy, Fairtrade Labeling International, "Fairtrade Labeling" UK
- Mr. Guy-Amédée Ajanooun, Union Economique et Monétaire Ouest Africaine (UEMOA), "Regional Approach to Agribusiness development" - (in French), Burkina Faso
- Mr. Mangina Srinivas Rao, TC Ltd. Agri Business Division, "Choupal Saagar and e-Choupal: Hub and spokes as Rural Business Platform", India

Questions and Answers for Group 1.1

GROUP 1.2 Chair: Mr. Doyle Baker, Chief AGSF (Agricultural Management, Marketing and Finance Service), Food and Agriculture Organization of the UN (FAO)
Rapporteur: Prof. Thomas Reardon, Department of Agricultural, Food, and Resource Economics, Michigan State University, USA (UNIDO Expert)

Panelists:

- Ms. Catalina Alvarez, National Federation of Colombia Coffee Growers, "Innovative Intervention Models for the Coffee Sector", Colombia
- Mr. Ali Berrada, UNIDO, "UNIDO Export Consortia Programme", Morocco
- Mr. Likando Mukumbuta, Zambia Agribusiness Technical Assistance Centre (ZATAC) Ltd., "Developing competitive export capacity for a small group business through Enterprise Development Support (EDS) and innovative financing", Zambia
- Prof. Rami Zurayk, American University of Beirut, "Business Solution to help smallholder organic producers" Lebanon
- Mr. Ajay Kakra, YES Bank Limited, "Integrated Agro Food Park" (IAFP), India
- Mr. Daniele Rossi, Director-General, Italian Food Industry Association (Federalimentare), "Links between the agro-industrial value-chain and innovation in Europe and the Mediterranean", Italy
- Mr. Alexander Kasterine, Senior Market Development Adviser, International Trade Centre (UNCTAD/WTO), "ITC experience in supporting Organic farming", Switzerland

Questions and Answers for Group 1.2

11:45-15:00 b) Parallel sessions: presentations & discussions of individual agribusiness solutions and other topics
COLOURED CONFERENCE HALL



THEME 2 COMPLIANCE WITH STANDARDS AND CONFORMITY ASSESSMENT

GROUP 2.1 **Chair:** Mr. Lalith Goonatilake, Director, Trade Capacity Building Branch, UNIDO
Co-Chair: Ms. KENZA Le Mentec, Economic Affairs Officer, World Trade Organization (WTO) – Secretariat of the Standards and Trade Development Facility (STDF)
Rapporteur: Dr. Marian Garcia Martinez, Senior Lecturer, University of Kent, UK (UNIDO Expert)

Panelists:

- Mr. Mahmoud El Bassyouny (Etrace), Mr. Vincenzo Puliatti, IT Synergy, Mr. Samir El-Gammal (GOIEC), Egypt, "Traceability of Agro Industrial Products for the European Market"
- Mr. Simon Derrick, Blue Skies Holdings Ltd., "Caretrace", UK
- Mr. Silas Nghabi Ng'habi, VEFDA-Tanzania, "Quality Assurance, Food Safety and Traceability in the Honey Supply Chain - from Bee-to-Bottle", Tanzania
- Mr. Apollo Onyango, Kenya Horticultural Exporters Ltd., "Providing market opportunities to Smallholder Farmers through simple Quality Management Systems", Kenya
- Mr. David Denton, Chartered Institute of Environmental Health (CIEH), "CIEH-UNIDO partnership in food safety qualifications: The case of Sri Lanka", UK

Questions and Answers for Group 2.1

GROUP 2.2 **Chair:** Prof. Hamish Gow, Partnership for Food Industry Development, Michigan State University, USA
Rapporteur: Dr. Marian Garcia Martinez, Senior Lecturer, University of Kent, UK (UNIDO Expert)

Panelists:

- Ms. Morag Webb, COLEACP PIP, "Supporting compliance within the ACP Fresh Fruit and Vegetable Sector", ACP Countries
- Mr. Israel De la Cruz, Bureau of Agriculture and Fisheries Product Standards, "Good Agricultural Practices Certification: Increasing Marketability of Philippine Fruits and Vegetables", Philippines
- Ms. Florence Nagawa, Agro Eco Eastern Africa Branch/ EPOPA, Export Promotion of Organic Products from Africa: Development through Trade", Uganda
- Mr. Thierry Alban Revert, International consortium of Future Energies (ICOFEH), National Organic Produce Initiative, South Africa
- Mr. Said Sabri, Palestinian Gardens (Palgarden), "Rurally Produced, Globally Treated Through Private Partnership", Palestine
- Mr. Marco Falappa, SINT Technologie, "Improvement of the hygienic/sanitary conditions in the meat chain", Italy

Questions and Answers for Group 2.2

8:30-11:45 **b) Parallel sessions: presentations & discussions of individual agribusiness solutions and other topics**
ROCK CONFERENCE HALL

THEME 3 TECHNOLOGY AND VALUE ADDITION

GROUP 3.1 **Chair:** Mr. Karl Schebesta, Agro-Industries Branch, UNIDO
Co-Chair: Prof. Mohamad Gomaa, Independent Consultant
Rapporteur: Prof. Achille Franchini, Head of Department of Food Science, University of Bologna, Italy (UNIDO Expert)

Panelists:

- Mr. Baoxing Zhao, Beijing Liangmo Technology Development Co. Ltd., "Grain Storage Technology", China
- Prof. Chahbani Bellachheb, Arid Regions Institute, "Buried diffusers: a new irrigation technique for trees, vegetables and plants in containers", Tunisia
- Mr. Emmanuel Kwaya, Raw Materials Research and Development Council, Prof. Ayoade Kuye, University of Port Harcourt, "Design, Fabrication, Installation and Testing of an improved flash dryer for producing 500 kg/hour of high quality cassava flour", Nigeria
- Mr. Luciano Mondardini, Pavan SRL, "Small scale complete transformation units from grains to finished products for



composite precooked flours, cous cous and pasta", Italy

- Mr. Armando Barozzi, FAVA, "Advanced technology for transforming semolina or soft wheat flour into pasta or couscous", Italy

Questions and Answers for Group 3.1

GROUP 3.2 **Chair:** Mr. Amr Farouk, Director, Business Development and Compliance, SEKEM Group, Egypt
Rapporteur: Prof. Achille Franchini, Head of Department of Food Science, University of Bologna, Italy (UNIDO Expert)

Panelists:

- Ms. Noemi Edith Cermesoni, TriTellus SRL, Production of biodegradable and compostable bags, waste management and Plant for the production of compost, Argentina
- Mr. Guy F. Reinaud, Pro-Natura International, "Green charcoal and biochar", France
- Mr. Matthew Hayden, Trade Plus Aid Africa, "Carbon Driven Biogas Program", South Africa
- Mr. Alberto Ghiraldi, NOMOS SRL, "Passive refrigeration for post-harvest/post-slaughter/post-fishing/post-milking storage and transport of perishable foodstuff", Italy
- Mr. Ayed Amr, Higher Council for Science and Technology, "Role of Science & Technology in Agribusiness", Jordan
- Mr. Il Chul Ri, Embassy of the Democratic People's Republic of Korea in Austria, "Songchon goat milk dairy project", DPR Korea
- Mr. Giuseppe Martelli, Bio-Energy solutions, BioEnergy, Italy
- Mr. Tobias Bandel, Eco Profit, "CO2 Assessment, Carbon footprint experience", Egypt

Questions and Answers for Group 3.2

11:45-15:00 **b) Parallel sessions: presentations & discussions of individual agribusiness solutions and other topics**
ROCK CONFERENCE HALL

THEME 4 INNOVATIVE FORMS OF FINANCING

GROUP 4.1 **Chair:** Mr. Abdul-Rahman Taha, General Manager, Islamic Corporation for Insurance of Investments & Export Credits (ICIEC), Saudi Arabia
Rapporteur: Mr. Ron Kopicki, former Senior Private Sector Development Specialist, World Bank, USA

Panelists:

- Mr. Yiping Zhou, Special Unit for South-South Cooperation, UNDP, "South-South GATE system", USA (a video will be shown)
- Mr. Fritz Monking, Horus Food & Agribusiness Equity Fund /Rabobank, "Provision of Risk Capital", Egypt
- Mr. Ged Buffee, AOFF/International Research Institute for Organic Agriculture (FiBL), "EquiTrade™ (ET) - Fostering Co-ownership and Sharing Intangible Value with Poor Producers", Switzerland
- Mr. Coast Sullenger, GAIA International, "GAIA World Agri Fund", Switzerland
- Mr. Bruno Cassola, Banca Agrileasing Spa, "The Italian Credito Cooperativo and Banca Agrileasing: An innovative Approach in Tunisia as "hub" for the Med Area", Italy
- Mr. Lamon Rutten, Audit Control and Expertise (ACE), "Credit support and financial engineering", Switzerland

Questions and Answers for Group 4.1

GROUP 4.2 **Chair:** Mr. Nasser Al-Kahtani, Executive Director, Arab Gulf Programme for United Nations Development Organizations (AGFUND), Saudi Arabia
Rapporteur: Mr. Ron Kopicki, former Senior Private Sector Development Specialist, World Bank, USA

Panelists:

- Mr. Hashim Hussein, ITPO Bahrain/ARCEIT, Bahrain; Ms. Matilde Arocena, Flores Del Oeste, Uruguay; Mr. Fadi El Fatih, Plants, Sudan, "Enterprise Creation and Investment Promotion -- Entrepreneurs Needed for Agribusiness"
- Ms. Nedai Hiyar, Merchants Union of Fruit and Vegetables, "Horticultural Export Fund", Jordan
- Mr. Bigman Maloa, Limpopo Department of Agriculture, "Revitalization of the Mukumbani Tea Estate and Factory", South Africa



- Dr. Ezequiel Lemos, Consulting, "Responsible Inclusive Purchasing Program", Argentina
- Mr. Alessandro Cagli, Ferrero Group, "Ferrero Social Enterprises Programme", Italy
- Mr. Giovanni Tumbiolo, COSVAP - Fisheries Cluster, "Fisheries Cluster", Italy

Questions and Answers for Group 4.2

15:00 Lunch

SESSION III – CLOSING

16:30 Discussion of matchmaking results and report of panel discussions

Presentations by:

- Mr. Gerardo Pataconi, Chief, Productivity, Quality and Enterprise Upgrading Unit, TCB, UNIDO
- Prof. Thomas Reardon, Department of Agricultural, Food and Resource Economics Michigan State University, USA (UNIDO Expert)
- Dr. Marian Garcia Martinez, Senior Lecturer, University of Kent, UK (UNIDO Expert)
- Prof. Achille Franchini, Head of Department of Food Science, University of Bologna, Italy (UNIDO Expert)
- Mr. Ron Kopicki, former Senior Private Sector Development Specialist, World Bank, USA (UNIDO Expert)
- Mr. Marco Potecchi, Head, UNIDO Investment Promotion Unit (IPU), Egypt
- H.E. Walter Poveda Ricaurte, Minister of Agriculture, Ecuador

17:30 Official closing of the Conference and presentation of the awards
Conclusions and the Way Forward

Mr. Paul Makin, UNIDO Representative and Head, Regional Office, Cairo

2.2. Opening Session

Opening remarks

The opening session of the Conference was moderated by Mr. Todd Benjamin, contributing financial editor for CNN International. In his welcoming speech, Dr. Ibrahim Abouleish, founder of the SEKEM Farm, where the first day's sessions were held, emphasized the strong link between poverty alleviation and the development of agro-industries. He pointed out that development must be based on ecological know-how, and not on the depletion of resources, which should be passed on to future generations. He expressed his confidence that it was possible to achieve sustainable development without environmental damage.

Further opening statements were made by Dr. Yoshi Uramoto, Deputy to the Director-General, UNIDO, H.E. Dr. Othman Mohammed Othman, Minister of Planning and Development (on behalf of H.E. Dr. Ahmed Mahmoud Mohamed Nazif, Prime Minister, Egypt), Dr. Saad Nassar, Special Advisor to the Minister of Agriculture (on behalf H.E. Mr. Amin Ahmed Abaza, Minister of Agriculture, Egypt) and Mr. Giovanni De Vita, Commercial Attaché, representing the Ambassador of Italy to Egypt, all of whom welcomed the fact that UNIDO was convening a conference on innovative agribusiness solutions and reiterated the key role of agriculture in sustainable development.

In his address, Dr. Yoshi Uramoto, Deputy to the Director-General of UNIDO, highlighted the importance of international organizations working together more closely to respond to the global food crisis and to support the development of agribusiness, linking farmers and SMEs to local, regional and global markets, helping them to conform to standards and to access technology and finance.



Interactive panel discussion

The keynote addresses were followed by a lively interactive panel discussion in a “Davos” type format. The recurrent refrain “Yes, we can!” signaled the eagerness of participants to work together actively to achieve change. “Innovation and opportunity”, “partnerships based on trust” and “the need for commitment” were central issues of the debate as highlighted by Mr. Benjamin.



Participants emphasized that a holistic approach to agriculture was needed, which took into consideration the specific needs of specific groups, and that the mistake should be avoided of thinking that “one size fits all”. The panelists underlined the central role played by the market as a basis for agribusiness development and said that it was important for small farmers and SMEs to have access to up-to-date market information to enable them to compete effectively in local, regional and international markets.

Nevertheless, it was stressed that food and agricultural products must not be treated like any other commodity -- the volatility of prices must be reduced to achieve fair prices for both farmers and consumers. Panelists unanimously agreed that it was essential to identify sustainable agribusiness solutions which would empower farmers and small-scale producers and helped to narrow the gap between urban and rural areas.

Furthermore, many innovative solutions were mentioned, such as new forms of risk management, new technologies, standards, compliance and effective regulations, especially considering the importance of food safety, innovative credit systems to provide loans to farmers, including partnerships with intermediaries.

The outcome of the interactive panel was summarized by the African proverb which says that “he who walks alone may go fast, but he who walks with others goes further.” In this spirit, panelists agreed on the central importance of cooperation and of working together to find win-win solutions.



2.3. Session I: Introduction and discussion of themes and selected innovative agribusiness solutions (Wednesday 26 November 2008, SEKEM Farm)

The following section provides brief descriptions of the four thematic areas of the Conference and features introductory presentations by the UNIDO thematic experts. These introductions were followed by lively debates on each of the four areas.

Conference Theme 1: Supply/value chains, market access and linkages

Farmers and processors seeking to sell into the supply chains of profitable modern markets (e.g. to large processors, restaurant chains, and supermarkets in the domestic market, as well as in export markets) face specific requirements (including standards and commercial practices as well as technologies implied by these two) that are more challenging than for traditional markets.

Solutions to help them meet these requirements involve a “facilitator” (such as the modern-segment client itself, an NGO, a consulting company, a suppliers’ association or a cooperative) addressing the constraints faced by suppliers in meeting the specific requirements of these supply chains. Addressing constraints potentially includes the provision of a wide variety of extension services – finance, hard infrastructure, soft infrastructure such as market information, negotiation, technical assistance, R&D to develop intermediate technologies, marketing services such as aggregation, collection and/or delivery of products, and first-stage processing/handling. The provision of these goods and services may be subsidized, or covered in charges to the suppliers, in spot or contract relations. The market-sustainability and scalability of solutions are important considerations in solving problems in this area.

Introduction by Prof. T. Reardon, UNIDO Theme Expert on supply/value chains, market access and linkages:

Introductory Presentation - Prof. T. Reardon

Session 1.1. Key messages and outstanding issues

Tom Reardon, Co-Rapporteur



1. Key messages (WHO + WHAT)

1.1. "Facilitator = integrator of

- demand side (Clients/market interface) AND
- supply side (Facilitators to supply side) "
- a) Cargill = retailer & processor & exporter AND
Cargill = wholesaler/collector & extensionist & intermediary with banks
- b) Mahagrapes = exporter/wholesaler & soon retail AND
Mahagrapes = convenor of coops & extensionist & quality assurance "3rd party"
- c) ITC = retailer & processor & wholesaler AND
ITC = market information provider/extensionist (e - choupal) & input/credit/insurance/health supplier & wholesaler/procurement (choupal saagar)

1.2. Program/NGO identifying market + providing some key supply side need

- ... Sri Lanka maize processor (market) AND
facilitates forward contract & link to banks/microcredit & extension
- ... Fairtrade identifies European retailer AND
facilitates licensing/labeling of suppliers ' product

2. Pending Issues

- a) CHALLENGE TRIANGLE
 - (1) Compete on demand side (cut costs, lower prices and higher quality to consumers) AND
 - (2) Compete with traditional wholesalers & incentivize farmers (higher prices, supplier assistance) TO
 - (3) for farmers make investments in quality and volume (add costs)



(b) Solution paths + Dilemmas

..(1) Client and farmer own -investment path:

... build scale + supply chain technology improvement to cut costs ⚡ to pay for price premium to farmers

⚡ but HOW to build market "first" to provide incentive/guarantee to farmer ...

⚡ Can this be scaled up to poorer farmers (so profit rate will go down because need more help initially)

..(2) "CSR/donation" and public-private partnership path

... harness CSR plus business interest of banks + microcredit & NGOs & donors to subsidize farmer investments

⚡ BUT is that sustainable/cost - effective/replicable to large scale?

⚡ Is there sufficient public-sector support system for small farmers to scale this up?

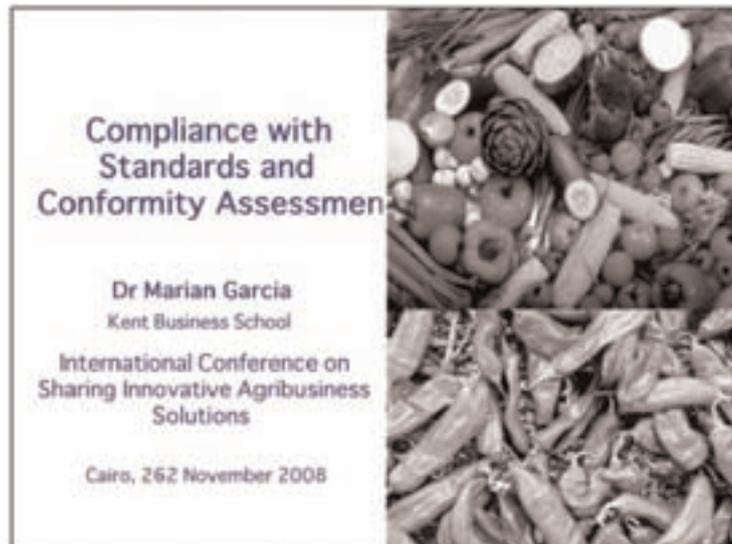
Conference Theme 2: Compliance with standards and conformity assessment

In order to overcome barriers to trade, agribusiness actors must comply with standards, technical regulations and conformity assessment procedures throughout the supply chain, including private standards and SPS measures. This includes compliance with international, national and individual company standards (e.g. ISO standards, CODEX, GLOBALGAP, etc.), and compliance with regulations and trade agreements (WTO, regional/bilateral, EU food safety laws, FDA, etc.). Greater compliance will increase the quality and safety of food, thus protecting consumers in both developing and developed countries, and increase access to domestic, regional and global markets. An important example is traceability – building the capacity of developing countries to comply with the traceability requirements of the EU and other export markets.



Introduction by Dr. M. Garcia, UNIDO Theme Expert on compliance with standards and conformity assessment:

Introductory Presentation - Dr. M. Garcia



Main Questions

- ⊗ What are the *specific challenges* to developing countries posed by stringent international public and private standards?
- ⊗ What *strategies* have been used to meet requirements?
- ⊗ What has been the *impact* of these strategies?
- ⊗ What *factors* (internal and external) were critical for their success?
- ⊗ How to ensure *long-term sustainability* of development initiatives (once outside support is withdrawn)?
- ⊗ What are the opportunities for *South-South cooperation* ?

Current Situation

- ⊗ Retailers require food safety, traceability, due diligence and assurance in response to:
 - **Consumer Demands**
Growing awareness of & concern about food production (safety, welfare and environment) and food composition (diet and health)
 - **Media Attention** (food safety scandals /crises: BSE, Dioxin, E.Coli, Avian Flu)
 - **Brand protection/shareholders value concerns**
Strategic emphasis on "own label" requires strategic approach to supply chain relationships for "destination categories." (fresh produce, meat, ready-meals)
 - risk management (food safety)
 - crisis management (traceability)
 - establish/store consumer confidence (assurance)



Approach to Standards

Seen as a **problem**

- Not always based on good science
- Not always uniform in their application
- They are not always transparent
- They have tended to proliferate, often overlapping or contradictory, but never static
- They occupy a lot of time and attention among actors in productive chains
- They tend to raise costs (particularly in the case of small scale producers in developing countries)
- Could act as a deterrent to trade

Approach to Standards

Seen as an **opportunity**

- Bring attention to standards in general
- Market forces provide impetus, discipline
- Contribute to ultimate SPS concerns
- Bridge to analogous domestic concerns
- Better/greater implementation guidance
- More holistic perspective
- Self-regulation mean lowers public burden
- More responsive to changing conditions
- They can add economic value

Solutions Submitted

- ☞ A total of 23 solutions were submitted
- ☞ Subject areas:
 - Training / Capacity Building to ensure compliance with international standards
 - Smallholder growers (COLEACP –PIP)
 - 'Training the trainers' (internationally recognised qualifications (CIB – UNDO)
 - Traceability systems (ETRACE, GNet, Caretrace)
 - Organic certification (EPOPA, NOP)
 - GAP certification /GMS (Kenya Horticulture Exporters, BAFFS Philippines)
- ☞ Most solutions involved a donor providing financial and/or technical assistance – long-term sustainability once outside support is withdrawn?
- ☞ Critical factors:
 - Top down approach
 - Private sector as the driving force
 - Demand oriented



Points for Discussion

- What are the lessons learned in implementing the solutions?
- What factors were critical for their success?
- What was the cost of implementing the solutions?
- How were they financed?
- How can the sustainability of the solution be ensured?
- What are the opportunities for replication/scaling up the solutions?
- What are the opportunities for South-South cooperation?

Conference Theme 3: Technology and value addition

Food producers in developing countries need to progress from producing and exporting commodities to adding value and increasing quality, safety and productivity – through sustainable processing and manufacturing. By reducing post-harvest crop losses, these changes also contribute to domestic food security.

Important aspects related to technology and value addition include: product development, quality and productivity, upgrading enterprises by introducing management and sustainable technological solutions (e.g. processing, ICT, TQM), research and development that is relevant for developing countries, as well as introducing more ecologically sustainable means of production with regard to the use of water, energy, chemicals and other inputs.

Introduction by Prof. A. Franchini, UNIDO Theme Expert on technology and value addition:

Introductory Presentation - Prof. Achille Franchini

Technology and value addition in developing Countries

Prof. Achille Franchini



ALMA MATER STUDIORUM
UNIVERSITÀ DI BOLOGNA
ALMA FOOD



The solutions presented under the theme "Technology and value addition" focus on economic growth and poverty reduction through innovative technology. The task was to single out innovative technologies applicable in agribusiness and accessible for developing countries with the aim to improve:

- The organizational system
- The production process
- The production transformation and commercialization to reduce production losses, increase profitability, enhance quality and to develop education and training

Not all solutions submitted were characterized by elements relating strictly to technology aspects and to technological value addition.

The solutions presented during the first day of the meeting were mainly related to the organizational system, to product commercialization and training.

Certainly, a large number of these projects will bring additional value to farmers and small-producers and developing countries' production systems, even though they do not show any outstanding technological value. A number of these projects have demonstrated very interesting perspectives and originality of the process.

The projects with technology contents can be divided into two categories:

- projects based on a technology process
 - projects where the technology process is as an element in a more elaborated programme
- In these projects technology and special technology procedures represent a phase of product development and transformation in a production chain.

A further examination shows how a certain number of these projects is aimed at:



- Improving production contextually, reducing the environmental impact of production and transformations (eg. Cuban Experience on Cleaner Production as Innovative Solutions for the Food Industry; Flowers production on Constructed Wetlands for wastewater treatment; Production of biodegradable and compostable bags, Waste management and Plant for the production of compost)
- Improving production processes to increase quality benefiting product commercialization (eg. Design, Fabrication, Installation and Testing of an improved flash dryer for producing 500 kg/hour of high; Lebanese University/Faculty Of Agricultural Sciences)

- Improving production preservation reducing losses in the post-harvest phase, in relation to feed and food utilization and commercialization in regional and international markets (eg. Grain storage technology; Passive refrigeration for postharvest/postslaughtery/postfishing/postmilking, storage and transport of perishable foodstuff)
- Some projects are particularly relevant, since they are aimed at extending the production process through a territorial diffusion, as well as to improve the yield of wheat and grains locally produced (eg. Pavan; Advanced technology for transforming semolina or soft wheat flour into pasta or couscous; 4000 Tons Per Day - Global Development Alliance)

The best solutions chosen

Passive refrigeration for postharvest/ postslaughtery/ postfishing/postmilking, storage and transport of perishable foodstuff by Mr. Alberto Ghiraldi , Italy

This innovative technology enables producers to maintain the fresh/cold chain from farms to markets – irrespective of a continuous power supply. The technology thus reduces post-harvest, post-slaughter and post-milking waste and provides safer food to consumers. The solution - competitive in price compared to conventional technology – saves energy and maintenance costs.



Songchon goat milk dairy project by Mr. Il Chul Ri, DPR Korea

The project replicates a previous UNIDO initiative in another DPR Korea Province. The initiative consisted in building a goat milk processing plant for children nutrition.

The project is aimed at organizing goat milk production, through the creation of a breeders chain furnishing the milk to a factory.

The project aims at enhancing milk and dairy products availability for children in child care centres and primary schools.

Grain Storage Technology by Mr. Baoxing Zhao, China

The proposed technology has the particular characteristic of coping with a typical problem in developing countries: the need for a better preservation of grains (for feed and food utilization), and their transformation.

The technology is proofed and widely applied, therefore it probably does not need special improvements, but its reliability needs to be verified with regard to treatment quality and application costs. The technology is known and well developed and therefore easily adaptable to different territorial needs.

The equipment could be shared in a consortium, allowing several farmers to benefit from the technology and thus improve product quality through better preservation.

This technology mainly shows an economic impact. It reduces micro toxins development, consequently improving hygiene and quality characteristics of grains and thus reducing loss in quantity and quality of the products.

Green charcoal and Biochar by Mr. Guy F. Renaud, France

This technology transforms vegetable waste products and renewable biomass into green charcoal. The equipment is based on a pyrolysis process which allows a higher yield than classic techniques.

The process is based on the continuous carbonization of vegetable matter and is able to produce 4-5 tons of green charcoal per day. This technology allows the consumption of large amounts of renewable biomass not differently usable, avoiding the use of wood to produce energy for domestic needs, consequently reducing deforestation and CO₂ production.

The targets are primarily economic and environmental, related to the waste material utilization and to the reduced CO₂, CH₄ and N₂O emissions from the lack combustion of agricultural residues. The technology of the equipment seems well developed and does not require additional implementation costs.



Main Issues for discussion

- What was the cost of implementing the solution?
- How was it financed?
- How can the sustainability of the solution be ensured?
- What are the opportunities for replication/scaling up the solution?
- What are the opportunities for South-South cooperation?

Background – Food consumption

- Food security: quantity and variety of products
- Food safety: quality, hygiene and health standards
- Consumption globalisation
- Role of food retailers: distribution chains
- Differentiation: functional, organic and ethnic food
- Non food use of agricultural production
- Change of consumer behaviour

Background – Food production

- Compliance with standards (Non-tariff barriers, SPS, bilateral agreements etc.)
- Efficient natural resource management
- Differentiation and value addition
- Competition: quality and costs
- International market development: global sourcing and role of big buyers
- Typical and traditional products

Innovation and development priorities

Investment in:

- Research
- Technology transfer
- Human resources development

Product innovation:

- Increase product variety
- Adjust nutritional requirements
- Increase value for money



Innovation and development priorities

Process innovation:

- Technology innovation, genetics, etc.
- Food safety
- Food quality and packaging
- Waste management

Innovation and development priorities

Food chain innovation:

- Information and communication technology
- Network, local production system
- Logistics
- Supply chain intergration

Technology in developing countries

Innovation benefits:

- Increased productivity of production factors
- Higher food quality
- Reallocation of inputs and promotion of local factors



The development of agricultural production needs to focus on:

- More efficient utilization of natural sources (land, water, etc.)
- Development of structures and infrastructures that are compatible with nature and environmental friendly (energy saving, waste management)
- Service and structures for technological innovation spreading and training

The required actions regarding the processing stage can be identified as:

- Increased cost-efficiency related to local production conditions
- Reduction of post-harvest losses and conservation
- Quality preservation – processes and innovative ingredients to reduce microbial and toxins contamination
- Collective brands and quality criteria enhancement to strengthen single small producers
- Packaging technology
- Logistics efficiency and cold chain

The afore-mentioned actions will have consequences on distribution and consumption sectors as well as the:

- Efficient management of product flows and information – traceability and effective commercial practices
- Life Cycle Assessment (LCA) and models to describe and evaluate sustainability of food system



Buried diffusers: a new irrigation technique for trees, vegetables and plants in containers by Prof. Chahbani Bellachheb, Arid Regions Institute, Tunisia

This irrigation technology is of great use for the irrigation and fertilization of a great variety of plants and allows water savings of at least 25% or higher depending on territorial climatic conditions.

A weak point of this technology is the risk of obstruction of the water exit points by plants roots.

Centre for Rural Innovation by Mr. Lombardo Cedric, BeTheDev, Cote d'Ivoire

This project is based on the research of plants for the production of biofuels. The project aims at creating a rural innovation centre to pursue several objectives in the agro-industrial and environmental production.

The objective is the development of biofuels through a multi-year plan providing training, business plans and activities involving farmers cultivating 2500 hectares of agricultural land.

Production of biodegradable and compostable bags, waste management and Plant for the production of compost by Ms. Noemi Edith Cermesoni, TriTellus SRL, Argentina

The project aims at the introduction of biodegradable plastics in food industries and innovative products with environmental sustainability impact. The project is based on the diffusion of biodegradable plastic containers to promote composts of biodegradable materials for multi-purpose use, as for example for fertilization, aiming at reducing the use of environmentally unfriendly plastic containers.



Production of biodegradable and comWorld Food and Commodities On-line Exchange by Mr. Riccardo Cuomo, Borsa Merci Telematica Italiana, Italy

The project aims at promoting trade between developing countries and developed countries.

The project is elaborate and particularly interesting as it gives visibility to agro-food production in developing countries.

The project is very well integrated with numerous projects aimed at commercializing production from developing countries to developed nations and consumers.

Pilot Plant / Product Development Center by Ms. Loyal Karam, Chamber of Commerce, Industry and agriculture of Tripoli and North Lebanon, Lebanon

The availability of a pilot plant laboratory is of crucial importance to foster the development of SMEs in the food industry.

The project has simple and clear methods and objectives and could be of relevant importance in the development of small and medium size enterprises in the food production that need to evaluate the feasibility of new products before investing. These structures are particularly useful in highly fragmented production systems.

Design, Fabrication, Installation and Testing of an improved flash dryer for producing 500 kg/hour of high quality cassava flour by Mr. Emmanuel Kwaya, Raw Materials Research and Development Council, Kenya

The project has developed a flash drier with basic technological features. Its simplicity and affordability make it ideal for use in developing countries.



Advanced technology for transforming semolina or soft wheat flour into pasta or couscous by Mr. Armando Barozzi, Fava spa, Italy

This project has developed a technology for the processing of pasta and couscous. The project replicates a previous experience made in a developing country, with a small enterprise growing during the years to become an industrial development model replicable in other developing countries.

Small and economic couscous and pasta production units by Mr. Luciano Mondardini, Pavan SRL, Italy

The project's objective is to create small transformation structures to produce marketable products of higher value by reducing scale machineries to process limited quantities of wheat for the production of pasta and couscous.

Fodder Yeast From Bioethanol Distillery Slops. An Environmental Solution by Mr. Miguel Angel Otero Rambla, Instituto Cubano de Investigaciones de los Derivados de la Caña de Azúcar (ICIDCA), Cuba

The project deals with the scale up of an optimized process for the conversion of a waste/effluent at high environmental impact resulting from an yeast based bioethanol production facility into bioproteins of interest for the food and feed industry.

Other solutions chosen

- Farm compost to reduce carbon emissions by Mr. Helmy Abouleish, SEKEM, Egypt
- Improvement of the hygienic and sanitary conditions by Mr. Marco Falappa, SINT Technologie SRL, Italy
- Carbon driven biogas program by Mr. Matthew Hayden, Trade Plus Aid Africa, South Africa

Conference Theme 4: Innovative forms of financing

Already in 2008, global capital markets began responding to the needs of a chronically under-invested global agricultural sector. Important factors in the markets' decision-making process were: food demand was beginning to grow beyond the planet's supply response; several categories of agricultural assets were undervalued and underinvested; new instruments and new forms of investment structure needed to be developed in partnership with supply chain integrators in order to manage price and risk efficiently, organize and monitor various forms of farm to market investment and track repayment performance from within the chain itself.

Furthermore, productivity enhancement in agricultural production and in agricultural product distribution requires numerous inputs including seeds, fertilizer, specialized services, and so on. In turn, obtaining these inputs requires some form of financing to bridge the



gap between the occurrence of costs and the realization of benefits. Participation in supply chains most often entails additional postponement of cash payments.

In addition, investment in supply chain infrastructures, which have a long economic life, requires additional up front investment before benefits can be realized over an extended period. Therefore, agribusiness development and the strengthening of commercial “farm to market” linkages require innovative forms of financing that are designed to meet specific strategic requirements. These innovative forms of finance include risk sharing (e.g. commercial bank loans, insurance, price stabilization funds), investments directly into agro-enterprise development (e.g. leasing, equity and venture capital participation) and investment in both public and private infrastructure (e.g. mortgage financing, agri-business Real Estate Investment Trusts (REITs) as well as various forms of public-private partnerships such as Build-Operate-Transfer (BOT) concessions and matching grants).

Introduction by Mr. R. Kopicki, UNIDO Theme Expert on innovative forms of financing:

Introductory Presentation - Mr. R. Kopicki

Innovative Forms of Finance

Ron Kopicki
World Bank (Retired)

Main Questions

- What specific forms of financing does strengthening farm to market linkages require?
- What financial institutions and what specific financial instruments meet these new requirements, particularly well?
- What specific forms of cooperation between financial institutions and chain integrators are key to profitable growth?
- How transferable are these institutions, instruments and modes of cooperation across regions, across markets and across food categories?
- What opportunities for *South-South cooperation* can emerge



Current Situation

- Adaptable financial services are necessary *but not sufficient conditions* for farm to market strengthening
- Traditional challenge
 - Time lag between inputs and outputs
 - Requirements for specialized assets with long economic lives
 - Farmer income maintenance
- Term loans provided through micro finance institutions do not provide an adequate response to the challenges of supply chain linked agriculture

Current Situation

- New challenges
 - Linking financing and supply chain interdependencies
 - New asset categories
 - Need for active investor involvement
 - New risk management mechanisms
 - Increasingly supportive investment environments
- Rapidly evolving institutional response
 - Venture capital/hedge funds
 - Structured finance/ structured trade
 - New forms of public investment

Remaining Challenges:

- Profitable, integrated chains require external sources of working capital in order to sustain growth
- Creditworthiness of participants *in a chain context* requires monitoring
- Collaterals for farm products remain under developed....as do secondary markets for these products
- Instruments for equity and quasi equity investment in chain specific assets remain to be refined
- Ownership rights for farm land and water remain uncertain
- More generally, public policies are only partially supportive of innovative financing
- Boundary lines between public and private good investment require clarification



Opportunities:

- Rising food prices are attracting new forms of private investment
- Long term concerns with food security are provoking new policy thinking
- Large global disparities persist in food production and distribution productivity
- Intensified competition among food chains and their "second generation" competitive responses
- Public policies are being tested which support private investment
- Rapid learning is taking place within global financial service industries
- Increased complementarity between development banking institutions and private investors

Solutions Submitted

- A total of 19 solutions were submitted
- Subject areas:
 - Facilitating business planning and financing
 - Scaling up successful pilot projects (FAEMG, Banca Agrifinancing)
 - Formulating innovative supply chain structures (ACDIVOCA, Cargill Ceylon)
 - Agri-industrial park development and agri-incubators (IAPP and FNC)
 - Due diligence reviews (CIEH-UNIDO)
 - Asset management (ACE, Equi Trade)
 - Matching grants (CCIAT)
- Only a limited number of solutions involve actually putting private capital at risk.
- Critical factors:
 - Integrating competencies both in supply chain management and in financial risk management
 - Translating comparative advantage into competitive advantage

Points for Discussion

- What innovative solutions have been successful in providing financing for agribusiness in developing countries?
- On what bases can financial institutions and chain integrators sustain cooperation?
- What factors have contributed to making these solutions successful?
- How can successful solutions be replicated in other countries/regions?



2.4. Introduction by Mr. Helmy Abouleish, Managing Director, SEKEM Group, and Chairman of the Management Council of Egypt's Industrial Modernization Centre (IMC)



Following the theme discussions, Mr. Helmy Abouleish addressed the audience in a passionate speech. IMC has been a supporter and partner of UNIDO for a long time, cooperating on a series of development projects including the Egyptian Traceability Centre for Agro-industrial Exports (ETTRACE).

Mr. Abouleish reiterated agriculture's key role in sustainable development as well in finding solutions to the biggest challenges of the 21st century, namely water and oil scarcity as well as climate change. Speaking also on behalf of the Egyptian National Agricultural Competitiveness Council, which has been founded to improve the competitiveness of the agribusiness sector in Egypt, Mr. Abouleish illustrated how sustainable agriculture can help to overcome those challenges.

Mr. Abouleish first addressed the rapidly growing problem of water scarcity, stating that agriculture is one of the principal consumers of water, particularly in dry and hot climates, and that over 1.1 billion people do not have sufficient access to water, while, in 20 years from now, they are expected to reach 3.3 billion. "Yet, water consumption in agriculture can be significantly (up to 40%) reduced through modern irrigation technology in combination with organic farming", said Mr. Abouleish. "The sub-surface irrigation system applied at SEKEM for example (which participants could admire during a guided tour of SEKEM in the afternoon) reduces the amount of water used by 20 % compared to the traditional drip irrigation while organic farming can save another 10-15 % by improving soil fertility".

Then Mr. Abouleish explained how agriculture can also contribute to reduce energy consumption. "Renewable energies like solar or wind energies have the potential to cover the global energy demand and therefore need to be developed further", he explained. The need to find sustainable alternatives and solutions gains more and more importance with soaring oil prices and vanishing reserves. Agriculture consumes large quantities of energy, but these can be reduced by 50% by adding biomass to compost.

"Organic agriculture can stop climate change. The soils contain three times more CO₂ than the air; CO₂ emissions can be reduced considerably through composting. By switching to sustainable soil management, farming has the potential to stop global warming within the next 12 years", said Mr. Abouleish.

He concluded by saying that organic agriculture was the new hope, and an essential factor in sustainable development with the power to stop climate change and significantly reduce water and energy scarcity.

2.5. Tour of SEKEM Farm

Following an organic lunch, hosted by SEKEM, the Conference participants had the possibility to learn more about SEKEM's biodynamic agriculture, carbon footprint certification, social projects and ecologically responsible development on a guided tour of the farm.



The SEKEM Initiative was established to “restore and maintain the vitality of the soil and food as well as the biodiversity of nature” through sustainable, organic agriculture and to support social and cultural development in Egypt. In 2003, SEKEM received the Right Livelihood Award (widely known as the Alternative Nobel Prize) for a “21st century business model which combines commercial success with social and cultural development.”

SEKEM, which translates from Ancient Egyptian into “vitality from the sun”, was Dr. Abouleish’s concept, a social entrepreneur and medical doctor who studied pharmacology in Austria and developed a number of breakthrough medications. Returning to Egypt in 1977 on holiday with his family, the economic and social hardship of his countrymen spurred him to action. He purchased 70 hectares of desert scrubland, 60 km north-east of Cairo and close to the River Nile, and through biodynamic farming methods was able to transform the desert into a showcase example of sustainable agriculture and a healthy ecosystem. SEKEM’s efforts in organic cultivation led to the conversion of the entire Egyptian cotton industry to organic methods. Starting off with a dairy and crop farm, SEKEM soon began to produce herbal teas and to market its biodynamic produce in Europe. This initiative helped other farms in Egypt to switch to biodynamic farming.

In addition, social development plays a key role in SEKEM’s philosophy and activities. The SEKEM DEVELOPMENT FOUNDATION implements a variety of projects in research, health care, education and vocational training. This holistic approach to development emphasizes participation, integration and the need to foster long-term independence and self-determination of community members. The foundation acknowledges this principle through a programme of cultural and economic empowerment that integrates the arts and sciences and fosters moral and ethical awareness.

Children Chorus, Opening Ceremony



During the guided tour, participants had the chance to witness how innovative and environment friendly farming technology is applied in Egypt, such as sub-surface irrigation, compost and bio stimulants projects, green houses operated with renewable energies and solar drying technology.



Below you will find a small overview of SEKEM's initiatives and projects that participants could see during the Conference.

Subsurface Irrigation

SEKEM aims at replacing the existing pressured irrigation system by a subsurface irrigation system. This will allow to reduce water consumption by over 30%, which amounts to 4.5 billion m³ of water per year. Furthermore, the subsurface irrigation system will help to minimize the problems of weed control as well as salinity. The absence of water evaporation in this system will significantly reduce crop diseases thanks to a reduction in air humidity.

Compost

Although prohibited by Egyptian law, the most common practice of waste disposal in the region is to dump any type of waste (including agricultural waste) in the desert or to simply burn it - a practice that causes massive damage to the environment and public health.

Compost production helps to preserve the environment. The organic waste used consists of wood, straws, green fresh material and manure. Its quality is controlled by SEKEM. The composting process is aerobic thanks to the mechanical aeration and strict control of the key parameters (oxygen levels of the compost mounds, temperature and humidity). All input materials are sourced from approved suppliers only. Preference is always given to organic certified sources. Suppliers include farms, agricultural and animal husbandry industries, processing industries, municipalities as well as private and public organizations.

The composting project will improve ecology, by building up soil fertility in Egypt's poor and degraded desert and delta soils. It will increase the capacity of the soil to retain water by up to 70%, thus leading to a more efficient use of irrigation water. Through its microbial nature the compost will improve the resistance of the crops against diseases, which will reduce the need for chemical pesticides.

Composting will increase yields, save the costs of chemical fertilizers and pesticides, and prolong the seasons, thus improving the local farmers' economic situation. In addition, the project will create employment in the agricultural sector up and down stream, providing a secured and stable income for a significant number of Egyptians.

Bio Stimulants "through compost"

At present, Libra is farming around 3,000 feddan. In organic agriculture, compost is the main source of fertilization, but not a sufficient source to supply plants with all necessary nutrients. To compensate this, bio-fertilizers are used additionally. However, the bio-fertilizer products available on the market are not satisfactory for certain crops, especially in case of green house farming and horticulture crops.

Bio-fertilizers are microbial inoculants containing strains of bacteria, actinomycetes, yeasts, fungi, cyanobacteria and algae, which are applied as soil or seed inoculants and foliar spray. Bio-fertilizers increase crop productivity through metabolic activity or in association with the plant roots. It is scientifically proven that bio-fertilizers can fix nitrogen, dissolve phosphorus, produce growth promoters, excrete ammonia and amino acids, form siderophores and control various plant diseases and pests.



Bio-fertilizers, unlike many chemical fertilizers, continually build the soil and improve its structure. Bio-fertilizers can be much more productive than chemical ones over a longer period because they improve soil structure, enhance soil life and increase the soil's ability to retain moisture and nutrients. The nutrients and vital substances in bio-fertilizers may vary greatly depending upon sources of microorganisms and culturing methods such as shake flasks, batch culture, and continuous propagation in fermentors.

The project aimed at selecting the most active micro-organisms in this field, improving the quality and quantity of microbial biomass and bio-stimulants, studying the factors affecting the productivity of selected micro-organisms and identifying the most suitable carriers and their effect on the viability and efficiency of microbial inoculants.

Main focus of this project:

- Bio inoculants (bio-fertilizers) for fertilization of different crops and to improve the quality and efficiency of compost and compost tea (compost brewer or solution).
- Microbial production of bio-stimulants as organic nutritional solutions rich in amino acids, plant growth promoters, antioxidants, growth factors, organic acids, lower alcohols and chelating agent. This product is applied for soil, foliar spray and in fertigation system.
- Microbial inoculants for bio-treatment of different animal manures such as cattle dung, chicken and pigeon litters to produce a suitable solution rich in nutrients and containing the most available cations and anions for the fertigation system.

Greenhouses operated with renewable energies

Vegetable crops such as beans, pepper, and cucumber, which are grown in greenhouses, are increasingly in demand, being important export goods during the winter

Sekem Farm, Egypt





season. Although, optimal air temperature for most vegetable crops can be provided during daytime in winter season, the temperature is too low at night, and therefore these crops require the protection of greenhouses. Also, the high difference between the maximum temperature during daytime and the minimum temperature at night has a significant impact on both the quantity and quality of the crops.

The project's objectives are to:

- Develop a simulation computer programme, based on transient energy balance in greenhouses in order to predict the hourly variations of microclimate conditions and the total heat energy requirements to provide and maintain optimal temperature conditions;
- Utilize the solar energy flux incident to convert it into thermal heat energy using solar water heaters;
- Determine the area of solar water heaters requirement for warming commercial greenhouses with gross dimensions of 30 m long and 9 m wide;
- Construct the green house using simulation out put;
- Test the thermal performance of the solar heating system and its applicability in heating the ambient air inside the greenhouse;
- And evaluate the performance of the solar heating system on the productivity of different crops.

Solar Drying

The project's objective is to design, construct, and verify a batch solar-based hybrid dryer of commercial scale for herbs and medicinal crops that can be adapted to specific requirements.

Currently, the classic drying processes for crops used by local traders and cooperatives are inefficient and unhygienic, impacting negatively the quality and quantity of the production. After the harvest, the crop is placed on the ground for 2-3 days, often without adequate ground cover. After about 60% of the moisture has evaporated it is moved to palm drying shelves in the open air for 6 to 7 days. The slow drying time causes a loss of essential oils and colors and makes it prone to contamination by pests, bacteria, dust and other materials. Excessive handling of the product may also cause damage to delicate crops such as mint and chamomile.

The export industry uses fossil fuels for the drying of herbs and medicinal plants. As a result of the governmental policy to liberalize energy costs, total exporting costs are high compared to competitors. In addition, the use of fuel as a source of energy causes environmental hazards.

Good dehydration techniques are crucial in the agricultural production, in particular with regards to herbs and medicinal crops. The production of herbs is one of the main agricultural activities for farmers in Upper Egypt. In 2003, exports of medicinal and herb crops amounted to LE 148.8 M compared to LE 90 M in 2002; more than 90% of the crop exported is grown in Upper Egypt. It is thus of crucial importance to be able to deal with the high fossil energy costs in order to compete with international markets.



ISIS Organic Foods

ISIS produces wholesome nutritious, tasty and healthy food from carefully selected raw materials, free of artificial additives or preservatives. The foodstuff processed and packed by ISIS includes organic grown cereals, rice, vegetables, pasta, honey, jams, dates, spices, herbs, edible oils, beverages as herbal teas, coffee and juices.

HATOR Fresh Organic Produce

HATOR packs biodynamically grown fresh produce for local and international markets, maintaining highest nutritive value and adhering to the customers' technical specifications of each product. Today approximately 65 types of fresh and frozen produce are sold locally, under ISIS brand in "Nature's Best Shops" and supermarkets in Egypt. Internationally, HATOR distributes fresh fruits and vegetables through long-established partnerships in the UK and Netherlands that trade the products throughout Europe.

Naturetex Organic Cotton Textiles

Naturetex is an organic cotton producer of high quality fabrics, fashionable home textiles and colourful baby wear. The design and development of the products is done in-house and produced and marketed under its own brand "Cotton People Organic" (CPO) in partnership with the distributor companies. The textiles are marketed in Egypt as well as in Europe and the USA by SEKEM's partners Alnatura and Under the Nile.

Atos Pharma for Phytopharmaceuticals

Research and development, including the concept and design of new medications, clinical trials, the preparation of training manuals, and the continuous improvement of all products are outsourced to the Heliopolis Academy for Applied Arts and Science, where a multidisciplinary team of researchers and scientists from the fields of medicine, pharmacy and agriculture collaborate closely to provide modern solutions.

LIBRA Organic Cultivation

LIBRA Organic cultivation, which was founded in 1988, has evolved into a multifaceted production company by diversifying into milling, drying and oil processing. LIBRA cooperates extensively with a fast growing number of associated farms that have switched to biodynamic farming methods thanks to training provided by the Egyptian Biodynamic Association (EBDA). This network of independent farmers supplies LIBRA with cotton, grains and seeds from all over Egypt.

Libra promotes optimization of organic quality by applying a range of holistic quality monitoring systems. Market research and a close-knit relationship between supplier and consumer assure fair prices and security for producers, distributors and consumers. The throughoutly transparent trading practices conform to the standards of the Fair Trade Federation. In addition, all products comply with the international Demeter guidelines for biodynamic agriculture.



LOTUS Dried Organic Herbs and Spices

LOTUS processes a large variety of organic herbs and spices from biodynamically cultivated plants. Herbs and spices are cleaned and classified with maximum care for taste, aroma, and their natural medicinal effectiveness through different processes according to the customers' needs and the International DEMETER Processing Guidelines, ISO 9001 and HACCP.

Animal Husbandry

The base for building up soil fertility in the desert is compost, which is made out of plant residues and animal manure. To make the soil more fertile, SEKEM keeps cows, sheep, chicken, pigeons and bees. Biodynamic animal husbandry ensures that the animals live a natural habitat and can develop normal behavioural characteristics. The feed is grown on biodynamic and organic farms while treatments, produced by the house-own lab, are made of micro-organisms and probiotics as well as herbal remedies instead of antibiotics.

MIZAN Organic Seedlings

MIZAN provides Egypt's farmers with healthy and profitable in-and-outdoor as well as grafted seedlings. The principle of grafting is to use a vigorous rootstock with high absorption and transport capacities to supply the chosen plant variety with water and nutrients. This combination of a vigorous rootstock and a strong plant variety leads to an increase in production of up to 10%. Grafted plants are more resistant against soil diseases like root rot, viruses, fusarium and adapt better to extreme climates. In addition, grafting considerably lowers the production costs.

2.6. Session II: Solution Sharing and Matchmaking (Thursday 27 November 2008, Fairmont Hotel)

2.6.1 Matchmaking sessions

The organization of over 300 bilateral matchmaking meetings between participants, which furthered both North-South and South-South cooperation (more than 70% of the bilateral meetings were between developing countries), was a very popular feature of the Conference. In parallel to the presentation and discussion of solutions during the second conference day, potential partners in the areas of access to finance, transfer of technology and expertise, and capacity building had the chance to meet and discuss concrete business and cooperation opportunities.

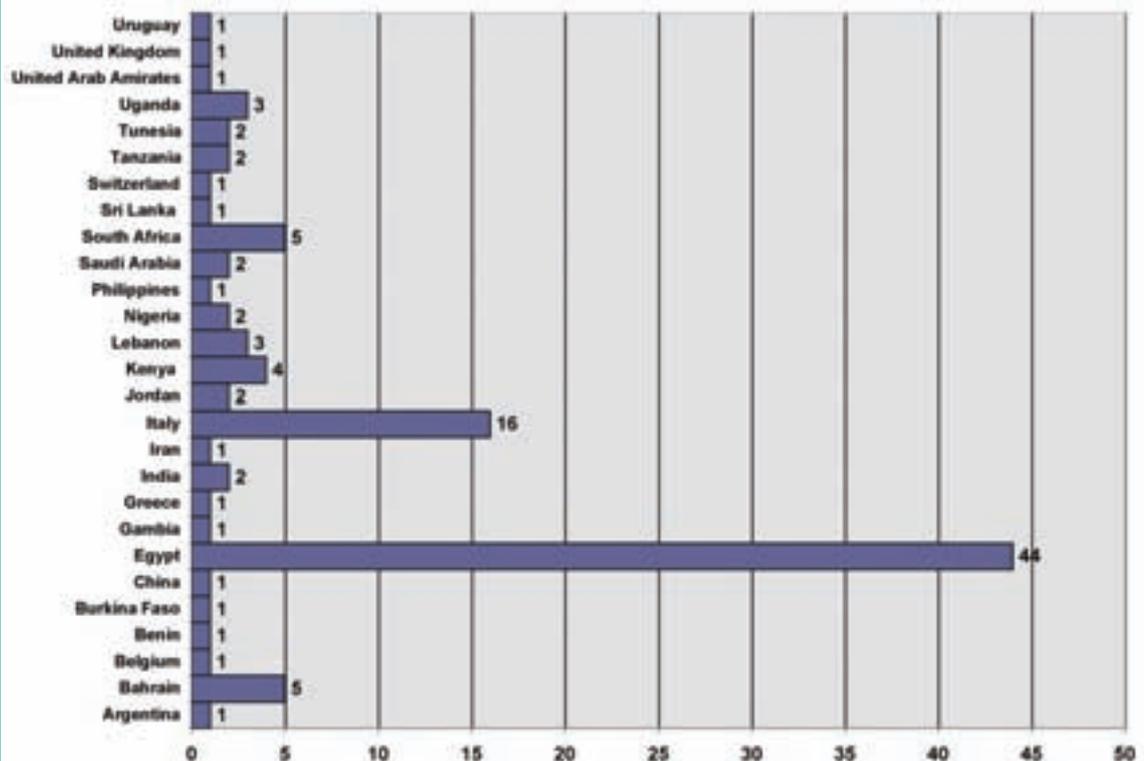
The meetings were organized by the UNIDO Investment Promotion Unit (IPU) in Egypt in close cooperation with the UNIDO Investment and Technology Promotion Offices (ITPOs) in Rome and Bahrain, and with the support of the entire UNIDO ITPO/IPU network. The preparation process began more than three months prior to the conference, through market research, contacts with potentially interested businesses and institutions, and the initiation of interactions between potential partners.



Matchmaking sessions, Fairmont Hotel, Cairo

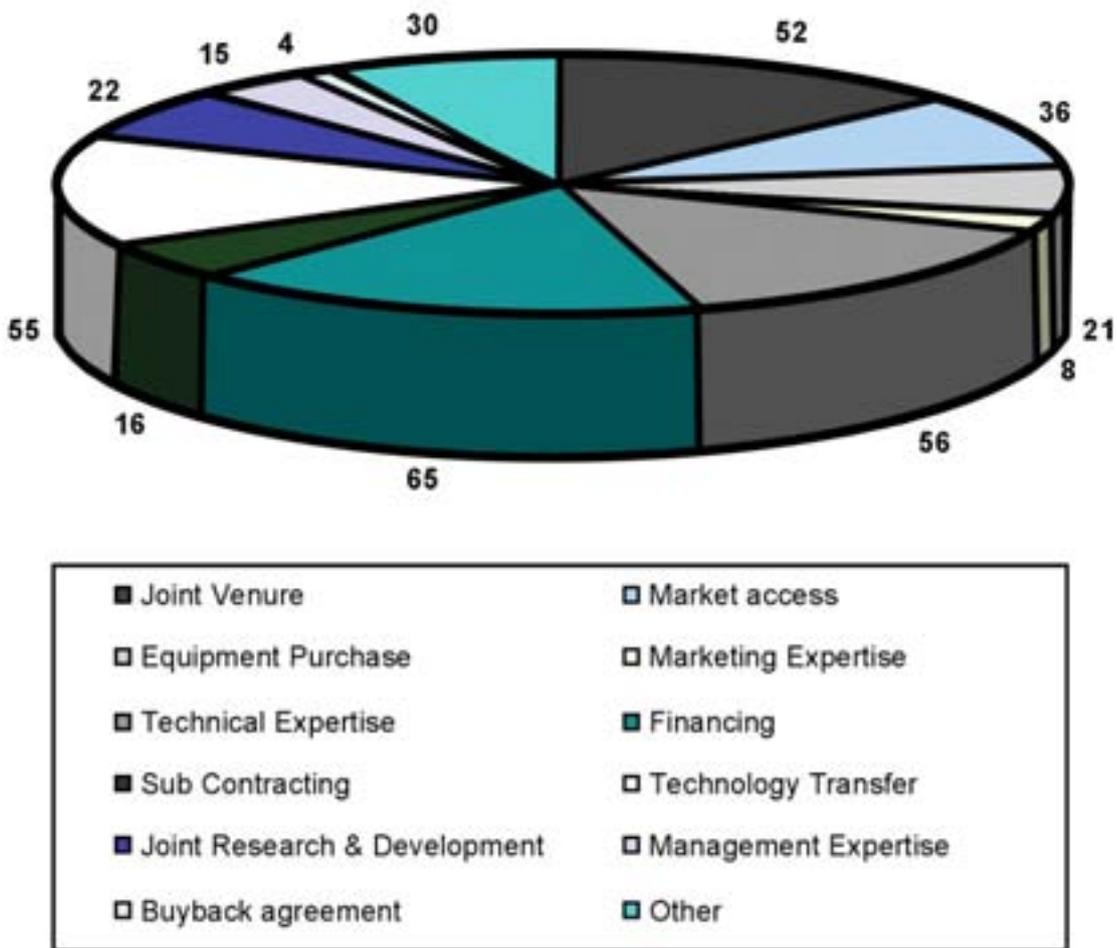


Matchmaking participants by country





Matchmaking negotiations by type of cooperation



The 19 UNIDO Investment and Technology Promotion Offices and Units worldwide help developing countries and countries in transition to find investors and technology suppliers and form fruitful business partnerships. The Conference organizers adapted the UNIDO ITPO/IPU Network methodology for business matchmaking to give participants (private businesses, technical and financial institutions, international organizations, NGOs, government institutions and academia) the opportunity to broaden their outreach and forge new alliances. This initiative sparked great enthusiasm among participants and organizers alike, who highly recommended the adoption of this innovative and efficient format for future meetings.



2.6.2 Presentations and discussions of individual agribusiness solutions

The following section gives an overview of the solutions presented and discussed in Session II. All presentations as well as comprehensive descriptions of all solutions that were submitted prior to the Conference can be accessed and downloaded on the UNIDO web site under <http://www.unido.org/index.php?id=7233>.

Conference Theme 1: Supply/value chains, market access and linkages

Group 1.1:

Chair: Dr. Ashok Gulati, Director in Asia, International Food Policy Research Institute (IFPRI), India

Rapporteurs: Prof. Thomas Reardon, Department of Agricultural, Food, and Resource Economics, Michigan State University, USA (UNIDO Expert), Ms. Kavery Ganguly, IFPRI, India

Solution presenters:

- Dr. Mohamed Esham, Sabaragamuwa University of Sri Lanka, “Case Study of Hybrid Maize Production”. The project’s innovative contract farming scheme has enabled semi-subsistence farmers in Sri Lanka’s dry zone to cultivate hybrid maize.
- Ms. Bhushana Karandikar, Mahagrapes, “Enabling small farmers to access overseas markets”, India. Mahagrapes is a farmers organization and one of the largest exporters of fresh grapes in India. It has significantly fostered the export of fresh horticulture produce and enabled farmers to access international markets by improving economies of scale, technological savvy and knowledge exchange.
- Mr. Ranjit Page, CEO, Cargills (Ceylon) Ltd., “Linking Small Farmers to the Market Place”, Sri Lanka. Cargills, a large-scale modern retailer and food manufacturer, has developed a strong backward integration system with an advanced supply chain management that has allowed thousands of small-scale farmers and entrepreneurs to access markets. These benefit from guaranteed markets and prices as well as technical assistance, training and facilitation of credit through forward contracting.
- Mr. Mangina Srinivas Rao, ITC Ltd -Agri Business Division, “Choupal Saagar and e-Choupal: Hub and spokes as Rural Business Platform”, India. ITC has initiated an e-Choupal programme that places computers with Internet access in rural farming villages; the e-Choupals serve as both a social gathering place for exchange of information and an e-commerce hub. The e-Choupal system has helped to alleviate rural isolation, create more transparency for farmers, and improve their productivity and incomes.

Other panelists of this discussion group:

- Mr. Ian Bretman, Director of Strategy and Policy, Fairtrade Labeling International, “Fairtrade Labeling”, UK

Group 1.2:

Chair: Mr. Doyle Baker, Chief AGSF (Agricultural Management, Marketing and Finance Service), Food and Agriculture Organization of the UN (FAO)

Rapporteur: Prof. Thomas Reardon, Department of Agricultural, Food, and Resource Economics, Michigan State University, USA (UNIDO Expert)



Solution presenters:

- Ms. Catalina Alvarez, National Federation of Colombia Coffee Growers, “Innovative Intervention Models for the Coffee Sector”, Colombia. The project addresses financial constraints faced by young coffee growers in Colombia. Its objective is to turn 1000 landless peasants with no resources into partners of profitable and innovative coffee enterprises, thus generating socio-economical well being for them and their families, contributing to the improvement of the sector’s competitiveness and sustainability.
- Mr. Ali Berrada, UNIDO, “UNIDO Export Consortia Programme”, Morocco. The project has enabled SMEs to access foreign markets and helps to improve productivity and profitability and accumulate knowledge and know-how through joint management training programmes, joint certifications, etc. The project also involved training national promoters of export consortia, in the public or private sectors, and promoting a favourable institutional and regulatory environment for the development of export consortia; and benchmarking of international practice.
- Mr. Likando Mukumbuta, Zambia Agribusiness Technical Assistance Centre (ZATAC) Ltd., “Developing competitive export capacity for a small group business through Enterprise Development Support (EDS) and innovative financing”, Zambia. ZATAC provides a set of business Development Services and financial services to help farmers and producers improve quality and access global markets.
- Prof. Rami Zurayk, American University of Beirut, “Business Solution to help smallholder organic producers” Lebanon. The project aims at helping farmers obtain organic certification and marketing their produce. The solution addresses certification, traceability, compliance with standards, inspection and quality control, difficulties in market access, broken supply chains, insufficient demand and the absence of trust between producers and customers.
- Mr. Ajay Kakra, YES Bank Limited, “Integrated Agro Food Park” (IAFP), India. The “Integrated Agro Food Parks” (IAFPs) help farmers to increase productivity and profitability by reducing post harvest losses, transportation and energy costs thanks to cutting-edge agriculture and processing technology.

Other panelists of this discussion group:

- Mr. Daniele Rossi, Director-General, Italian Food Industry Association (Federalimentare), “Links between the agro-industrial value-chain and innovation in Europe and the Mediterranean”, Italy.
- Mr. Alexander Kasterine, Senior Market Development Adviser, International Trade Centre (UNCTAD/WTO), “ITC experience in supporting Organic farming”, Switzerland.

Conference Theme 2: Compliance with standards and conformity assessment

Group 2.1:

Chair: Mr. Lalith Goonatilake, Director, Trade Capacity Building Branch, UNIDO

Co-Chair: Ms. Kenza Le Mentec, Economic Affairs Officer, World Trade Organization (WTO) – Secretariat of the Standards and Trade Development Facility (STDF)



Rapporteur: Dr. Marian Garcia Martinez, Senior Lecturer, University of Kent, UK (UNIDO Expert)

Solution presenters:

- Mr. Mahmoud El Bassyouny (Etrace), Mr. Vincenzo Puliatti, IT Synergy, Mr. Samir El-Gammal (GOIEC), “Traceability of Agro Industrial Products for the European Market”, Egypt. ETRACE ensures that food products are safe for consumption and suited for export by helping farmers and producers comply with international quality, safety and traceability standards and regulations.
- Mr. Simon Derrick, Blue Skies Holdings Ltd., “Caretrace”, UK. Caretrace is an online traceability tool which tells the story of a product by introducing customers to the people involved in its journey from soil to shelf, through videos, photos, blogs and maps. It allows to trace products simply by selecting the use-by-date printed on the pack.
- Mr. Silas Nghabi Ng’habi, VEFDA-Tanzania, “Quality Assurance, Food Safety and Traceability in the Honey Supply Chain - from Bee-to-Bottle”, Tanzania. Traceability-T Limited, a private entity, in collaboration with the Ministry of Natural Resources (Forestry and Beekeeping) department has helped the agro-food sector through training and creation of facilities to improve food safety, quality assurance and traceability. The training focused also on building capacity for bee-keepers, processors and traders of honey and by-products to improve product quality and safety control, thus increasing access to local and international markets.
- Mr. Apollo Onyango, Kenya Horticultural Exporters Ltd., “Providing market opportunities to smallholder farmers through simple quality management systems”, Kenya. The solution has enabled smallholder farmers to access export markets through the development of simple quality management systems in order to attain all private voluntary standard requirements e.g., Global Gap, Tesco Natures Choice.
- Mr. David Denton, Chartered Institute of Environmental Health (CIEH), “CIEH-UNIDO partnership in food safety qualifications: The case of Sri Lanka”, UK. The CIEH accredited food safety qualification programme in Sri Lanka builds national capacities in food safety training and qualifications through transferring internationally accredited training courses, tools and materials.

Group 2.2:

Chair: Prof. Hamish Gow, Partnership for Food Industry Development, Michigan State University, USA

Rapporteur: Dr. Marian Garcia Martinez, Senior Lecturer, University of Kent, UK (UNIDO Expert)

Solution presenters:

- Ms. Morag Webb, COLEACP-PIP, “Supporting compliance within the ACP Fresh Fruit and Vegetable Sector”, ACP Countries. COLEACP-PIP’s objective is to strengthen the competitiveness of ACP horticultural export companies and, in particular, small and medium-scale growers. The programme helps exporters install and maintain sustainable and durable risk management systems including: a food safety system, traceability, integrated pest management, and an in-house long-term training programme, and thus ensures compliance of their exports with the demands of EU markets in terms of



the official controls (food safety and traceability regulations), and commercial requirements (private voluntary standards).

- Mr. Israel De la Cruz, Bureau of Agriculture and Fisheries Product Standards, “Good Agricultural Practices Certification: Increasing Marketability of Philippine Fruits and Vegetables”, Philippines. BAFPS has initiated the development of standards and certification for Good Agricultural Practices (GAP) to improve the marketability of Philippine fruit and vegetable produce by formulating and enforcing standards of quality in the processing, preservation, packaging, labelling, importation, exportation, distribution and advertising of agricultural and fisheries products.
- Ms. Florence Nagawa, Agro Eco Eastern Africa Branch/ EPOPA, “Export Promotion of Organic Products from Africa: Development through Trade”, Uganda. The project has helped farmers to increase their income by specializing in organic certified products, achieving premium prizes. It has also fostered export by ensuring compliance with international standards and regulations through management and capacity building of companies, farm management and work with farmers, certification and quality assurance as well as marketing.
- Mr. Thierry Alban Revert, International consortium of Future Energies (ICOFEH), “National Organic Produce Initiative”, South Africa. The project is a national programme using the PPP (Public Private Partnership) Framework of the South African National Treasury to respect all public and municipal finance management official acts, addressing the needs of small scale farmers and second economy artisans and service providers in South Africa in the context of the economic unbalances created by the Apartheid system of discrimination.
- Mr. Said Sabri, Palestinian Gardens (Palgarden), “Rurally Produced, Globally Treated Through Private Partnership”, Palestine. The project has enabled small farmers to cultivate land that has never been used before by planting crops, which were equally new to the area, then export those successfully to overseas markets where this type of crops cannot be harvested in the cold season.
- Mr. Marco Falappa, SINT Technologie, “Improvement of the hygienic/sanitary conditions in the meat chain”, Italy. This solution has introduced new technologies that are sustainable, transferable, and environmentally friendly, in the slaughtering, processing, transformation and conservation of meat and final products. Professional training programmes for operators in the meat chain are carried out in fix or mobile slaughter houses equipped with the new technologies. The mobile slaughterhouses are of small size, easy to manage and can be transported and therefore used in different villages or regions. They require only water and electric power.

Conference Theme 3: Technology and value addition

Group 3.1:

Chair: Mr. Karl Schebesta, Agro-Industries Branch, UNIDO

Co-Chair: Prof. Mohamad Gomaa, Independent Consultant

Rapporteur: Prof. Achille Franchini, Head of Department of Food Science, University of Bologna, Italy (UNIDO Expert)



Solution presenters:

- Mr. Baoxing Zhao, Beijing Liangmo Technology Development Co. Ltd., “Grain Storage Technology”, China. The Liangmao Phosphine Generator is an innovative grain storage technology that functions with a device for the rapid production and introduction of phosphine gas into the stored commodity.
- Prof. Chahbani Bellachheb, Arid Regions Institute, “Buried diffusers: a new irrigation technique for trees, vegetables and plants in containers”, Tunisia. The diffuser for underground irrigation is an innovative irrigation technique that can be manufactured using different raw materials (plastic, cement, metals, ceramic etc.). The diffuser can be used for the irrigation of trees (fruit trees, forest trees, ornamental trees) and shrubs, for the irrigation of vegetables (on fields and in green houses) as well as plants in containers, pots or boxes.
- Mr. Emmanuel Kwaya, Raw Materials Research and Development Council, Prof. Ayoade Kuye, University of Port Harcourt, “Design, Fabrication, Installation and Testing of an improved flash dryer for producing 500 kg/hour of high quality cassava flour”, Nigeria. This innovative solution allows to build flash dryers locally for a fraction of the import price while guaranteeing high quality. The plants can easily be adapted to local conditions, and are affordable by small scale entrepreneurs.
- Mr. Luciano Mondardini, Pavan SRL, “Small scale complete transformation units from grains to finished products for composite precooked flours, couscous and pasta”, Italy. The small and economic couscous and pasta production units were developed by scaling down Pavan’s standard production, maintaining safety and quality specifications. The objective is to preserve wheat foodstuff by transformation in long shelf-life products, manufacturing couscous or pasta in the same place where agricultural resources are available, reducing costs of transport, as well as creating work opportunities in rural areas, thus contributing to reducing urban concentrations.
- Mr. Armando Barozzi, FAVA, “Advanced technology for transforming semolina or soft wheat flour into pasta or couscous”, Italy. This technology encourages progress in developing countries by moving on from the simple production and export of raw materials to the increase in production capacities through the local transformation of raw materials into basic and sustainable food products, allowing to improve food safety, decrease post-harvest losses, reduce imports and create employment.

Group 3.2:

Chair: Mr. Amr Farouk, Director, Business Development and Compliance, SEKEM Group, Egypt

Rapporteur: Prof. Achille Franchini, Head of Department of Food Science, University of Bologna, Italy (UNIDO Expert)

Solution presenters:

- Ms. Noemi Edith Cermesoni, TriTellus SRL, “Production of biodegradable and compostable bags, waste management and plant for the production of compost”, Argentina. The solution aims at introducing bio-plastics in South America as a biodegradable and compostable option to replace polyethylene bags. The project involves also an educational campaign to raise awareness of environmental damages caused by the use



of non biodegradable plastic bags, and to promote waste reduction, separate waste collection, composting and recycling.

- Mr. Guy F. Reinaud, Pro-Natura International, “Green charcoal and biochar”, France. Pro-Natura International has developed an innovative continuous process of pyrolysis of vegetable waste (agricultural residues, renewable wild-grown biomass) transforming them into green charcoal. This domestic fuel performs the same as charcoal made from wood, at half the cost. At the same time, it frees from the constraints of scarcity, distance and costs of available fuels in Africa. The machinery required for the process is of relatively modest scale and functions on practically no outside energy and no emission of toxic fumes. Furthermore, it encourages the creation of jobs in rural areas.
- Mr. Matthew Hayden, Trade Plus Aid Africa, “Carbon Driven Biogas Program”, South Africa. The project aims at introducing biogas throughout Africa as a good alternative to the use of fossil based fuels in both the commercial and rural domestic sectors. Through the implementation of a Clean Development Mechanism (CDM) driven programme at commercial dairy and swine farms, anaerobic lagoon digesters will be installed to reduce the emissions of dangerous Green House Gasses (GHG) that are currently being emitted into the atmosphere.
- Mr. Alberto Ghiraldi, NOMOS SRL, “Passive refrigeration for post-harvest/post-slaughter/post-fishing/post-milking storage and transport of perishable foodstuff”, Italy. This innovative technology enables producers to maintain the fresh/cold chain from farms to markets – irrespective of a continuous power supply. The technology thus reduces post-harvest, post-slaughter and post-milking waste and provides safer food to consumers. The solution, which is competitive in price compared to conventional technology, saves energy and maintenance costs.
- Mr. Il Chul Ri, Embassy of the Democratic People’s Republic of Korea in Austria, “Songchon goat milk dairy project”, DPR Korea. The project, developed and implemented by UNIDO, targets the food processing sector, rural energy and cleaner food production. Safe goat milk products are produced and supplied for local children in schools and kindergartens, training of local staff was conducted both in Austria and in DPRK. The project addressed/supported the government objective to strengthen national capacity to make safe and highly nutritious available food available in rural as well as non-agricultural areas.
- Mr. Giuseppe Martelli, Bio-Energy solutions, Italy. The project has developed an innovative technology for bio energy production with non-food vegetal species. The main innovation is the possibility of the energy production without the use of oil.
- Mr. Tobias Bandel, Eco Profit, “CO2 Assessment, Carbon footprint experience”, Egypt. The solution helps to maintain soil fertility, increase and stabilize yields and reduce the usage of natural resources - especially water.
- Mr. Ayed Amr, Higher Council for Science and Technology, “Role of Science & Technology in Agribusiness”, Jordan. The project’s objective is to help turn innovative ideas into wealth by supporting entrepreneurs to start sustainable businesses, support spin-off ideas, develop value-added products, identify and exploit market opportunities, hire skilled staff, and emerge as viable and sustainable stand-alone businesses.



Conference Theme 4: Innovative forms of financing

Group 4.1:

Chair: Mr. Abdul-Rahman Taha, General Manager, Islamic Corporation for Insurance of Investments & Export Credits (ICIEC), Saudi Arabia

Rapporteur: Mr. Ron Kopicki, former Senior Private Sector Development Specialist, World Bank, USA

Solution presenters:

- Mr. Fritz Monking, Horus Food & Agribusiness Equity Fund /Rabobank, “Provision of Risk Capital”, Egypt. This private equity fund provides risk capital to Egypt’s food and agribusiness industry (incl. logistics) to facilitate the expansion of the industry. It provides funding without fixed debt service payments, enhances the borrowing capacity, facilitates the exchange of know how and experience between similar industries, and prepares enterprises for IPOs.
- Mr. Ged Buffee, AOFF/International Research Institute for Organic Agriculture (FiBL), “EquiTrade™ (ET), “Fostering Co-ownership and Sharing Intangible Value with Poor Producers”, Switzerland. EquiTrade™(ET) is a new superior equity sharing model, which allows small-scale African producers to obtain equity in the ET brand that markets products made from their crops, and to gain Intellectual Property (IP) assets. These assets are recognized by international financial institutions and capital markets.
- Mr. Bruno Cassola, Banca Agrileasing Spa, “The Italian Credito Cooperativo and Banca Agrileasing: An innovative Approach in Tunisia as “hub” for the Med Area”, Italy. Banca Agrileasing is the corporate bank of the Italian Credito Cooperativo, controlled by Iccrea Holding and part of the Iccrea Banking Group. It provides a broad range of services for SMEs including leasing, loans, factoring, corporate finance, derivatives and renting.
- Mr. Lamon Rutten, Audit Control and Expertise (ACE), “Credit support and financial engineering”, Switzerland. Through its commercial engineering services, ACE supports contract farming, trade flow facilitation and commodity pricing – ensuring value-optimization throughout the chain. Through its financial structuring, ACE is able to raise finance for commodity producers and traders, or originate trade finance deals for the account of financial institutions.

Other panelists of this discussion group:

- Mr. Yiping Zhou, Special Unit for South-South Cooperation, UNDP, “South-South GATE system”, USA
- Mr. Coast Sullenger, GAIA International, “GAIA World Agri Fund”, Switzerland

Group 4.2:

Chair: Mr. Nasser Al-Kahtani, Executive Director, Arab Gulf Programme for United Nations Development Organizations (AGFUND), Saudi Arabia

Rapporteur: Mr. Ron Kopicki, former Senior Private Sector Development Specialist, World Bank, USA

Solution presenters:

- Ms. Nedal Hiyar, Merchants Union of Fruit and Vegetables, “Horticultural Export Fund”, Jordan. The objective of the Horticultural Export Fund (HEF) is to increase, on a



sustainable basis, horticultural exports of small- and medium-scale Jordanian producers by strengthening the capacities to access export markets and supply chain intermediaries, diversifying export products and markets, supporting the development of professional associations involved in horticultural and fresh produce exports.

- Mr. Bigman Maloa, Limpopo Department of Agriculture, “Revitalization of the Mukumbani Tea Estate and Factory”, South Africa. The introduction of a new packaging technology to ensure long-term sustainability of the Mukumbani tea factory with full backward integration to the estates. The change in strategy from bulk selling to finished product selling has prevented the factory/sector from being shut down.
- Dr. Ezequiel Lemos, UNIDO Consultant, “Responsible Inclusive Purchasing Program”, Argentina. The solution has helped to extend and improve small and medium sized companies that were excluded from competitive markets to increase productivity and become efficient sourcing partners for large private companies in Argentina. The solution covered not only operational areas, but also quality, management, technology and marketing. It achieved a six-fold increase in revenues, renewed profitability, product diversification with new activities, improved leadership and enhanced quality (GAP).

Other panelists of this discussion group:

- Mr. Hashim Hussein, Director ITPO Bahrain/ARCEIT, Bahrain; Ms. Matilde Arocena, Flores Del Oeste, Uruguay; Mr. Fadi El Fatih, Plants, Sudan, “Enterprise Creation and Investment Promotion - Entrepreneurs Needed for Agribusiness”.
- Mr. Alessandro Cagli, Ferrero Group, “Ferrero Social Enterprises Programme”, Italy.
- Mr. Giovanni Tumbiolo, COSVAP - Fisheries Cluster, “Fisheries Cluster”, Italy.

2.7. Award-winning solutions

Based on the assessment of an independent technical selection committee, the best innovative solutions in each of the four conference themes - that have proven successful and have high potential of being replicated in other developing countries - have received an award during the Conference’s closing ceremony.

2.7.1. On the theme of Supply/value chains, market access and linkages:

Mr. Srinivas RAO, of ITC Limited, India, for its solution E-CHOUPAL

A place for gathering and information exchange

ITC has initiated an e-Choupal (“choupal” means gathering place in Hindi) programme that places computers with Internet access in rural farming villages; the e-Choupals serve as both a social gathering place for exchange of information and an e-commerce hub. What began as an effort to re-engineer the procurement process for soy, tobacco, wheat, shrimp and other cropping systems in rural India also created a highly profitable distribution and product design channel for the company – an e-commerce platform that is also a low-cost fulfillment system focused on the specific needs of rural India.



E-Choupal contributes to India's rural transformation

The e-Choupal system has also catalyzed rural transformation that is helping to alleviate rural isolation, create more transparency for farmers, and improve their productivity and incomes. The e-Choupal model involves training for local farmers to manage the e-Choupals. The computer, which is usually placed in the farmer's house, is linked to the Internet via phone lines or, increasingly, through a VSAT connection, serving an average of 600 farmers in ten neighboring villages within a five kilometer radius.

Using the system is free of charge for farmers; however, the host farmer (called sanchalak) incurs minor operating costs and is obliged by a public oath to serve the entire community. The farmers use the computer - directly or via the sanchalak - to access daily closing prices on a local, government-mandated marketplace (called mandis), as well as global price trends or to find information on new farming technology and techniques.

Farmers are better informed, and earn more money

They also use the e-Choupal to order seed, fertilizer, and other products from ITC or its partners, at prices lower than those offered by merchants; the sanchalak typically aggregates the village demand for these products and transmits the order to an ITC representative. At harvest time, ITC offers to buy crop directly from the farmers at the previous day's closing price. The farmers transport the crop to an ITC processing centre, where it is weighed electronically and assessed for quality. The farmers are then paid for the crop and receive a transport fee. In doing so, the e-Choupal system avoids the government-mandated trading mandis.

Farmers benefit from more accurate weighing, faster processing time, and prompt payment. Access to a wide range of information, including accurate market prices and trends, helps them to decide when, where, and at what price to sell. Farmers selling directly to ITC through an e-Choupal typically receive a higher price for their crops than through the mandi system, on average about 2.5% higher. The gains for farmers include inter alia lower prices for inputs and other goods, higher yields, as well as a sense of control and empowerment. The e-Choupal system gives farmers choice, higher profit margins on their crops, and access to qualified information that helps to improve their productivity.

More rural Indians are empowered, and connected to the world

By ensuring transparency and empowering local people as key nodes in the system, ITC fosters trust and fairness. Increased efficiency and the improvement of crop quality contribute to making Indian agriculture more competitive. Ultimately, the system connects farmers and their families with the world, representing a significant step towards rural development. The e-Choupal solution proves the key role of information technology - in this case provided and maintained by a corporation, but used by local farmers - in helping bring about transparency, increased access to information, and rural transformation.

2.7.2. On the theme of standards and conformity assessment:

Ms. Morag Webb, of COLEACP-PIP, for its programme "Supporting compliance within the ACP Fresh Fruit and Vegetable Sector"

A solution that helps ACP companies export

Major changes have been made to EU food safety and traceability regulations in recent years that could potentially have created market access barriers for ACP suppliers. At the



same time suppliers are facing increasingly stringent (and costly) demands from their buyers that often go further than the official controls. In this context, the global objective of COLEACP-PIP is to strengthen the competitiveness of ACP horticultural export companies and, in particular, small and medium-scale growers. The specific objective is to ensure compliance of their exports with the demands of EU markets in terms of the official controls (food safety and traceability regulations), and commercial requirements (private voluntary standards).

Producers and exporters receive tailor-made support

Since 2001 the programme has supported ACP producers and exporters as well as local public and private sector organizations that service the export sector. The philosophy has been to help each exporter install and maintain sustainable and durable risk management systems including: a food safety system, traceability, integrated pest management, and an in-house long-term training programme. COLEACP-PIP works with companies only after they have applied for support.

The first step is to conduct a needs assessment by an independent consultant, which leads to the development of a joint PIP-company action plan. The subsequent activities include participation in collective training events with other exporters (allowing for better use of resources) as well as actions tailored to the specific needs of the company.

Over 80% of fresh fruit and vegetables imported into the EU result from COLEACP-PIP intervention

These actions take place over time (generally 2 or more years) and the aim is to achieve a change in company mindset and behavior by installing and implementing the risk management systems mentioned above. The ultimate goal is to ensure compliance of export produce with EU requirements. The final step - if requested - is to support companies to obtain certification. So far COLEACP-PIP has been working in 23 ACP countries and with around 250 export companies. Together these companies supply over 80% of fresh fruit and vegetables imported to the EU (excluding citrus fruit and banana).

2.7.3. On the theme of technology and value Addition:

Mr. Ghiraldi, Italy, for his “Passive Refrigeration” technology

Cost-efficient technology to maintain the fresh/cold chain

This innovative technology enables producers to maintain the fresh/cold chain from farms to markets – irrespective of a continuous power supply. The technology thus reduces post-harvest, post-slaughter and post-milking waste and provides safer food to consumers. The solution, which is competitive in price compared to conventional technology, saves energy and maintenance costs.

The storage life of all perishable food stuff depends on the quality of the cold-fresh chain and its application from the field/slaughter/fishing/processing to the point of sale. The operation of conventional cold-fresh chain requires H24 large amounts of electricity and the quality of preservation is such that timing becomes an extremely critical factor.

Improved preservation without using power

The PRSTM technology has been developed by High Technology Participation S.A. as a spin-off of Passive Conditioning technology, which is extensively used in Middle Eastern countries for the temperature control of telecommunication sites. The main features of PRSTM are:



- the quality of preservation, which results in a longer storage life;
 - multiple vs. conventional refrigeration technology;
 - thermal autonomy that allows the system to operate without using power, thus maintaining a continuous cold/fresh chain independent of external power supply; and
- 100% environment-friendly system, thanks to the total absence of noise and polluting emissions. The system accumulates thermal energy during the night allowing benefiting from cheaper power rates and using the aggregated energy during daytime, with energy cost savings of over 50 percent.

2.7.4. On the theme of innovative forms of finance:

Mr. Ranjit Page, of Cargills (Ceylon) Ltd, Sri Lanka, for linking small farmers directly to markets

A large scale modern retailer and food manufacturer with a full-fledged rural smallholder network

Cargills, as a key player in Sri Lanka's Food industry, spearheads the sustainable development of the country's Food and Agribusiness sectors through a strong focus on innovation and a constant investment in people and processes. The country's largest retailer (with over 50 percent market share) leads sectoral growth in the food manufacturing sector with three of the largest production plants in the country.

Cargills' mission is to serve the rural community by linking small farmers to local and global markets. Cargills has developed a strong backward integration system with an advanced supply chain management that has allowed thousands of small-scale farmers and entrepreneurs to access markets. Cargills links 22 districts of the island's 25 through its supply chain, thus creating opportunities for more than 10,000 farmers and 1,800 entrepreneurs who benefit from guaranteed markets and prices at least 20 percent above their cost of production as well as technical assistance, training and facilitation of credit through forward contracting.

The company's strategic empowerment of the agribusiness sector has increased farmer confidence, thereby encouraging them to reinvest in the business. The Cargills agribusiness model has also enhanced the confidence of previously skeptic lending institutions, which have also begun to increase support for the sector. The advanced post-harvest technologies introduced by Cargills have also helped to enhance productivity and significantly reduce waste. Most recently Cargills has extended its business model to Sri Lanka's eastern regions with several out grower projects to be launched shortly aimed at creating sustainable livelihood opportunities for local communities. The Cargills model has been highly appraised by the World Bank and the Bill Gates Foundation as a role model for Sustainable Development (more information available on: www.worldagroinfo.org).

Cargills' main objectives are:

Reducing the cost of living and enhancing quality of life

The minimal post-harvest losses within the Cargills agribusiness operation coupled with the direct purchase system have enabled the company to give Sri Lankan consumers the best possible deal in essential items, thereby making high quality nutritious food more accessible.



Empowering Youth

Cargills established the Albert A. Page Institute of Food Business to deliver job-oriented skill development programmes – via a non-profit venture targeting the under-privileged as well as the untapped youth population across the island. The Institute has so far empowered more than 2000 young people predominantly from rural regions; the majority of the young people trained at the Institute have found employment opportunities within the Cargills group. 80 percent of its staff stems from rural regions and 70 percent is below the age of 25.

Bridging regional disparities in Sri Lanka

The Cargills backward integration model, its education programmes for the young rural population as well as regional expansion has brought the dividends of its business to the masses, contributing significantly to regional development.

2.7.5. Special awards for outstanding achievements related to innovative agribusiness solutions:

To Dr. Ibrahim Abouleish, founder of SEKEM, for his pioneering work in biodynamic agriculture, carbon footprint certification and ecologically responsible development

The SEKEM Initiative was established to “restore and maintain the vitality of the soil and food as well as the biodiversity of nature” through sustainable, organic agriculture and to support social and cultural development in Egypt. In 2003, SEKEM received the Right Livelihood Award (widely known as the Alternative Nobel Prize) for a “21st century business model which combines commercial success with social and cultural development.”

SEKEM is a showcase example of sustainable agriculture and a healthy ecosystem

SEKEM, which translates from Ancient Egyptian into “vitality from the sun”, was Dr. Abouleish’s concept, a social entrepreneur and medical doctor who studied pharmacology in Austria and developed a number of breakthrough medications. Returning to Egypt in 1977 on holiday with his family, the economic and social hardship of his countrymen spurred him to action. He purchased 70 hectares of desert scrubland, 60 km north-east of Cairo and close to the River Nile, and through biodynamic farming methods was able to transform the desert into a showcase example of sustainable agriculture and a healthy ecosystem. SEKEM’s efforts in organic cultivation led to the conversion of the entire Egyptian cotton industry to organic methods. Starting off with a dairy and crop farm, SEKEM soon began to produce herbal teas and to market its biodynamic produce in Europe. It helped other farms in Egypt to switch to biodynamic farming.

SEKEM expanded its outreach into the community

Community projects followed, including a medical clinic, a day care centre, a literacy centre, a school, and facilities for the education of handicapped children. SEKEM went on to establish the country’s first pharmaceutical company, specializing in medical teas. In 2001 a holding company was founded to administer SEKEM’s finances. Revenues from the trading companies grew from 37 million Egyptian pounds in 2000 to 100 million in 2003. By 2005, the organization had established a network of more than 2,000 farmers and numerous partner organizations in Egypt and began increasingly extending its experience and acquired



knowledge to other countries, including India, Senegal, Turkey, and - in partnership with the Fountain Foundation - South Africa.

To Father Godfrey Nzamujo for his holistic approach to agribusiness carried out with outstanding success in the Songhai Centre in Benin that addresses the specific needs of local communities

The Songhai centre - created in the early 1980's by Father Godfrey Nzamujo, who was determined that the level of development in Africa was utterly deficient and sought to restore dignity to the African people - seeks to create viable socio-economic environments in Africa. Songhai is an institution for training, production, research and development of sustainable agricultural practices, aiming at augmenting the standard of living of Africa's populations. Its ambition is to foster an environment of creativity and innovation and, ultimately, reestablish a stable African society.

Songhai adopted effective management methods

Started out with one single hectare of land, the Songhai project has expanded to six sites in Benin and one in Nigeria, where young agricultural entrepreneurs are trained to create viable agricultural enterprises. The use of local resources, the combination of traditional and modern agricultural practices, the instruction and implementation of effective management as well as the encouragement of individual and communal responsibility and initiatives are key elements in Songhai's approach.

Songhai's approach is extensive and holistic

Songhai is based on the principle that agriculture - in order to become a viable force of development - must be extensive and holistic, going beyond purely agricultural knowledge (integrated production, animal husbandry, fish farming, and appropriate technologies) and include education in management, organization, and planning. In pursuing these goals, the Songhai centre is involved in various activities, highlighting sectors leading up to and resulting from agricultural production. Its principal activities are utterly inter-related.

The objectives of the agricultural production are: to promote an integrated system of agricultural production (diversification); to manage production units with the target of making them profitable while remaining conscious of the environment; to increase productivity; to supervise student farmers and trainees; and to provide agricultural services (e.g. production of seed and materials) for farmers and the Songhai sites.

To Mr. Mahmoud El Bassouny and the entire team of the ETRACE Centre for the establishment of an effective traceability system for Egyptian producers that helps them overcome barriers to trade and links them with EU markets

UNIDO's Egyptian Traceability Centre for Agro-Industrial Exports (ETTRACE) ensures that food products are safe for consumption and suited for export.

Launched in July 2004 in Cairo, Egypt, ETRACE is a joint project of UNIDO, the Egyptian Ministry of Trade and Industry, the Italian Development Cooperation and the private sector,



ETRACE helps Egyptian farmers, food producers and packers along the food value chain to meet European and international food quality, safety and traceability standards, ensuring that products are safe and do not encounter barriers to trade.

The Centre provides financial and technical assistance to support farms, packing houses and food manufacturers in applying traceability systems, upgrading their technology and management systems to control the use of chemicals and acquiring certification for their exports, thus contributing to domestic food security and facilitating access to global markets.

ETRACE has assisted more than five million people

Up to now, ETRACE has provided support to 90 of the 200 packing houses in Egypt, which account for approximately 85% of all exports, as well as to eight pilot food processors. Through them, the project has already reached over 45,000 farms and thus more than five million people. In addition, ETRACE has assisted the General Organization for Import and Export Control (GOIEC) in establishing a national traceability system.

ETRACE's activities are constantly being up-scaled and replicated in other developing countries

ETRACE's success and worldwide reputation as a centre of excellence on traceability, quality, safety and agribusiness development has resulted in a series of new project proposals to extend its activities: The establishment of an "Agribusiness solutions, traceability and upgrading excellence centre in Egypt", funded by the Italian Development Cooperation, "Pro-poor horticulture value chains in Upper Egypt", funded by the Spanish MDG Fund, and "Upgrading the medicinal and aromatic plants value chain - access to export markets", expected to be funded by SECO-Switzerland.

In addition, UNIDO and the Industrial Modernization Centre (IMC) in Egypt have made a joint proposal to institutionalize the UNIDO/ETRACE project into a sustainable "Agribusiness Trade Enhancement Centre", as an integral part of the Egyptian Ministry of Trade and Industry's programme "Technology and Innovation Centres" (with funding provided by IMC as well as in-kind contribution by the Government of Egypt).

Moreover, ETRACE's achievements in Egypt and as well as beyond its borders have inspired other developing countries and countries in transition such as Ecuador, Ghana, South Africa and the Philippines to apply for assistance in the replication of the ETRACE model.

2.8. Closing session

The closing session of the Conference featured presentations by the theme experts of brief summaries of the solutions presented, the debates and conclusions, and as well as the results of the matchmaking sessions. The ceremony to honor the seven award winners was followed by a short statement by special guest H.E. Mr. Walter Poveda Ricaurte, Minister of Agriculture, Ecuador. All speakers expressed their appreciation for the Conference, lauded its innovative format and urged UNIDO to pursue its endeavors in agribusiness development.



2.8.1 Conclusions on the thematic discussions

This section provides brief summaries of the thematic discussions, conclusions and recommendations made. More comprehensive summary reports by the theme experts of the discussions on each of the four thematic areas can be found in Appendix C.

The presentations made by the theme experts during the closing session are available on the UNIDO website under: <http://www.unido.org/index.php?id=7253>

Supply/value chains, market access and linkages

The discussions under this theme centered primarily on facilitation activities and organizational approaches as ways to allow small farmers and enterprises to enter global markets.

The solutions presented focused on ways to access “modern value chains,” where the target market is a large-scale food industry company (wholesaler, processor, or retailer) or a consumer willing to pay more for quality differentiation, or both. Nearly all the products considered were “non-staples” – they were often fresh or processed fruits and vegetables, processed grains, fish, and several organic and fair trade non-staple products.

The essence of all the solutions presented was that an entity (private sector client, private or public sector intermediary, farmer company or cooperative, or donor or NGO or consultant company or industry association, to name the entities in the case studies) would act as the “facilitator” to resolve the asset shortfall (to make the threshold investment) and the idiosyncratic market failure (to access inputs, capital, and services) so that the small farmer or processing enterprise could be competitive from the perspective of the sourcing company into the modern value chain.

Most of the solutions presented were selected for their innovative character, while others represented examples of approaches that have already been applied for some time but had seldom been shared outside of their original location and were therefore rarely up-scaled or replicated in other contexts. Examples of such solutions are supermarket collection centers, contract farming, export platforms, new-generation cooperatives or producer companies, NGO/consulting company facilitation of supply chains, and multilateral and NGO programs to help farmers export to organic, fair trade and food safety market niches.

The Conference brought together, in a “one-stop shop”, concrete examples and players involved and allowed their dissection, discussion, and interaction. In addition, participants were exposed to specific exciting and innovative applications of both known and new approaches.

Compliance with standards and conformity assessment

The discussions under this theme emphasized the need to harmonize and localize training, capacity and competence building structures in order to improve capabilities to comply with international standards, food traceability systems, QMS development, testing and implementation, as well as certification (i.e. organic, GAP).

All solutions that were presented regard standards both as possible barriers to trade but also as an opportunity to follow a proactive approach to SPS management. Standards provide additional economic value through certification (for example, organic or fair trade) and



traceability, which in turn helps producers in developing countries overcome the “commodity trap” and develop a competitive advantage in international markets.

A proactive approach to compliance, i.e. staying abreast of changing technical and commercial requirements in destination markets and anticipating consumer and market trends, has enabled producers in developing countries to reposition themselves in more lucrative, quality-oriented market segments in the European Union as well as other developed countries.

A common characteristic of all solutions discussed is the endeavor to link small-scale farmers to markets by making them key partners in the supply chain. In addition, most solutions foster linkages between suppliers in emerging markets and buyers (retailers, manufacturers, hospitality industry) in both developing and developed countries.

Technology and value addition

All solutions presented under this theme aim at improving production, transformation and commercialization processes, as well as organizational systems through technological innovation. At the same time, the solutions share the objective of improving education by providing training to enhance productivity, product quality and safety, while minimizing production losses and reducing negative environmental impacts.

Discussions highlighted the need to optimize production processes in order to improve product quality and safety, and to develop structures and facilities for research and training on sustainable technological solutions. They also focused on the need for more efficient utilization of natural resources and the development of environmentally sound structures in order to reduce the environmental damage caused by production and transformation processes (through cleaner and more efficient energy use, waste management, etc.)

The following topics were also addressed: improving yields through technological know-how, reduction of post-harvest losses through better product preservation techniques, quality preservation processes and innovative ingredients to reduce microbial and toxin contamination, increased cost-efficiency related to local production, collective brands and quality criteria enhancement to strengthen small-scale producers, packaging technology and efficiency of logistics and the cold chain.

Innovative forms of financing

The discussions under this theme revealed that there are significant opportunities to secure investments and to reduce the risks inherent in supply chain development, especially for inside-the-chain controls and inside-the-chain buying commitments.

An important topic was the role of the “supply chain integrator” – a role that defines the different forms of financing available for chain formation, investment in chain infrastructure, and mixing sources of financing.

A typology of financing was proposed which distinguished three types of supply chain configurations, as well as the corresponding investment structures: closed supply chains with one buyer, open supply chains with more than one buyer and open systems of structured trade (involving many sellers and buyers). Depending on the structure and the capabilities of the “supply chain integrator” (and depending on the circumstances), specific forms of external financing may apply.



2.8.2 Closing ceremony

Gerardo Pataconi, Chief of the UNIDO Productivity, Quality and Enterprise Upgrading Unit, who was the main organizer of the Conference, opened the closing ceremony. He showed a short film illustrating how the Egyptian Traceability Centre for Agro-industrial Export (ETTRACE) - one of the Conference's special award winners and an inspiration to many developing economies - helps Egyptian food exporters to comply with international food quality, safety and traceability standards, thus allowing them to enter global markets.

"We are overwhelmed by the positive responses. We started a process that was widely acclaimed, and now UNIDO and its partners will actively ensure that innovative solutions are implemented", said Mr. Pataconi in his address. He continued the "Yes, we can!" spirit of the first day, reiterating the "need for commitment and partnerships based on trust" and the importance of working hand in hand in order to achieve significant development.

Packaging of beans in line with international traceability standards



Marco Potecchi, Head of the UNIDO Investment Promotion Unit in Cairo, briefly summarized the outcomes of the bilateral meetings between agribusiness stakeholders from both the public and the private sectors, which were so highly praised by participants. He also provided insight into how he and his team and the entire UNIDO ITPO/IPU network had carried out that complex organizational endeavor, starting only three months prior to the Conference, with market research, direct mailing to potentially interested businesses and institutions, facilitation of interactions between potential partners and assistance in the preparation process.



As a special guest with strong interest in the dynamization of his country's agribusiness sector, H.E. Mr. Walter Poveda Ricaurte, Minister of Agriculture of Ecuador, had participated in the event. In his closing speech, he thanked the organizers for "the chance to experience such a great variety of innovative models and approaches" and pointed out that improving food quality and safety was absolutely essential for developing economies in order for them to overcome barriers to trade and enter world markets, as well as to strengthen their competitiveness and achieve better prices. He also highlighted the importance of strong international cooperation and the need for investment in the agribusiness sector, so as to help developing countries escape from the poverty trap.

Paul Makin, UNIDO Representative in Egypt, highlighted the need to retain the expertise of the International Advisory Board established for the Conference and of the participants, by developing an interactive platform that would foster the exchange of "explicit knowledge" by making the solutions that had been shared during the event available to a broader audience and giving others the possibility of sharing their experiences and building business partnerships through online matchmaking, as well as capturing and storing "tacit knowledge" through the creation of an expertise database that would make it possible to find the right expert or consultant quickly and easily.

Furthermore, Mr. Makin endorsed the participants' request to maintain this much-admired, solution-oriented format including vibrant debates, sharing of experiences, and concrete examples as well as matchmaking exercises for future UNIDO meetings.

These recommendations, as well as other activities undertaken as follow-up to the Conference, are detailed in chapter 3 of this report.



3. RESULTS AND FOLLOW-UP ACTIVITIES

The conference has fostered fruitful interactions and encouraged the consolidation and the formation of new partnerships between UNIDO, policy makers, international organizations, NGOs, financial and technical institutions (public and private), businesses and academia:

- A project is underway to link the CIEH-UNIDO Sri Lanka programme for food safety qualifications and Cargills Ltd. (one of the Conference's award winners). The objective is to provide CIEH training programmes to Cargills staff and their suppliers and to support Cargills in the suppliers assurance programme.
- Plans to replicate the Cargills Sri Lanka Solution in Togo are being discussed.
- A strategic partnership agreement between UNIDO and Michigan State University (MSU) in the context of the Global Food Safety Initiative (GFSI) has been signed with the objective of developing a Food Safety Knowledge Network and a joint training and research programme targeting developing country policy-makers and the private sector in the area of trade capacity building.
- UNIDO and The Arab Gulf Program for United Nations Development Organizations (AGFUND) have strengthened their cooperation in the field of agribusiness development *inter alia*, through the AGFUND International Prize 2009 that targets projects encouraging the implementation of modern and innovative technology in agricultural development.
- The Ministries of Agriculture of Ecuador and the Philippines have requested UNIDO's assistance in the development of a traceability programme following the example of the UNIDO ETRACE centre in Cairo, Egypt. Also, South Africa has shown interest in the establishment of a national traceability centre.
- The success of the Cairo event has sparked negotiations on the establishment of follow-up mechanisms between UNIDO and the Italian Development Cooperation, one of the conference's main partner institutions.
- A significant number of successful private business partnerships is emerging from the matchmaking sessions, supported by the ITPO/IPU network.

Follow-up activities:

- A project, financed by the Italian Development Cooperation, has been initiated to follow-up on the Conference and the innovative solutions presented as well as to extend ETRACE support to other countries and regions, *inter alia* through the development of an interactive Agribusiness Solutions Platform.
- Negotiations and partnerships that resulted from the matchmaking are being actively followed-up by the ITPO/IPU network.
- The Conference web page on unido.org has been updated with press releases, media coverage and photos related to the event as well as participants' presentations and key-note speeches.



- The first “Farms to Markets” Newsletter has been published and distributed to the over 400 conference participants, member states as well other interested parties in April 2009. As a direct result of the continuous identification process of agribusiness ideas, best practices and solutions, the newsletter will provide access to qualified information, including business intelligence, technological updates and technical cooperation opportunities and foster the establishment of a real community of agribusiness practitioners worldwide. The second edition will be released in December 2009.
- The conference web site is being transformed into an interactive Agribusiness Solutions Platform: the Platform will replicate the Conference’s structure, thereby focusing on the continuous identification, screening and validation as well as the subsequent dissemination of innovative and successful agribusiness solutions. Online matchmaking sessions between screened companies and specialized discussion groups, which will be moderated by international experts and which will capitalize on the thematic areas of the Conference, will be the Platform’s key elements. The Platform will promote contributors of innovative solutions and best practices and allow them to gain visibility. Agribusiness practitioners will benefit from technical assistance in the implementation and/or transfer of selected solutions with the support of UNIDO and its partners institutions. Ultimately, the Platform is aiming at becoming a central knowledge base of significant value to agribusiness operators around the world, to UNIDO, its counterpart institutions and its partners from the private sector.
- UNIDO and the regional group of Latin America and Caribbean Countries (GRULAC) have initiated informal discussions on a possible follow-up conference to Cairo in the sub-region.



APPENDIXES

A. Opening remarks

Opening Statement by Dr. Ibrahim Abouleish, Founder of SEKEM

Dear Friends, Ladies and Gentleman,

It is a great pleasure and honour for me to welcome all of you here at SEKEM.

When Dr. K. Yumkella and I met two years ago in SEKEM, it was very clear for me that he is a visionary. He has a vision for human development and in our discussion about poverty alleviation and industrial development he said: "We must always remember, that it is about people, it is not an abstract concept, it must be practical." Since this time we got closer as friends. Before Dr. Yumkella joined the UNIDO he was minister of trade and industry of Sierra Leone. Dr. Yumkella held PhD in Agro - economics of the University of Illinois.

When he himself experienced here the technology of traceability which facilitates the idea from farms to market and helps alleviating poverty and raising human capacity, he was excited and decided to call for this international conference. I can imagine how much effort over months he and his very active colleagues have spent to make this conference reality. Thank you!

Ladies and gentleman

Our vision is sustainable development.

And sustainable development can satisfy our needs and aspirations without decreasing the chances for future generations. We can learn valuable lessons from the study of ecosystems, which are sustainable communities of plants, animals and micro organisms. To understand these lessons we need to learn the basic principals of ecology.

We need to become ecologically literate. Being ecologically literate means understanding the principles of organisations of ecological communities including our educational communities, business communities and political communities. So that the principles of ecology become manifest in them as principles of education, management and politics.

Of course, there are many differences between ecosystems and human communities. There is no self awareness in ecosystems, no language, no consciousness, and no culture and therefore no justice, no democracy but also no greed or dishonesty. We cannot learn about those human values from ecosystems. But what we can learn from them is how to live sustainability.

During more than 3 billion years of evolution the planets ecosystems have organised themselves in subtle and complex ways so as to maximise sustainability. This wisdom of nature is the essence of eco-literacy. Understanding ecological interdependence means understanding relationships. It requires the shift of perceptions that are characteristic of system – thinking: from the parts to the whole, from objects to relationships, from content to patterns. A sustainable human community is aware of the multiple relationships among its members. Nourishing the community means nourishing those relationships.

The lesson for human communities here is obvious. The ecosystems feed back loops are the path ways along which nutrients are continually recycled, all organisms in a ecosystem



produce waste but what is waste for one species is food for another, so that the ecosystem as a whole remains without waste over billions of years.

A major clash between economics and ecology drives from the fact that nature is cyclical, whereas our industrial systems are linear. The business take resources, transform them into product plus waste, and sell the products to consumers. Sustainable patterns of productions and consumptions need to be cyclical, imitating the cyclical process in nature. To achieve such cyclical patterns we need to fundamentally re-design our business and our economy.

One of the basis principles of ecology is partnership. In human communities partnership means democracy and personal empowerment. Each member of the community plays an important role. In a true, committed partnership both partners learn and change they “co-evolve”. Here we notice the basic tension between the change of ecological sustainability and their way in which our present societies are structured, between economics and ecology. Economics emphasizes competition and domination, ecology emphasizes cooperation and partnership.

As you can see we have to change our paradigm and long before Barak Obama has called for change Kande Yumkella strived for change and – yes, we can!

Opening Statement by Dr. Yoshi Uramoto, Deputy to the Director-General, United Nations Industrial Development Organization (UNIDO)

Ladies and Gentlemen,

I am honored to be here in Cairo today to pay tribute to the strong partnership between UNIDO and Egypt, both the Egyptian Government and its private sector. I would like to take this opportunity to thank our host and partner Dr. Ibrahim Abouleish and his family for inspiring us by holding the conference on his farm, and to thank the Government of Egypt, as they are true partners in development. This is why we see Egypt growing to become a hub to support the development of other countries by building solid South-South cooperation.

The current global food crisis has highlighted the extreme vulnerability of developing country populations to fluctuations in food prices and supplies. Most recently this has been exacerbated by the financial and economic crisis. The international community has attempted to tackle this complex set of challenges in various ways. UNIDO, in line with its mandate, is responding by increasing its efforts towards strengthening agribusiness value chains, expanding developing countries’ food supplies and their access to markets, technology and investment.

Let me stress that, as some three quarters of the world’s poor live in rural areas, there are clear opportunities that should be used to develop local, regional and international food value chains. Furthermore, if we consider that up to half of agricultural production is lost and wasted from the time of harvesting to the time it should reach table of consumers or the gate of a processing plant, we see that innovative solutions must be found quickly. There is no more time to waste, and there is no more time to wait: effective action must be taken to ensure that food products are safe and of good quality and that production and distribution respect both the environment and workers rights.



Today we are here to share this common goal of putting agribusiness development at the core of our efforts and follow a common strategy. This has to do with four areas: Linkages between producer and the market, standards and conformity, technology and value addition, and financing, which are the focus of our conference. In a nutshell, we have to look at agribusiness value chains and how to make them work effectively in terms of quality, safety, and price and income distribution and match those with needs with sound solutions, technical assistance and funding, both public and private.

Therefore, today and tomorrow we are taking advantage of the opportunity to share ways to link farmers and processors with manufacturers and retailers, to learn the optimal approaches for ensure quality and safety, to implement traceability, to look into innovative and affordable technology which can help to reduce waste, to increase quality, production and productivity, to reduce impact on the environment and save energy, to increase the shelf life and safety of products. But also to improve public-private partnerships and bring together needs with solutions and solutions with finance, private, governmental and international financing.

The products of developing countries are, on the one hand, often not suitable for export markets in terms of standards, quality and price nor are able to integrate in global value chains; on the other, sub-standard goods can be sold in their markets without sound conformity assessment control. Therefore, developing countries must move forward in managing technical regulations and import/export regimes effectively, which will have major repercussions not only on their access to export markets, but also on the protection of consumers and of the environment.

In order not to be further marginalized but to benefit from the current globalized market economy, developing countries must be able to achieve international levels of quality and safety by meeting a wide range of standards, regulations, tests and certification requirements. It is thus imperative to strengthen their institutional and human capabilities in the fields of quality, standardization and conformity assessment, both at institutional and enterprise levels and to foster their ability to enter food value chains.

One of the pillars of UNIDO's work and mandate is precisely this: building trade capacity to enable developing countries to attract investments and develop their supply capacity, to ensure compliance with market requirements and standards, and to foster access to export markets, while protecting consumers and the environment. This is the way for countries to reduce poverty through productive activities. This is the path to help the emerging world out of the poverty trap.

The strategy we have adopted for our event today and tomorrow is innovative, which reflects the fact that we must be creative and innovative to respond adequately to today's challenges. Thus, we are not here today to discuss the problems; we are not here to analyze macro-economic data, nor to complain about the global crisis and assign responsibilities: we are here today to take stock of what is actually working and how we can share, replicate, scale-up, and implement the best and most innovative agribusiness solutions.

I strongly believe that by sharing the best and most innovative solutions and global best practices we can effectively advance agribusiness development and provide concrete and feasible answers to millions of farms, small and medium-size enterprises and service companies, and their owner and workers from developing countries. They are struggling every day to gain the confidence of buyers, markets and consumers in local, regional



and global markets and to allow millions of people to keep their jobs or to find new job opportunities.

As I have said, UNIDO and Egypt enjoy a long-standing cooperation and in fact, the inspiration for the conference was the success achieved by the UNIDO project “Traceability of agro-industrial products for the European market,” funded under the Italian-Egyptian Debt for Development Swap. The project established an effective traceability system for exports to the EU, which has enabled Egyptian farmers and the food industry to increase food safety and overcome technical barriers to trade, thus facilitating the sustainable access of Egyptian food products to export markets. The project assisted about 100 of the 200 packing houses in the country, and it is estimated that these account for over 70 per cent of exports. Through them, the project has reached around 45,000 farms and thus nearly 5 million people.

Here at SEKEM Farm today we will also be able to observe applied agribusiness solutions first-hand and to exchange experiences and views in an informal and inspiring environment. We shall recall that SEKEM won the Alternative Nobel Prize in 2003. This farm is therefore a model. In spite of the difficulties, we managed to bring all of you here to the source (perhaps the next conference should be held in an industrial factory). Our aim is to go where the problems are and where solutions have been identified and implemented, to live them and not just to read or hear about them.

Allow me now to report briefly on the achievements that we have recorded in the process leading up to this event and to set the scene for the intensive two days ahead of us. The response to the call for solutions has been overwhelming: Over 450 experts, farmers, industrialists, retailers, academicians, representative of government authorities and of public and private financial institutions have responded. Through an innovative online system that was set up to submit and review solutions, we received more than 120 top solutions from over 65 countries. These solutions show, for example, how ITC Ltd places Internet connections in small villages in India and provides farmers with up-to-the-minute price information for their crops, how the private sector organization COLEAC helps small and medium scale producers in ACP countries comply with EU standards and regulations, how passive refrigeration makes it possible to maintain a continuous cold/fresh chain not dependent on connection to an external power supply or how Cargills (Ceylon) Ltd connects small rural farmers in Sri Lanka with local and global markets.

We have also planned this event to be an opportunity for matchmaking between those seeking solutions and those looking for a means to enhance development of their food value chains. With the able assistance of the UNIDO Investment and Promotion Office Network, and specifically, the Rome Office and the Investment Promotion Unit in Cairo, we have arranged, and we shall support, nearly 450 bilateral meetings, aimed at resulting in concrete proposals for technical cooperation, financing and technology transfer.

I would also like to mention that this conference was supported by an International Advisory Board which will be called upon later to share their views and experience, by four top experts, as well as by the Food and Agriculture Organization of the United Nations (FAO), the Italian Development Cooperation and the Swiss State Secretariat for Economic Affairs (SECO), and committed local sponsors.

To conclude, I wish to reiterate UNIDO’s strong commitment to a development that foresees wide availability of safe products for all, that focuses on the best ways to increase



value addition, reduce post-harvest losses, enhance access to industrial and commercial supply chains, to ensure compliance with ever more stringent quality, safety and environmental standards, as well as to find effective mechanisms to access finance, both public and private, domestic and international, so as to increase the equitable shares of wealth created for all.

Working together we can make it possible.

Thank you

Regrettably, neither the texts nor the transcripts of the following opening remarks could be provided:

- Counselor Giovanni Maria De Vita, Head, Commercial Office, Italian Embassy to Egypt
- Dr. Saad Nassar, Special Advisor to H.E. Amin Ahmed Abaza, Minister of Agriculture and Land Reclamation, Egypt
- H.E. Dr. Othman Mohamed Othman, Minister of Planning and Local Development (on behalf of H.E. Dr. Ahmed Mahmoud Mohamed , Prime Minister, Egypt)

B. List of solutions submitted

Participants submitted more than 120 innovative solutions, which were assessed and selected by a panel of high-level international experts prior to the conference through a highly efficient web-based system. 60 innovative agribusiness solutions and best practices, which have proved to be successful and can serve as models for replication in other developing countries, were presented at the event.

The following list contains all submitted solutions. All submission forms can be viewed and downloaded on www.unido.org/index.php?id=7246

On the theme of Supply/value chains and linkages:

1. Enabling small farmers to access overseas market, India, By: Ms. Bhushana Karandikar
2. Linking Small Farmers to the Market Place, Sri Lanka, By: Mr. Ranjit Page
3. 4000 Tons Per Day (Global Development Alliance), Egypt, By: Mr. Douglas A Anderson
4. Integrated Agro Food Park (IAFP). India, By: Mr. Ajay Kakra
5. Providing market opportunities to small holder farmers through simple quality management systems, Kenya, By: Mr. Apollo Onyango
6. Reliance Retail Limited Agri Business & Food Supply Chain, India, By: Mr. Aanjeev Asthana
7. Reliance Retail Limited, India, By: Ms. Sarada Sunanda
8. Innovative Intervention Models for the Coffee Sector, Colombia, By: Ms. Cristina Pombo



9. Farmer-Agribusiness Linkages- A Case Study of Hybrid Maize Production, Sri Lanka, By: Dr. Mohamed Esham
10. The Revitalization of the Mukumbani Tea Estate and Factory: Limpopo Province, Republic of South Africa., South Africa, By: Mr. Bigman Maloa
11. Improvement of the hygienic and sanitary conditions on the meat chain, Italy, By: Mr. Marco Falappa
12. Analysis, Design and Implementation of Biodiesel Projects in Brazil with Linkage to Livestock Production, Brazil, By: Prof. Aziz Galvão da Silva Junior
13. GTNet, traceability projects , Norway, By: Mr. Jan Morritz Olsson
14. Developing competitive export capacity for a small group business through Enterprise Development Support (EDS) and innovative financing, Zambia, By: Mr. Likando Mukumbuta
15. Pilot Plant / Product Development Center, Lebanon, By: Ms. Layal Karam
16. NOPI – National Organic Produce Initiative, South Africa, By: Mr. Thierry Alban
17. Caretrace, United Kingdom, By: Mr. Simon Derrick
18. UNIDO Export Consortia Programme, Morocco, By: Mr. Ali Berrada
19. Quality Assurance Food Safety and Traceability in Honey Supply Chain - from Bee-to-Bottle, Tanzania, By: Mr. Silas Nghabi Ng’habi
20. Agriculture Development Plus , Lebanon, By: Mr. Wassim Minkara
21. Business solution to help smallholder organic producers, Lebanon, By: Prof. Rami Zurayk
22. Responsible Inclusive Purchasing Program, Argentina, By: Mr. Santiago Gonzalez Cravino
23. EquiTrade™ (ET) – Fostering Co-ownership and Sharing Intangible Value with Poor Producers, Switzerland, By: Mr Ged Buffee
24. Haie de clôture des périmètres agricoles en plantation de pourguère sur fossé recouvert avec retenue d’eau., Mali, By: Mr. Cheick Oumar Koné
25. Appropriate technologies for local processing of agricultural products, Italy, By: Dr. Francesco Burlini
26. Afritrade.net, South Africa, By: Mr. Anton Scheepers
27. Enhancing Market Access through Informed Decisions: Market Intelligence Tools in a Competitive Global Environment, Egypt, By: Mr. Ali El Saied
28. Community Parliament Farmer Empowerment Schemes, Kenya, By: Dr. Pascal Kaumbutho
29. Horticultural Export Fund, Jordan, By: Mr. Nedal Hiyari
30. The Coop Way of Life: Uplift Program for the Small-scale Producers, Philippines, By: Dr. Ben Bagui



31. Creation of a network of offices providing assistance in food safety and innovation technology issues, Italy, By: Dr. Marco Molino
32. Re-engineering of imported machinery, Philippines, By: Prof Armin Guinto
33. National Agri-Business Development Programme for Trinidad and Tobago, Trinidad and Tobago, By: Mr Vassel Stewart
34. The flexible choice: Goglio Packaging Systems for Processed Vegetables, Italy, By: Mr Andrea Fare
35. Best practice - opportunities for the Italian F&V market , Italy, By: Prof. Duccio R.L. Caccioni
36. National Agri-Business Development Programme for Trinidad and Tobago, Trinidad and Tobago, By: Mr Vassel Stewart
37. World Food and Commodities On-line ExchangeItaly, By: Dr. Riccardo Cuomo

On the theme of Standards and conformity assessment:

1. Linking Small Farmers to the Market Place, Sri Lanka, By: Mr. Ranjit Page
2. 4000 Tons Per Day (Global Development Alliance), Egypt, By: Mr. Douglas A Anderson
3. COLEACP-PIP: Supporting compliance within the ACP Fresh Fruit and Vegetable Sector, Belgium, By: Ms. Morag Webb
4. Traceability of Agro-Industrial Products for the European Market, Egypt, By: Mr. Ahmed Sobhy
5. Providing market opportunities to Small Holder Farmers through simple Quality Management Systems, Kenya, By: Mr. Apollo Onyango
6. Good Agricultural Practices Certification: Increasing Marketability of Philippine Fruits and Vegetables, Philippines, By: Mr. Israel Dela Cruz
7. Lebanese University/Faculty of Agricultural Sciences, Lebanon, By: Dr. Hussein Dib
8. Export Promotion of Organic Products from Africa: Development Through Trade, Uganda, By: Ms. Florence Nagawa
9. Rurally Produced, Globally Treated Through Private Partnership, Egypt, By: Mr. Mazen Sinokrot
10. Improvement of the hygienic and sanitary conditions on the meat chain, Italy, By: Mr. Marco Falappa
11. GTNet, traceability projects , Norway, By: Mr. Jan Morritz Olsson
12. Ministry of Agriculture and Rural Development, Department of Crop production, Viet Nam, By: Ms. Hang Nguyen Thi
13. Pilot Plant / Product Development Center, Lebanon, By: Ms. Layal Karam
14. NOPI – National Organic Produce Initiative, South Africa, By: Mr. Thierry Alban REVERT
15. Cuban experience in the work joint UNIDO-MINAL for HACCP System Implementation in the Cuban food industry, Cuba, By: Mr. José Rodobaldo Guerra Duffay



16. Agriculture Development plus, Lebanon, By: Mr. Wassim Minkara
17. Business solution to help smallholder organic producers, Lebanon, By: Prof. Rami Zurayk
18. Responsible Inclusive Purchasing Program, Argentina, By: Mr. Santiago Gonzalez Cravino
19. EquiTrade™ (ET) – Fostering Co-ownership and Sharing Intangible Value with Poor Producers, Switzerland, By: Mr. Ged Buffee
20. Horticultural Export Fund, Jordan, By: Mr. Nedal Hiyari
21. Creation of a network of offices providing assistance in food safety and innovation technology issues, Italy, By: Dr. Marco Molino
22. Cuban experience in the work joint UNIDO-MINAL for HACCP System Implementation in the Cuban food industry, Cuba, By: Mr. José Rodobaldo Guerra Duffay
23. World Food and Commodities On-line Exchange, Italy, By: Dr. Riccardo Cuomo
24. CIEH-UNIDO partnership in food safety qualifications (The case of Sri Lanka), Great Britain, By: Mr. David Denton

On the theme of Technology and value addition:

1. Linking Small Farmers to the Market Place, Sri Lanka, By: Mr. Ranjit Page
2. Passive refrigeration for postharvest/postslaughtery/postfishing/postmilking, storage and transport of perishable foodstuff, Italy, By: Mr. Alberto Ghiraldi
3. 4000 Tons Per Day (Global Development Alliance), Egypt, By: Mr. Douglas A Anderson
4. “Production of biodegradable and compostable bags, waste management and Plant for the production of compost”, Argentina, By: Ms. Noemi Edith Cermesoni
5. Fodder Yeast from Bioethanol Distillery Slops. An Environmental Solution, Cuba, By: Mr. Miguel Angel Otero- Rambla
6. Grain Storage Technology, China, By: Mr. Baoxing Zhao
7. the buried diffusers: a new irrigation technique for trees, vegetables and plants in containers, Tunisia, By: Prof. Chahbani Bellachheb
8. Centre for Rural Innovation, Cote d’Ivoire, By: Mr. Lombardo Cedric
9. Innovative Intervention Models for the Coffee Sector, Colombia, By: Ms. Cristina Pombo
10. Pavan, Italy, By: Mr. Luciano Mondardini
11. Eco-friendly sanitary mats preventing diffusing of infectious diseases made on the basis of natural bast fibres., Poland, By: Mr. Jacek Kolodziej
12. Advanced technology for transforming semolina or soft wheat flour into pasta or cous-cous, Italy, By: Mr. Armando Barozzi
13. Farmer Packing and Product Development Project , Thailand, By: Mr. Nopporn Wongtunkard



14. Lebanese University/Faculty of Agricultural Sciences, Lebanon, By: Dr. Hussein Dib
15. The Revitalization of the Mukumbani Tea Estate and Factory: Limpopo Province, Republic of South Africa., South Africa, By: Mr. Bigman Maloa
16. Flowers production on Constructed Wetlands for wastewater treatment, Italy, By: Mr. Stefano Binotti
17. Design, Fabrication, Installation and Testing of an improved flash dryer for producing 500 kg/hour of high quality cassava flour, Nigeria, By: Mr Emmanuel Kwaya
18. GTNet, traceability projects , Norway, By: Mr. Jan Morritz Olsson
19. Flaxseed Candies, Poland, By: Ms. Marta Gromek
20. Four djilemo et la farine de manioc non fermentée, Cameroon, By: Mr. Djilemo Louis
21. New, effective intumescent, transparent system, „EXPANDER FR” based on modifiers in „nano” scale for protection of flammable mat, Poland, By: Mr. Krzysztof Bujnowicz
22. Pilot Plant / Product Development Center, Lebanon, By: Ms. Layal Karam
23. NOPI – National Organic Produce Initiative, South Africa, By: Mr. Thierry Alban
24. Creation of a Didactic Farm for research, application and dissemination of farming sustainable methods in southern Morocco., Italy, By: Dr. Francesco Burlini
25. Labour-Saving Technology, Malawi, By: Mr. Bilisoni Itaye
26. Agriculture Development plus, Lebanon, By: Mr. Wassim Minkara
27. Agriculture & Rural Innovative Action Plan, India, By: Mr. Sakti Ranjan Mondal
28. CP Project in Agro Station, Ukraine, By: Prof. Valeriy Dubrovin
29. Haie de clôture des périmètres agricoles en plantation de pourguère sur fossé recouvert avec retenue d’eau., Mali, By: Mr. Cheick Oumar Koné
30. Appropriate technologies for local processing of agricultural products, Italy, By: Dr. Francesco Burlini
31. Horticultural Export Fund, Jordan, By: Mr. Nedal Hiyari
32. Creation of a network of offices providing assistance in food safety and innovation technology issues, Italy, By: Dr. Marco Molino
33. The flexible choice: Goglio Packaging Systems for Processed Vegetables, Italy, By: Mr. Andrea Fare
34. Songchon goat milk dairy project, Austria, By: Mr. Il Chul Ri
35. World Food and Commodities On-line Exchange , Italy, By: Dr. Riccardo Cuomo
36. The MARICULTURE Parks / Zones in the Philippines as an Innovative Business Approach in Aquaculture , Philippines, By: Mr. Malcom Sarmiento, Jr.
37. Bioenergy production and environmental protection, Italy, By: Prof. Giuseppe Martelli
38. Green charcoal & Biochar, France, By: Mr. Guy F. Reinaud



39. Cuban Experiences on Cleaner Production as Innovative Solutions for the Food Industry, Cuba, By: Mrs Yeniseis Pérez Fajardo
40. Voluntary Agreement Accords in Cleaner Production (APML), El Salvador, By: Mr José Salvador Vega Prado Leiva

On the theme of Innovative forms of financing:

1. Provision of risk capital, Egypt, By: Mr. Frits Monking
2. Linking Small Farmers to the Market Place, Sri Lanka, By: Mr. Ranjit Page
3. Credit support and financial engineering, Switzerland, By: Mr. Lamon Rutten
4. 4000 Tons Per Day (Global Development Alliance), Egypt, By: Mr. Douglas A Anderson
5. Standardized Financial Product (SFP), Peru, By: Mr. Carlos Ferraro
6. Centre for Rural Innovation, Cote d'Ivoire, By: Mr. Lombardo Cedric
7. Innovative Intervention Models for the Coffee Sector, Colombia, By: Ms. Cristina Pombo
8. Farmer-Agribusiness Linkages- A Case Study of Hybrid Maize Production, Sri Lanka, By: Dr. Mohamed Esham
9. Analysis, Design and Implementation of Biodiesel Projects in Brazil with Linkage to Livestock Production, Brazil, By: Prof. Aziz Galvão da Silva Junior
10. The Italian Credito Cooperativo and Banca Agrileasing. An innovative Approach in Tunisia as "hub" for the Med Area, Italy, By: Mr. Bruno Cassola
11. The Italian Credito Cooperativo and Banca Agrileasing. An innovative approach in Tunisia as "hub" for the Med Area , Italy, By: Mr. Bruno Cassola
12. NOPI – National Organic Produce Initiative, South Africa, By: Mr. Thierry Alban
13. Agriculture Development plus, Lebanon, By: Mr. Wassim Minkara
14. EquiTrade™ (ET) – Fostering Co-ownership and Sharing Intangible Value with Poor Producers, Switzerland, By: Mr. Ged Buffee
15. Haie de clôture des périmètres agricoles en plantation de pourguère sur fossé recouvert avec retenue d'eau., Mali, By: Mr. Cheick Oumar Koné
16. Horticultural Export Fund, Jordan, By: Mr. Nedal Hiyari



C. Summary reports of the four Conference themes

Conference Theme 1: Supply/Value Chains, Market Access, and Linkages

By Prof. Thomas REARDON, Michigan State University

1. Introduction: Trends, Issues, and Conceptual Framework to Classify “Solutions”

This report presents conceptual and issues background and then summarizes and analyses the “solutions” presented at the conference under theme 1 “supply/value chain, market access, and linkages.”

1.1. What are “Supply/Value Chains”? What do we mean by “access” to these chains?

The broad lines of the development of the “supply/value chains” concepts, and the key components of an analysis of these chains, is important (and as the reader will see below, specific) context for our analysis and summary of the insights from the conference’s “case solutions”, and thus we dwell on these concepts to begin.

By the supply or value chain is meant the flow of product over the segments of the agri-food chain. Haggblade (2007) notes, in his review of “subsector studies of rural nonfarm activities,” that there is a history of development of a family of methods as under a broad methodological tent examine “alternative vertical supply channels,” or alternative paths (such as modern or traditional channel) to move a given product from primary producer to consumer, from raw material to final market. The emphasis is on “vertical,” hence cutting across various industries or sectors (farm inputs, farm, wholesale, processing, retail), in contrast to “industry” studies common in industrial organization research, which focus on a given industry or sector and look “horizontally” across the firms in it.

Reardon (2009) reviews the literature of methods of conceptualizing the supply or value chain and finds two broad strands of study of vertical supply channels that vary by “center of gravity” of research issues (although there is lots of overlap in their methods), vary by discipline and practitioner group (although again there is overlap), and roughly come in a sequence, with the first (below) starting earlier (roughly in the 1950s) and continuing to present, and the second (below) starting somewhat more recently (in the 1980s/1990s) and continuing to present.

The first strand of supply chain or value chain literature, which Reardon (2009) calls the “agribusiness/agrifood system strand” studies vertical supply channels mainly from the perspective of agricultural economics and agribusiness management. The founding-father of this strand of research was Ray Goldberg of Harvard Business School, who coined the term “agribusiness systems” for food chains from seed to farm to consumer and who studied the formation of marketing margins and use of coordination mechanisms such as contracts and vertical integration along the chain (Davis and Goldberg 1957, Goldberg 1965, 1968). Many agricultural economics studies ensued from this approach. Terms used by this strand of studies, with some modest differences of emphasis and method among them, include “agribusiness commodity system” or “agrifood system” or “food or commodity chain” or “filières” or “supply chains” or “subsectors” or “netchains.” (See for example Jaffee et al. 2003.)



The essence of nearly all the applied studies of the first strand was laid out in the ideas in the work of Goldberg in the 1950s and 1960s, which Reardon (2009) summarizes in the following two sets of points.

On the one hand, Goldberg (and the strand over the years since) took the basic “vertical chain” idea from past work and married it with the industrial organization literature’s analytical framework of “structure-conduct-performance”: (1) “structure” concerns how concentrated each segment is, and thus what market power lead firms have; (2) “conduct” concerns the production technology and thus costs of both operation and entry (both per segment and between segments, thus transaction costs), flow of finance and input sourcing, output marketing, overall value added of the segment, and transaction terms of the segment, including whether it earns profits above normal payment to capital or “economic rents”; (3) “performance” concerns the overall efficiency of the supply chain and of its segments, as well as the “equity” effects of the supply chain, for example in rural employment, small-scale farmers and micro and small enterprise (SME) access and inclusion and incomes, and growth.

On the other hand, Goldberg (and the strand over the years since) incorporated as part of the characterization of the supply chain its use of what the new institutional economics (NIE) calls “institutional arrangements” to govern or coordinate economic relations between segments and transacting parties – such as the use of quality and safety standards, use of contracts (such as contract farming), use of spot markets versus use of vertical coordination and integration, and other “chain coordination” arrangements.

The second strand of supply/value chain literature identified by Reardon (2009) is the “value chain governance strand” of literature which continued with most of the same methodology as the earlier supply chain work but differentiated and emerged in gradual rise from the 1980s on. It grew up along with globalization and rapid growth in world trade and foreign direct investment in agrifood industries in developing countries, with rapid increase in trade in perishables, with rapid rise of both public and private grades and standards for quality and safety, and with rapid concentration of the food industry first in developed countries and then in emerging-market countries. The strand was first inspired by the business “competitive advantage” strategist Michael Porter (Porter 1985) and then by social scientists focused on how globalizing value chains affect the distribution of income (Kaplinsky and Morris 2000). It has two differentiating emphases from the earlier supply chain literature.

On the one hand, as Porter had emphasized choosing competitive strategies, depending on the market segment targeted, distinguishing an emphasis on cost, for commodity markets, versus quality, for differentiated, high-value, “product” markets. The latter was then linked to compliance with quality and safety standards, both public standards (Stephenson 1995) and private standards (Dolan and Humphrey) for developed country markets, as well as private standards for quality-demanding modern-market segments in developing countries (Reardon et al. 1999).

On the other hand, the VC literature strand studied vertical coordination as did first strand, but added more emphasis and depth on the relation among “rents” (extra-normal earnings based on some competitive advantage and thus barriers to entry), market power, and governance mechanisms (the setting and monitoring and enforcing of market rules like standards). Because of its importance in what we discuss below, I note (based on Reardon (2009) summarizing from Kaplinsky and Morris 2000) the types of rent treated in this



literature: (1) economic rent derives from differential productivity of factors plus barriers to entry (attained by exercise of market power); (2) Technology rents, where the firm has command over scarce or innovative technologies, at least until their diffusion occurs; (3) Human resource (skills) rents; (4) organizational rents (derived from internal organization of the firm such as ability to combine economies of scale in procurement with close contact with clients in many markets); (5) marketing and brand rents (derived from marketing skills and organization but also from brands); (6) relational rents (derived from preferential relations with suppliers, such as in contract farming or in preferential supply arrangements with clients); (7) resource (and we would add, infrastructural/location) rents; (8) policy rents; (9) financial rents (from better access to finance).

1.2. On what are we focused concerning “Access”: by whom? to which kinds of chains?

Using the concepts concerning the nature and components of supply/value chains discussed above, we can make two clarifications on the meaning of the ideas in Theme 1’s title – and pin down what is meant (and illustrated de facto treated by what was discussed in the conference) by “access” – access by whom, and access to which types of chains.

The first clarification pertains to “whom.” The conference focused on small-scale actors upstream in the supply chain – small farmers, processors, distributors/logistics firms – as the emphasis is on poverty alleviation. The emphasis on the supply side was in developing countries – Africa, Asia/Pacific, Middle East, Latin America, and Eastern Europe.

There was, however, no scale-focus in the conference with respect to actors downstream in the chain, the buyers, and in fact most cases focused on selling to large-scale buyers in processing, export wholesale, and retail. We turn below to why.

Yet not much was discussed in the conference is a corollary to the above, and that is the “scaleability” of the access. In fact, many of the “case solutions” presented in the conference are dealing with relatively (in terms of share) small shares of the total number of small farmers or SMEs in the countries in which they deal. There were strong claims made about the ability to “scale up” the case solutions to cover large numbers, but there was little concrete discussion on this point, although it figured in the agenda. That should be a key point debated in future.

The second clarification pertains to “access.” The conference focused on moving beyond just access as a possibility (implied by the definition of the word), and beyond just successfully “accessing” a supply/value chain by selling to it once or twice – to focus on how small scale actors can sustainably and in large numbers sell to particular types (discussed below) of supply/value chains. The focus here is on market-sustainability, and thus on not just being able to afford the investments to enter a specific supply/value chain – but to sustain the access of the supplier as a supplier to that chain as long as it is more profitable than the alternatives. As we discuss more below, sustaining access can be far harder than enabling initial access – in the words of Julio Berdegue, President of Rimisp in Chile, it is far easier for a small farmer group to enter a modern market channel than to make the needed continuous investments and adjustments to stay in it.

The final clarification is the starting point and foundation for the rest of this report. The issue of which supply/value chain is crucial. With perhaps a few exceptions (and none in the Theme 1 sessions), the conference focused on what I will call “modern VCs” (modern value chains). This means that the final demand firm in the VC tends to be a large-scale food industry company (wholesaler, processor, or retailer) or a consumer willing to pay



more for quality differentiation, or both. These (companies and consumers) can be in a developing country market or a developed country market – there was no necessary bias toward discussing VCs focused on exports from developing countries to developed countries (although a lot of the cases focused on that case). Moreover, there tends to be some correlation between these “end points” of the VC: (a) if the consumer is in a developed country, the chance is roughly 70-80% (the share of supermarkets in the food markets of those countries) that the consumer buys from a large modern retail chain; (b) if the company is a modern retailer in a developing country, and the country is in the early stages of supermarket penetration (such as in Africa outside South Africa, Middle East, South Asia, China, and part of Latin America), then a high share of the clientele will be middle class or upper middle class, and thus relatively quality-differentiating compared with the poorer segments; (c) if the company is an exporter in a developing country, the chances are high (but declining) that it aims at the modern food industry in developed countries (Reardon and Timmer, 2007).

The list of the 14 case-solutions presented below show the following end-markets targeted: (1) 57% to export markets in rich countries (and often the richest tier of the consumers there); (2) 21% to large modern processors (2 domestic, one multinational) who sell in domestic market and export; (3) 7% to domestic supermarket chains, on-selling to middle and upper-middle class consumers; (4) 15% to domestic richer consumers who pay premium for quality.

Thus, all the cases deal with VCs that end in modern food industry and/or rich consumers, and usually both. None target poor consumers. By contrast, almost all of them (with one or two exceptions) target small/medium farmers or small enterprises. The conference thus presented cases a bit more than half based in exports, and nearly all having poor farmers “accessing” value chains, nearly always controlled downstream by modern food industry companies, and on-selling to medium to rich consumers.

Moreover, nearly all the products sold are “non-staples” – they are often fresh or processed fruits and vegetables, some processed grains, some fish (tuna), and several organic and fair trade non-staple products. That is, in general these are not products much consumed in local rural markets of the supply zones, but are almost all (with a few exceptions) products aimed at urban and export markets.

Hence, a key de facto “best practice” reflected in the choice of best cases that were presented is the targeting of upper-end, dynamic, non-local markets as the “final market target” of the VCs into which we are seeking small-actors to be included. I heard only support to that focus in the conference.

It is justified in that targeting local staples markets in rural areas is not a way of helping suppliers to break out of poverty, as local markets: (1) tend to be growing slowly in volume of sales and population; (2) are highly demand inelastic (so small increases in supply drive down prices fast); (3) are limited by low rural incomes; (4) tend not to pay premiums for a product being organic or from a small farmer (fair trade) or even typically not for quality differentiation; and (5) if and as rural incomes grow, Bennett’s Law has it that income increments go disproportionately to consuming non-staples such as produce and meat.

By contrast, VCs targeting urban markets aim at markets: (1) with rapidly growing populations; (2) with even more rapidly growing food markets (due to Engels Law, where the poor, as they initially earn more income, spend disproportionately on food); (3) where



average incomes are much higher and growing much more quickly; (4) where the food market in many countries is modernizing with the rise of supermarkets, large processors, and food service chains; (5) where, especially in the modernizing food market segments, companies and consumers are willing and able to pay for quality (and eventually safety) differentiation of products; and (6) where in turn, price premiums for quality and other attributes can be transmitted to small farmers and SMEs, making it worthwhile for them to switch – if they have the capacity to do so - from local traditional markets toward the VCs targeting modern-urban-food markets.

What is said here about VCs focused on urban modernizing food markets is even more true about export-oriented VCs, for obvious reasons.

Accessing the latter types of VCs – targeting modern food industry in developing or developed countries, in turn to tap the pool of consumers with incomes and preferences that make them willing to pay premiums for quality differentiated products – presents great opportunities as well as daunting challenges to small-scale farmers and SMEs. We briefly review those next, and then plunge into an analysis of how the cases help small-scale suppliers address the challenges and access these remunerative, poverty-alleviating market channels.

[1.3. Opportunities and Challenges facing Small Supplier Access to Modern VCs: setting the stage for case-solutions](#)

Several trends over the 1980s-2000s, the “globalization period,” represent major opportunities for the growth of modern VCs that target urban markets and export markets. Below are some facts about these trends, some of them perhaps surprising to the reader.

- a) World food trade doubled. Within that general trend, bulk grain trade actually stagnated, while value-added and high-value non-staple products increased much more rapidly than overall food trade: processed food trade rose 600%, fruits and vegetables, 350%, and meats, 400% (Reardon and Timmer 2007).
- b) While two-thirds of food trade is still between developed countries, and the focus of debate about developing country trade is usually on “north-south” trade, or developing countries exporting to developed countries, food (including non-staples) imports by developing countries and “south-south” trade is growing much faster than overall world food trade. The growth centers of food trade opportunities are found in exporting to developing Asia, Middle East, South America, and Eastern Europe, the center stages of food import growth.
- c) In a number of developing countries, domestic market growth in non-staples grew faster than world trade in those categories: for example, in China, urban consumption per capita of fruit went up 500% from 1984 to 2000 (or 700% extrapolated to 2005), double the growth rate in fruit in world trade. Rural consumption of fruit stayed at the mid 1980s level.
- d) The domestic market in developing countries is far more important to their farmers than are export markets, in general – in developing countries, exports of vegetables constitute a tiny 3% of vegetable, 4% of meat, and 5% of fruit output! Thus the domestic market represents 95-97% of the market opportunity facing small farmers. Of course, for some specific products that have a limited market in developing countries, like argan oil (e.g. the UNIDO Argan case) or certified-organic or fair-trade produce, both the subject of several cases in the conference, where the great majority of the product is exported.



e) The domestic market is itself transforming rapidly, mainly in urban areas. The importance of processed products, and the role of large modern processors, is increasingly rapidly, as the Ceylon Agro-Industries Ltd. (Sri Lanka), Heinz (Egypt), and ITC (India) cases in the conference illustrated. Moreover, the role of supermarkets is increasingly rapidly, especially in Asia, Latin America, and Eastern Europe (Reardon and Timmer 2007), as the case of Cargill Supermarkets in Sri Lanka illustrated at the conference. This represents an opportunity for quality-differentiated VCs that is already surpassing or rivaling exports of non-staples in the fast-growth regions, and in others, such as in Sub-Saharan Africa and the Middle East, is a niche that is another valuable niche alongside exports.

Nevertheless, there are a number of daunting challenges facing small farmer and SME inclusion in the rapidly developing modern VCs whether to domestic markets or export markets. These challenges form the foundation for the need for the case-solutions presented in the conference.

a) Demand side factors facing small farmers: The trend of concentration and change in institutional/supply chain governance in the domestic food industry in both developing and developed countries potentially poses a challenge to small farmers' access to modern VCs. This is linked to large scale firms having the incentive and capacity to impose and monitor the "governance mechanisms" discussed above – in particular private and public standards and contracts.

This is a double-edged sword. (1) Large companies "grow the market" for quality products among consumers because the companies have the ability to coordinate supply chains, which means they can implement the quality assurance for domestic and export markets, and traceability for export markets. (2) But the quality and safety standards they impose, the volumes and consistency and good commercial practices they require (including grading, sorting, packing, invoicing, and so on), are challenging to small farmers.

Studies in Asia, Africa, and Latin America (summarized in Reardon et al., forthcoming) have shown that two types of small farmers can meet these requirements: (1) those, whether individually or in farmers' coops or farmer companies (such as Mahagrapes discussed below) with sufficient non-land assets (such as education, access to infrastructure, access to equipment such as irrigation and greenhouses, and the credit which makes the latter accessible); (2) those assisted (with non-land assets, extension, and variable inputs, as well as market links) by large companies needing those small farmers and helping them with "resource-providing contracts" (a term from Austin 1981), as in the cases of Cargill Supermarkets, ITC/India, and Ceylon Agro-industries, discussed below, and/or (as there is often an "and") by donors, NGOs, consulting firms, and industry associations, as in the other cases discussed below.

b) Supply side factors facing small farmers: Competition among developing countries, and within developing countries, has grown dramatically since the initial "non-traditional export boom" of the late 1980s, early 1990s. There have been already very large increases (much faster than world food trade growth) in key exporting countries like China, Chile, Mexico, and South Africa. There are a host of new entrants whose non-staple exports will grow rapidly over the next decade (India, Vietnam, and others). Their exports will increasingly vie ferociously for the slow-growing European, US, and Japanese markets, and increasingly will be vying for each others' markets in South-South trade. This is already apparent in that 60% of produce in Indonesian supermarkets is from China and Thailand, for example (Natawidjaja et al. 2007). There have thus been two "rounds" (as in boxing) of non-staples



food market globalization (Reardon and Flores, 2006), with the first starting in the early to mid 1980s and lasting to the mid 1990s, and the second round in the past 5–10 years. The terms, nature, and difficulty of competing in globalized food markets have changed vastly between those two rounds, due to the demand side changes noted above, due to the great increase in competition (mainly from large numbers of developing country exporters jumping in), and partly due the exigencies of product differentiation, with tropical commodity products differentiating into some mass commodities and many differentiated variety, value added, and quality niches) (Reardon and Flores, 2006).

1.4. From “challenges” facing farmers to “specific requirements” to access VCs to “solution cases” to address these needs: Conceptual Framework and Taxonomy

Now we are ready to assemble the pieces presented above into a framework for categorizing and analyzing the “solution cases” presented and discussed at the conference.

Small farmers in developing countries extremely seldom can sell directly to the desired consumer-target market: they need to sell to a proximate intermediary, who can be a wholesaler, processor, or retailer, who is their interface with downstream segments that end in a retailer who is the interface with the target consumer. Let us call that intermediary the “sourcing company” (such as ITC/India or Cargill Supermarkets in our cases). That sourcing company must, to stay in business and invest in grow and ward off competition, earn a profit above just paying for its factors (land, labor, capital) and intermediate inputs. It seeks that profit, and makes the investments needed to meet the requirements of the target market (quality, traceability, affordable cost, and so on) – and, crucially, it chooses its suppliers by the criteria needed for it to meet its own requirements.

Now, the sourcing company typically seeks, as noted above, to earn some “rent”, and what it does to earn that “rent” is to attain, or maintain if it already has, one or more “competitive advantages.” If it loses the latter, it is out-competed, and goes out of business. ALL of the food industry clients in ALL of the cases in Theme 1 in the conference pursue that advantage. Recall briefly what those rents (and therefore sought competitive advantages) are: (1) economic rent; (2) technology rent; (3) human resource rent; (4) organizational rent; (5) marketing and brand rent; (6) relational rent; (7) policy rent; (8) resource rent; (9) financial rent.

The sourcing companies perspective on sourcing from a supplier (be it a big or small farmer) is seen strictly (in its normal business operations) through the lens of how well the supplier conforms to the sourcing company’s attaining or maintaining those competitive advantages. If, for example, the sourcing company is a supermarket like Cargill Supermarkets, it is the dominant supermarket to upper income Sri Lankans by competitive advantages in: (1) economic rents through minimizing supply chain costs (to provide quality at affordable cost to consumers), (2) marketing and branding rents (and thus requiring strict quality control and consistency to protect its brand in the eyes of the consumers), (3) organizational rents (being a chain of stores it needs low transaction costs to supply consistently all the stores with standard quality and quantity of produce), and (4) financial rents (it can get formal sector lower interest rates by being able to provide invoices from suppliers). An exporter or large processor would have similar lists of sought competitive advantages, and thus needs that translate into requirements for its suppliers, as seen next.

The next step in our logic is to translate the above needs of the sourcing company into requirements that small farmers thus face:



- 1) Be competitive (in comparison to alternative suppliers) in product cost (per the requirement of the sourcing company); this requires adoption of new technologies, investments in equipment, knowledge and skills, and access to needed inputs like fertilizer, water, improved seed, and so on. Note that these cannot be just “some investment” or “some adoption”, but the investments have to be at or above the “threshold investment” needed.
- 2) Be competitive in product quality for the particular market (grade A mangoes? Certified organic honey? Traceability-assured meat? Fair-trade certified green beans? Pure argan oil? Low gluten wheat? Top grade tuna?); this requires both product technology investments as well as “threshold investments” in product sorting, processing, handling, and packing.
- 3) Be competitive in transaction costs for the sourcing company (relative to low-transaction cost large farmers); this requires “organizational investments” such as forming farmer companies or coops (which may be themselves expensive in time and “fronted incentives” to form) to bulk the product, make collective investments such as in vehicles or packing shed, and self-monitor quality and credit.
- 4) Be competitive in relative risk and risk management in terms of shorting supply to the sourcing company; again, this requires investing in monitoring arrangements to reduce free riding; it requires technology investments to reduce vulnerability to system shocks.
- 5) Be competitive in organizational legality and formality in terms of presenting invoices, having bank accounts, and so on.
- 6) Be competitive in market information and knowledge in terms of knowing what certifications are needed, standards must be met, and intermediaries found.
- 7) Be competitive perhaps in political and policy dimensions: for example, if the small farmer is from a troubled zone, that increases risk; if the small farmer is eligible for a subsidy or grant or infrastructure or equipment program, it might be an advantage to being chosen as supplier.

In sum, the small farmers wanting to access modern, high-value VCs have to be competitive (with alternative suppliers) in a series of daunting ways, from the perspective of the sourcing company, who is keen to gain or maintain a set of competitive advantages and needs the suppliers to comply with requirements to help it do that.

The two big issues for many small farmers are that: (1) they lack the endowment in land and non-land assets (physical capital, financial capital, organizational capital, human capital, social capital) to meet a number of the above requirements; and (2) they face what economists call “idiosyncratic market failure” in their attempt to go to the market to obtain those assets.

The first point is obvious to the reader, so let us dwell on the second, concerning “idiosyncratic market failure.” Simply put, the latter means that there exist markets for all the factors and assets that are implied by the list of seven types of competitiveness the small farmers need to be included. There are markets for fertilizer and seed and water, for irrigation equipment, for greenhouses, for credit, for market information, for intermediation and aggregating and logistics services, for insurance, and so on. Large farmers in their areas have no access constraints to those input/factor/asset/service markets; they can buy any factor or service they lack and meet the requirements of the sourcing company. That is why, all else equal, sourcing companies usually find it easier to work with larger companies. But small farmers go to those same markets, and for their specific group (hence the term



“idiosyncratic”) the market fails: they do not have the cash ready and cannot access the credit to by the greenhouse, and they cannot get credit from a bank because they do not have a land title, and if they have to get credit informally then it is too expensive and they are not cost-competitive.

The essence of ALL the cases presented in the conference is that some entity (private sector client, private or public sector intermediary, farmer company or coop, or donor or NGO or consultant company or industry association, to name the entities in the cases in the conference) steps forward and acts as the facilitator who resolves the asset shortfall (to make the threshold investment) and the idiosyncratic market failure (to access inputs, capital, and services) for the small farmer to be competitive from the perspective of the sourcing company into the modern VC.

Note that above I say “all the cases in the conference” and not just “Theme 1” cases. That is because the other themes – innovative ways to finance, to assist in certification and compliance with standards, and in accessing affordable technologies that meet market requirements – are all related to ways of meeting the requirements facing the small farmer seeking to be competitive in the modern VC. However, to not have too much overlap in the discussions of those themes and Theme 1, we focus more on facilitation activities and organizational approaches as ways to meet the small farmers’ needs, keeping in mind the finance, technology, and standards compliance pieces are necessary and complementary to that.

Table 2 lays out the categories of facilitation into which we array the “solution cases.” Note several things about the table.

First, there are four “meta columns” that use two terms. The actions of the “facilitators” can be classed broadly as the functions of: (1) “dis-intermediation” (a term used to signify that a food industry company “cuts out the middleman” in order to cut margins and have greater control over the supply chain) occurs where the wholesaler function is abrogated by the downstream company (here, the food industry client, such as Cargill Supermarkets) or the upstream actor (here, the farmers company, such as Mahagrapes); (2) “re-intermediation” (my term) where the midstream/middleman stays on, but the traditional intermediary is replaced by a modern private sector or public sector intermediaries (in the Table, by hubs or platforms that allow various supply chain actors to congregate), or in a separate category (the far right column), mixed with business development services, donor or industry association sponsored intermediaries, such as NGO/consultant companies.

Second, the columns ranged under the meta-columns signify position in the value chain (downstream, midstream, upstream), and under those, the specific facilitator types (noted above). This categorization of functions, segments, and facilitator types in linkage arrangements has not been presented before in the literature, so is new via this report.

In the rows are presented the “solution cases” from the conference in the above four categories of facilitator types. This is done to emphasize the lead actor in the facilitation – whether the private sector client, or the government, or donors. That distinction may be important to the sustainability and scaleability of these modes, and to an analysis of to what extent the current access of small farmers to modern VCs is due to “endogenous” processes emerging from the supply chains themselves, or exogenous whether national/local government, or external actors such as donors and their implementation agents.



With this point as central in our mind, we now take two steps as the next two sections. In section 2 we will categorize and briefly synthesize the “solution cases” using the structure of Table 2, and discussing (drawing on conference discussion and literature review) the categories of solution from the perspective of the criteria used in the conference for solutions – inclusiveness of small farmers, and ability of the solution to be scaled up and out to other farmers and other situations, and to be sustained over time. Section 3 concludes.

2. Categorization, Summary, and Evaluative Discussion of Business Models AKA “Solution Cases”

The order of presentation follows the columns from left to right, from downstream to upstream segment-based facilitators, using the categories discussed above. I select “typal” cases to summarize and discuss in some detail; where one case “represents” the approach of several, I just present the typical one and note briefly how the others are in the same family.

A caveat is needed. Most of the questions and comments in the conference sessions were aimed merely at clarification; there was little debate about or independent empirical corroboration of the claims made by the speakers (companies, projects) of the beneficial effects (raising farmer incomes, including small farmers); the latter tended to be uniformly positive; the audience did not question those, nor have independent information to do so. Moreover, the discussion in the conference, and the speakers, did not touch on the fact that the sum total of the beneficiaries of the programs discussed, in their countries, would not reach 10% of the small farmer populations of those countries (my rough estimate). So these programs are really still on an emerging, even just pilot scale – a ripe time for discussion, analysis, evaluation. So in our discussion below, we evaluate the cases in terms of what external empirical studies show about the approaches or the cases, and note any insights from the conference on potential issues related to scalability, inclusiveness, and sustainability of the models.

2.1. Downstream - Food Industry Client as Facilitator

There were three cases presented at the conference where the food industry client itself is the facilitator who “resolves the idiosyncratic market failures” facing small farmers from which it wants to source. Two of the cases (the first, Cargill Supermarkets using collection centers to “dis-intermediate” and source direct from farmers, and the third, Ceylon Agro-Industries sourcing an ingredient for poultry feed (hybrid maize) from farmer coops via contract farming schemes) are common methods found in various developing countries over the past 7-8 years (in the first case) and the past several decades in the third case. The cases presented at the conference are good “typal” examples of these common approaches and they are summarized below. The second, ITC/India’s use of hub and spoke model of e-choupal and choupal saagar, is innovative (relative to other countries and companies) and is also summarized below.

Evaluative Case Summary of Supermarket Chain buying direct from farmers using Collection Centers: Cargill Supermarkets, Sri Lanka

While supermarket chains in developing countries most typically source from produce wholesale markets (the traditional method), and increasingly from specialized/dedicated wholesalers who are dedicated to supplying modern retail in the developing countries with the quality and volume of produce required by the retailers, and acting as agents in the rural areas sourcing from farmers, in the past 7-8 years a number of supermarket



chains have also initiated direct sourcing from small and medium produce farmers. This has mainly been to “dis-intermediate” and thus cut out the margins of the various brokers and wholesalers, to increase control over what and how producers grow, in particular to increase quality, and in some cases creating a positive externality in marketing and public image through noting this practice as part of their corporate social responsibility. Often the retail has help from donors or NGOs or government anxious to give small farmers access to a modern market segment the requirements of which are easier to meet than exports but more remunerative than traditional markets. One finds examples of such retailers in for example India and China (Minten and Ghorpade, 2007 for the case of Reliance in India, showing substantial gains by tomato farmers supplying to their collection centers in Rajasthan; and Reardon and Gulati 2008 discussing Metro’s direct buying of produce and meat in China), Costa Rica, Nicaragua (Berdegue et al. 2005), Brazil (Mainville et al. 2005), South Africa (Weatherspoon and Reardon 2003), Croatia (Reardon et al. 2003), among others.

The business model was judged by the conference to be a beneficial innovation in improving the degree and terms of farmer access to modern markets. The approach was represented at the conference by Cargill Supermarkets, the leading supermarket chain of Sri Lanka. The retailer operates 9 collection centers over the regions of Sri Lanka. They source their fresh produce via these centers. They provide some extension advice via agronomists based at the centers (making up for constrained access to extension that farmers face), pay a somewhat higher price than do the traditional wholesalers in the area, and source from individual farmers and groups of small farmers.

Kodithuwakku and Weerahewa (2008) did a field survey in the catchment area of 2 of “the leading supermarket chain’s” farm-collection centers in Sri Lanka, with a modest sample of farmers including those selling regularly to the centers and a control sample. They found the centers paid somewhat more than rural brokers, but the share of farmers in the catchment area that used the centers was low, the share of vegetables cropped by farmers selling to the centers was low (the farmers reported the centers bought small volumes compared to the traditional brokers), and that a substantial share of suppliers to the centers were actually brokers who in turn collect from farmers, paying them the traditional market price. They noted that farmers said bad roads excluded many from direct access to the centers.

The results of the field survey are fairly typical of what one finds when surveys are done around the new collection centers by retailers in several countries – it is found that they are better than the traditional brokers in that they pay somewhat more and give extension advice, but their impact so far is modest, and they face problems because the small farmers face severe problems – of infrastructure access. Thus, (1) the field research shows, and the conferenciers felt, that there is a clear equity gain from the collection center approach; (2) in a relative sense (of farmer coverage), it is as yet not “scaled up” in a way that covers a large share of the masses of small farmers; (3) infrastructure/transaction cost constraints constrain the model in terms of small farmer access, and point to important public investments needed to facilitate the further transfer of this beneficial model.

[Evaluative Case Summary of Processor Sourcing from Farmers and Marketing Rural Services via Rural Business Hubs: ITC/India’s Hub and Spoke Model of e-choupals and choupal saagars](#)

ITC Ltd, Agri Business Division, India, presents a solution-case that I think is unique to India (although there are several “rural business hub” companies, such as Hariyali Kisaan Bazaar, undertaking approaches that are related to the one presented here and similarly interesting



(Gulati et al. 2008). There is a strong argument for transferring this business model to other countries. The elements of the approach are as follows. This solution is a “hub and spokes” model with an ITC owned and managed three-element/tier system:

First, Choupal Saagar, started in 2006 is a rural business hub or platform owned and managed by ITC. It is a “one-stop shopping” point for farmers, serving typically as a combined (a) rural supermarket; (b) output-procurement point (purchasing mainly rice, wheat, and soy, and coffee, and more recently produce and shrimp); (c) input-sales (chemicals, seed, equipment) and technical assistance point; (d) and a platform for various other services some of which are in-sourced by ITC into this rural hub, such as medical services, banking services such as farmer credit cards, and weather insurance. A key point is that the typical farmer in the Choupal Saagar areas faces a dearth of rural services, or can access each of these services but at presumably high transaction cost. By assembling them into a “hub”, ITC seeks to reduce those costs for farmers.

Second, started in 2004, fanning out as spokes from the Choupal Saagar’s are a system of warehouses/go-downs to which inputs can be delivered for local pickup by farmers and points of procurement of farm output.

Third, started in 2000, fanning out as spokes is the now-well-known network of “e-choupal”; this is an information network cum network of “ITC lead farmers” who show farmers information on internet/computers they operate, facilitate the delivery of inputs to farmers and guide and persuade and facilitate the farmers to sell into the ITC system. They receive a commission for each farmer who sells to ITC. There are 6500 internet kiosks across 8 states covering 4 million farmers and 40,000 villages.

Fourth, the output procured in turn supplies ITC grain/soy processing (for the domestic market), and retailing (via supermarkets in the Indian market) and wholesaling of produce and shrimp, again, mainly for the domestic market.

This system is designed to relieve constraints faced by small farmers: (1) lack of price and market information; (2) lack of rural infrastructure such as local collection points/warehouses; (3) dependence on local traders for input supply (with the hypothesis that quality is sub-standard) and output procurement (with the hypothesis that margins charged the farmer do not match services rendered); (4) lack of other services such as risk management/insurance, credit, and health services.

The supply of these goods and services to farmers is a profit-making business that succeeds by competing with and filling gaps left by the traditional public and private systems of retail, wholesale, input trading, and other services. To the extent this hub-and-spokes “rural business hub” model reduces aggregate net transaction costs to farmers, and delivers higher profits to farmers, it will grow and be sustainable. Its growth to this point suggests that so far it is an innovative model sustaining itself in a competitive marketplace.

The model was judged by the conference to be a beneficial innovation in improving the degree and terms of farmer access to modern markets. It functions without government subsidy. In particular, the model combines provision of ways to improve information flow to farmers (a major constraint), dis-intermediate middlemen (through the choice of farmers) and re-intermediate with a combination of their own network of agents plus a system of two way supply of goods (marketing inputs to farmers, buying product from farmers at terms deemed superior to those farmers can get from the traditional market).



Apart from descriptive business case studies and the growing market base of this hub-and-spoke system (showing farmers are choosing it in the presence of alternatives), there has not yet been an independent empirical research assessment of the hypotheses of concerning the extent to which this business model delivers benefits to farmers beyond the traditional system.

Evaluative Case Summary of Processor Sourcing from Farmers via contract farming with bank credit: Ceylon Agro-industries

For several decades, large scale processors in developing countries have undertaken contract farming with small farmers. They have aimed at domestic markets or export markets or both. They have often implemented “resource-providing contracts” (Austin, 1981) that resolve idiosyncratic market constraints facing small farmers, providing extension, credit, insurance, variable inputs and capital either on loan or grant. They have provided these themselves or have outsourced these functions, for example (1) having commercial banks or NGOs provide contract farmers with credit for inputs or capital loans to relieve financial distress, (2) having wholesalers or NGOs or farmer coops (formed by the company or by NGO or by government or by the farmers of their own prior accord) intermediate and collect the product from the farmer and deliver to the processor, and monitor quality and grade and sort and pack, and (3) making deals with seed or chemical companies and/or NGOs to supply extension to the contract farmers. The list goes on and on, and the examples are numerous.

There was a rich literature and many cases from the 1980s to present in developing countries (see von Braun et al. 1989 for a Latin American, and Henson et al. 2005 for an Africa export-targeted contracting farming example, Key and Runsten 1999 for export and domestic market examples, and Reardon et al. forthcoming for review). For an example that is even on hybrid corn (the subject of the case study of the conference), see Simmons et al. 2005 for examples from Indonesia of the common triangular relation of processor, bank, and contract farmers. The typical reasons for large processors to enter these contract farming arrangements mirrors what we discussed in the conceptual framework: dis-intermediate to cut intermediation margins, have greater control over quality and consistency, resolve constraints facing small farmers so that they can broaden their supply base, and use small farmers for labor-intensive activities and close monitoring.

The contract-farming business model was represented at the conference by the case (written up in Esham and Ushami, 2005) of Ceylon Agro-industries Ltd., the largest poultry processor in Sri Lanka. This company sources hybrid maize from small farmers on contract. They use two sub-facilitators for two different schemes. The first scheme uses a commercial bank who lends to groups of farmers for input purchase; the groups self-monitor (Grameen style). The company selects the farmers and forms them into the groups, and provides some extension. The contract requires farmers sell to the company. The second scheme started with NGO-assisted groups of women that morphed into farmer coops. A foreign NGO coordinates with a bank to get credit to the farmers to buy inputs from a set of input suppliers. The hybrid maize is sold in competitive bidding in which Ceylon Agro-industries participates. The NGO is the central facilitator.

In these “private, from inside the supply chain” scheme, the company uses small farmers but selects those with more experience and closer to the road. This is a typical finding in the literature. The farmers then have good access to a bank that might otherwise ignore them if they did not have the link and contract with the processing company whose market



assures the bank that pay-back will be fairly consistent. The “NGO/donor facilitated/subsidized, external to supply chain” facilitate scheme also uses small farmers, this time somewhat poorer (women). Again, the women have access to a bank and markets that would probably elude them were it not for the NGO intervention. Presumably the first depends on whether the market (consumers) wants to pay for the scheme; the second depends on whether the donors continue to pay for the NGO who reduces transaction costs for the women and replaces (at lower cost to the women, presumably, as the margin is removed) traditional intermediaries to whom they would have been relegated.

The conference did not discuss which of these models is more scaleable or sustainable. However, it is clear that one was chosen and taken on without outside assistance by a processor and a bank; the other was based on the continued presence (paid for by external donors) of an NGO.

2.2. Midstream - Private and Public sector-formed hub or “platform” as Facilitator

Table 2 shows a second set of solution-cases grouped under the general category of “re-intermediation,” where private or public sector (or both in PPP) set up intermediation actors and/or spaces as alternatives to the traditional intermediation system (of rural brokers and wholesale markets). We group these into private-sector led and public-sector facilitated. Except for the ITC/India “rural business hubs” solution-case, the solution-cases presented in this section are well-known and with a long history with many examples in many countries.

The essential idea is “hard and soft infrastructural” facilitation of a cluster of actors – either a horizontal slice of the supply chain, such as several processors, or a vertical cut of the VC, such as farmers (green houses), processors, logistics, and a retailer sourcing from that chain. The permutations are numerous. Basically, there is usually one or a few “anchor” investors, either a private company or non-governmental entity, or the government, or both (in some joint venture or public-private partnership, very common) buys or rents a track of land, and inherits, builds, and/or upgrades facilities on it (factories, warehouses, feeder roads, port or train station platforms for cross-docking, electricity and water hookups, sometimes some existing anchor business or businesses), and invites companies to invest and set up on the platform and begin exporting and/or marketing domestically. They may buy raw materials from clusters of local suppliers like small farmers, or just import in the materials and reassemble or process and send out. They may include technical research and extension units in the space as part of the output activities of the space or to serve the businesses in the hub or platform.

Being in/on this platform has obvious potential advantages to firms, be they there to sell or buy: (1) real estate may be hard to find or acquire in a large enough space, and investors who can acquire large tracts solve this problem for the firms; (2) firms might be able to get land, but not land with electrical and water hookups, adequate feeder roads, and so on, perhaps because of lack of local public investment in these fundamentals; (3) firms derive positive externalities and economies of agglomeration (clustering) through having like-partners who can combine for orders, or suppliers who can be, at low transaction cost, coordinated for suppliers, or buyer or buyers clustered; (4) there may be tax advantages or subsidies for the platforms, as in the SEZ (special economic zone) arrangement for IAFP noted below; (5) in the case for example of ITC/India “choupal saagar,” and other rural business hubs, the anchor firm (ITC) is a conduit, for the local farmers, to a modern VC (large scale grain processing and coffee, shrimp, and produce retailing and exporting); this



draws farmers and thus cut search and advertisement and marketing costs for the various firms that are on the choupal saagar “platform” (such as banks and insurance and health services companies that are in joint venture on these platforms); (6) firms that export or focus on a domestic VC where food safety is monitored can work in a “micro environment” of a park or platform where hygiene conditions can be maintained (usually very unlike the traditional wholesale markets).

There may also be disadvantages to such platforms that can lead to their failure or lack of ability to draw or keep investors: (1) transaction costs saved might be less than transaction costs added: if the location is too close to the regular intermediation paths (like wholesale markets), then the competitive advantage is not clear; if they are too far, then they can fail because some firms do not want to be too far from their other major source of sourcing; this is a reason that 12 or 13 “agribusiness terminals” (basically this kind of platform) went out of business in Indonesia over several years (Natawidjaja et al. 2007); (2) clients like big retailers might not want to tie themselves down to certain suppliers but rather have sourcing flexibility; (3) clients might not to be cooped up in a platform with their competitors who can watch their every move; (4) the park or platform may lack key facilities either because of wrong design or that the platform did not attract the full integrated set of players it sought; that is an especially big problem.

Moreover, there is controversy over to what extent export hubs or platforms are instrumental to, or “icing on the cake” for, or footnotes to, export growth. For example, Kimenyi et al. (2003) argue that while much has been made of export platforms in the Asian Tiger, Philippines, and Mauritius’s export growth, it is not clear what role the platforms, versus policy factors played. They study this question for Kenya and conclude that the policy of outward orientation, macroeconomic stability, labor cost competitiveness, and regional trade integration policies, were most important, and export platforms or hubs played a minor role; they note that only 1% of total manufactures exports from Kenya are from these platforms. However, we note that their not playing a central role, or even a major role, does not mean that they should not be seen as an option for “solution cases”, and indeed the conference voted for this idea by selecting several of them to present. I summarize the points below.

Evaluative Case Summary of Private-Sector-led and Public/private led hubs or Platforms

There are three examples listed in Table 2. I will focus on one of them here (that of IAFP), as I discussed the ITC/India “choupal saagar” rural business hub above, and can just note here that the case of the Mauritius “Seafood Hub” is a major infrastructure investment of the Mauritius government in association with several large Irish and Spanish seafood companies, exporting tuna and other finfish to developed country markets.

The solution-case of the “Integrated Agro-Food Park” (IAFPs) was presented by the investor-anchor (IFFCO)’s advising company, YesBank (a large Indian bank). This park is part of a family of similar approaches being tried by various actors in India – such as several sponsored by the government, “Mega-Food Parks,” “Food Parks,” “Agribusiness Terminals,” public sector rural business hubs, and special economic zones (SEZ’s) – all grounded in the idea that food businesses and farmers want new spaces that are well-equipped and alternative to the traditional wholesale markets and with better infrastructure than the highly infrastructure-lacking rural areas of India.



The IAFP is a venture of IFFCO, the anchor investor, an Indian cooperative society, which, per www.iffco.nic.in, is “Indian Farmers Fertiliser Co-operative Limited (IFFCO) ... registered on November 3, 1967 as a Multi-unit Co-operative Society. On the enactment of the Multistate Cooperative Societies act 1984 & 2002, the Society is deemed to be registered as a Multistate Cooperative Society. The Society is primarily engaged in production and distribution of fertilisers.” IFFCO is a gigantic entity – moving 5.5 million tons of fertilizer via 38,155 cooperative societies over India. YesBank is acting as advisor to IFFCO (as is Wageningen University of the Netherlands). The project is still looking for investors, initially for the first (of 30 planned sites) in Nellore, Andra Pradesh, on a 2800 acre “SEZ” (special economic zone) site, within a few hours of Chennai airport and major seaport, and on a big highway.

The project is already drawing investors from Netherlands, Israel, and Italy (for exports of poultry, rice, dairy, and produce), as well as a potential investor that is a major retailer of produce and rice in the Indian market, and another Indian firm will potentially put in a big dairy plant for Indian market (Economic Times, 2 May 2009). The concept of the IAFP is to have the big hub above as the center of a “hub and spoke model” with 108 “rural transformation centers” (RTCs) in rural areas, collecting agricultural products to send to the SEZ after sorting and pre-cooling; the RTCs would themselves be somewhat like the ITC rural hubs discussed above – a combination of collection centers and rural services dispensaries to farmers (medical, inputs, consumer goods, credit, training, extension). The concept when implemented is planned to involve thousands of farmers as suppliers and create rural employment in the SEZ and the RTCs.

In one sense, an evaluation of this approach is simple, and did not draw discussion in the conference. In situations where the alternative is to rely on traditional wholesale market facilities, that are often unhygienic, congested, without clean water and reliable electricity and waste management, where there is no room or facilities to set up processing, let alone to pass the test of certification for export markets or meet local food safety regulations where they are implemented – it is obvious that food companies are seeking every which way to find alternatives. These platforms and hubs figure among them: creating “micro environments” that are controlled environments, where there is adequate infrastructure, where there are economies of agglomeration, where transaction costs appear low.

Moreover, the IAFP “hub and spoke” approach, which is in the family of “hub and spoke” models such as used by ITC/India (with its own meta-hubs being large processing facilities of their own, and local hubs being the procurement cum rural business hub centers, and the spokes being the e-choupal village network) holds the promise of these initiatives delivering new opportunities of access for small farmers in the catchment zones. How far and fast these initiatives will scale up appears to depend partly on whether they can indeed simply compete with the traditional broker/wholesaler system, with its deep penetration into villages, with its flexible terms, with its social ties, with its ability to offer and customize credit, and with its ability to take all the product rather than just A grade. It also depends on whether enough investors will see the advantages greater than the dis-advantages as noted above. It may depend also not on the SEZ itself but on downstream infrastructure being able to handle the flow of product from the platform.

Even though there are now scores or even hundreds of initial projects and hubs and start-ups and programs, private and public, on this “family of hubs” in India, the development of these is still in an initial ‘wait and see’ mode. It is likely that several species of this approach



will survive and thrive and be part of a long-term, scaled up and sustainable solution for the challenges of small farmers in India. Time will tell. But at present, the conference certainly voted with its nomination to be presented cases (and in the case of ITC/India, a prize from the conference) that these hubs are definitely part of the “solution” to improving the access to, and terms of, small farmers to modern VCs.

2.3. Upstream – Collective of Farmers as Facilitator

Table 2 shows a single case “upstream” in the VC, where farmers “dis-intermediate” and sell directly to modern food industry clients. This theme in the conference had two cases of farmers self-facilitating the link to the modern VC. This is of course a key theme in development debate – and hopes – over the past two decades. This hope has flourished in particular since the mid 1980s when the “non-traditional agro-export boom” in Latin America (and later elsewhere) raised hopes (such as in von Braun et al. 1989) that cooperatives would usher in an era when thousands of small farmers would access export markets via these collective solutions. Hope resided especially in “new generation cooperatives” essentially like the farmer companies provided in a solution case on Mahagrapes in this conference. These are cooperatives aimed at modern VCs and quality-differentiated products, with a structure where farmers share in the equity – and thus the responsibility and dis-incentive to free-riding – of the cooperative. A similar wave of hope arose in the 2000s for cooperatives helping small farmers sell directly to domestic supermarket chains.

The challenges eventually became apparent, however. For example, in a case of “early adopters” in this innovation, it was shown that a great majority of the new generation cooperatives formed in the 1990s to market to high-value VCs (whether to domestic or export markets) bankrupted or were doing poorly. Those that had survived had tended to be aimed at quality-differentiated non-staple products VCs, and had cleared a number of daunting obstacles with respect to organizational flexibility and design, network relationships maintenance, continuous investment and upgrading to follow the requirements of clients, and good management (Berdegue 2001). Neven et al. (2005) showed similar results in a study of cooperatives of small farmers aimed at modern VCs in Southern Africa.

The price of not minding those simultaneous requirements is high. Carletto et al. (2007) showed that the great majority of small farmers who had started in the non-traditional export boom in the 1980s in Guatemala (in and around the famous cooperative of Cuatro Pinos) had dis-adopted modern technologies, exited coops, and returned to traditional markets. For many development practitioners, the latter (the decline of the famous “exporting coops” examples in Central America) rang alarm bells. Hellin et al. (2009) just showed that while vegetable cooperatives deliver clear benefits to small farmers, only 5% of horticulture farmers in Honduras and El Salvador are in cooperatives.

Hence, while the number of coops following the “new generation cooperative” or “farmer company” model has grown (modestly) over the 1990s and 2000s, and hope has been growing that this would serve to “dis-intermediate” the VC for the small farmer and provide direct access to remunerative modern food industry clients domestically or in export markets, the challenges and real and potential failure that lurks in this bright realm have also become apparent, especially as experiences have matured and results emerged in the 2000s. It is thus important to take stock, examine models closely, and study successful cases for clues of best practice. The case of Mahagrapes provides an example of the latter.



Before discussing the “solution case” of Mahagrapes, a word regarding terms is needed. In India, a “Producer Company” came into being in 2002 when the Companies Act was amended to allow cooperatives to be incorporated as (or converted to) companies; members had to be the farmers involved, invest in shares, get profit payments from shares, and the group be closed membership. This latter is the same as what is called “new generation cooperatives” internationally.

Mahagrapes is a “producer company” that is a marketing partner for 16 farmer coops. It was founded 16 years ago with initial assistance from the government (the state marketing board and others). It subsequently functioned on a fee basis, and appears to be fully self-sufficient and sustainable. It sells inputs to the member cooperatives and others, it provides technical assistance including for Eurepgap certification, it intermediates as export facilitator with importers abroad, mainly European supermarkets and Middle East wholesalers, with its facilitation including making the commercial contacts, monitoring delivery, and identifying and monitoring the member cooperatives to adapting to changing requirements, and it provides collective capital (in particular a cooling and packing facility). It is farmer-owned: the farmers (of all 16 cooperatives) have equity shares in it. It is planning to start its own modern-retail chain outlets.

In a (rare) case for the solutions proposed, there has been an independent empirical research evaluation of the case, with proper sampling of both treatment and control groups. Roy and Thorat (2008) showed that net profits were higher among members, and that small farmers are not excluded (although participation is positively correlated with human capital).

The conferenciers agreed that Mahagrapes is an important case and example of a successful “new generation cooperative” or “producer company” addressing the challenges noted above for survival of the new cooperatives - by providing services and supplying inputs geared to the requirements of the target export market, including many small farmers, self-sustaining (it received domestic government assistance at the start (not foreign donors) but now is self-sustaining with fees and growing exports), and is flexibly adapting to changing market requirements.

This model may be replicable to larger numbers of small farmers in India (there are indeed other cases, like “Vanilla Indian Producers Company in Kerala) and other countries; indeed, we showed that similar models have been rolled out in Latin America and elsewhere. But the road to scaling up and scaling out is hard – it took nearly two decades for Mahagrapes to emerge as a strong player, and during two decades other earlier successes have declined and crashed – and requires investment, persistence, and the right business model flexibly applied to adapt to rapid evolution of modern VCs.

[2.4. External Donor/NGO/consulting firm providing Business Development Services and sometimes intermediation](#)

We have split this set of “solution cases” into two sub-groups, full service providers (NGOs/consulting firms that are funded by donors and are typically “on the ground” working with small farmers and providing the full range of “facilitation” as we have defined it here), versus focused-service providers as facilitators (that cover a broader range of entities, including multilateral organizations, NGOs, industry federations, and so on).



2.4.1. “Full Service Providers” Facilitators that are NGOs/Consulting Companies financed by Donors

There are four cases in this category (ACDI/VOCA, Egypt, ZATAC, Zambia, Lebanon Health Basket, and Ceylon Agro-Industries Ltd. We discussed the Ceylon case earlier (for the part in which an NGO was the facilitator). The other three here are NGOs/consulting firms (the first two US entities, the third Lebanese) who were/are funded by donors. (The Lebanese NGO morphed into a private company in a second phase.) The essence of the “solution case” in all four cases is that some donor(s) provided funding to an NGO/consulting firm. The latter set up operations as a multi-segment facilitator, variously lining up links between farmers and creditors, input supply firms, and food industry clients (large processors or retailers) and in the Lebanese case, setting up a retail operation. The facilitator did all the things that a set of public sector service providers would have done had they been accessible and well functioning for the farmers – providing credit, technical assistance for farming and post-harvest, market information, market strategy consulting for customized solutions, links with universities, and round tables and “trade shows” with clients.

These are all the things that public land grant universities, the government offices, and the extension services do for farmers in the US, for example. However, the catch is that many of these public services are missing for the Egyptian, Zambian, Sri Lankan, and Lebanese farmers. We have seen, however, that the whole set of these things is needed for farmers to access the modern VCs... and then survive in those markets. If for example, the farmers got production extension advice, but did not get post-harvest handling extension, they could fail on quality standards; if they got advice on quality assurance, but did not have sophisticated help linking to the right clients, they would fail... and so on.

One ideal situation, from the viewpoint of part of the conferenciers, and from the point of view of “indigenous solutions”, of sustainability (because built from local resources and responding to market incentives), and of scaleability (because affordable with only local resources) would be for a donor to work painstakingly over a number of years to build the capacity of local universities, extension agencies, governments, local businesses, and farmers organizations, to have the capacity to assure all these steps. It was argued that using resources to relatively expensively fund external facilitators may just delay, not resolve, the fundamental problems, and crowd out local solutions.

A second ideal situation, from the viewpoint of other conferenciers, is that, given persistent fundamental constraints facing farmers, at least some rapid inclusion of some small farmers into modern VCs via direct donor assistance (implemented by their agents) should be undertaken, and hope that techniques and approaches would emerge while implementing these projects, with attendant diffusion to public and private sector local institutions. It was argued that this would deliver tangible immediate poverty reduction, and be replicable depending on the investments and will of the local institutions.

The distance between these ideals was somewhat discussed in the Theme 1 sessions, but not resolved, and will doubtless be an important debate that will be lively and heated for some time.

To illustrate briefly the specific approach of an NGO/consulting firm facilitator, we select that of ACDI/VOCA in Egypt. This case is representative of a kind of project commonly funded in countries throughout the developing world over the past decade by USAID and several other donors as they moved toward market-driven, private sector-involved, business-linkage based, and short-term impact indicators-accountable projects over the past decade. ACDI/VOCA helps small farmer groups with a “soup to nuts” assistance (inputs, facilitation of credit, technical assistance, identification of buyer (tomatoes for Heinz), help in negotiation



of contract, follow up to make sure the farmers are complying, aiming to Globalgap certification, and interface with government where their help is needed.

The link to the food industry company, qualifies it to be part of the Global Development Alliance (www.usaid.gov/our_work/global_partnerships/gda/) program of USAID. The GDA program seeks to “leverage” USAID funds by having private companies such as Heinz make counterpart investments, so that the help to the farmer is not just by the donor, but is shared (sometimes with multiple leveraging) by the “alliance partner”. This has the benefit of encouraging, and at the margin enabling, food industry companies to alter, hopefully for the long term, their sourcing arrangements to include small farmers. The cost sharing is by the Government of Egypt, while the counterpart done by Heinz is to have a contract with the farmers to buy the product, thus assuring a market.

The case was not presented verbally at the conference, but figured in the materials and had been slated for the plenary session. Hence the conference judged this case as an important approach. The project just started a year ago, so there are not yet impacts to judge. However, like many projects of this type, it is nearly inevitable, given the resources and expert talent being brought to bear, that sales of horticultural products by the beneficiary farmers will increase, that the remuneration will be higher than from the local traditional market, that technology and quality will improve, and that Heinz and other modern VC clients will buy the products. The issue in this kind of project with respect to the criteria of evaluation the conference used, will be how affordable, scaleable, and sustainable, using only Egyptian local resources, will this approach be? Will the implicit subsidy represented by this project give rise to indigenous investment and adoption of new practices of helping small farmers? These questions await.

2.4.2. Focused-Service Facilitators

At first the set in 4.2. seems like a jumble, placing International Trade Center, FairTrade, Equitrade, the Italian Food Industry Federation, the UNIDO Export Consortium in Morocco for argan oil exports, and the Coffee Growers Federation of Colombia, all in one basket! But in fact, from the perspective of the criteria of our taxonomy, they can all be classed as external facilitators, as none is in the VC facing the farmer, all are providing some service that facilitates small farmer entry into a modern or specialized VC, but they are not in the main “multi-segment” facilitators like those in 2.4.1.

Hence, the International Trade Center, FairTrade, and Equitrade all help small farmers get certified and/or branded to operate in developed country markets for organic and/or fair trade products – and thus provide “marketing and branding rents” per our analysis above.

The UNIDO export consortium, the Italian Food Industry Federation, and the Colombian Coffee Growers Federation all provide information and technical assistance to help small producers upgrade their production and or post-harvest handling practices to meet the quality and other hedonic requirements of modern food industry markets, while increasing their cost competitiveness in those markets.

Generally, one can say that from the perspective of the small farmer or SME in a developing country, these examples aim at very specialized niche markets, representing together a modest share of the marketing volume – and potential opportunities – of small players in Africa, Asia, or Latin America: the European organic and fair trade market, the world cosmetic industry ingredient market for hand-gathered natural oils, the European processed



foods market with its very high safety requirements, and the (already highly contested...) specialty coffee market. These will be instead important opportunities for specific communities. The latter means that it will be unaffordable for already-strapped local extension services in developing countries to adequately inform and help small niche groups of farmers to sell to niche global markets, or at least to do it to the degree needed for farmers to enter and flourish in those niches. Hence the involvement of international and industry association groups to assist farmers in that product differentiation, and links to the rich world clients willing to pay for it.

3. Conclusions

It is “overkill” to summarize a report that itself is riddled with summaries. The conclusions will thus emphasize some of the lessons, and controversies, of Theme 1’s discussions.

First, many of the facilitation “solution cases” were good examples of general approaches that have been applied already for several years, and in some cases, decades. This is the case with supermarket collection centers, processing company contract farming, export platforms, new-generation coops or producer companies, one-stop shop NGO/consulting company facilitation of supply chains, and multilateral and NGO programs to help farmers to export to organic and fair trade and food-safe market niches. In short, there was no case that was “new” relative to the experience of general approaches used over the past 1-2 decades. The value-added of the conference in these cases was to bring together in a “one-stop shop” the concrete examples and players in these and allow their dissection, discussion, and interaction.

Second, within the general approaches the conferenciers were exposed to exciting and innovative specific applications of the known general approaches. Therein was, in my view, the value added. For example, the “hub and spoke” models of ITC/India and IAFP/India, the financial innovations and emphasis on inter-generational transfer done by the Colombian Coffee Federation, to maintain the strength of its strong brand, were innovative. The “truefood” program of FEDERALIMENTARE, using a network of food industry associations to help members upgrade to meet target market food safety requirements while becoming competitive with their unique local foods – that was indeed exciting and innovative innovation to the general approach of federations helping members upgrade. The morphing of an NGO in Lebanon to a profitable local company was also an interesting innovation.

Moreover, these points concerning innovation are made from the perspective that is my duty, which is to place the debate in the long run perspective of documented experience and evaluation – while reporting the richness of the debate and presentations. But the experience of each conference participant will have been very different – partly because many of the “general, known approaches” will have been new to someone specializing in one approach but needing to know and perhaps add to their actions other approaches – and partly because what is on the surface, and presented in a short time in a conference, something known to some, might in fact be a discovered jewel by a specialist or a practitioner wrestling with specific problems and seeking specific solutions. In that sense, I cannot do justice here to summary and evaluation without noting that the conference was very innovative in combining presentations with matchmaking so that the participants could interact.

Finally, the sheer volume of cases and approaches for just Theme 1, combined with the real dearth of solid empirical analyses, done by independent researchers, evaluating the



impacts of these projects and programs and approaches, means that the conferenciers had to content themselves with the self-reporting of success of impacts of the cases on small farmers and SMEs. The assertions of impact, coverage, transferability and scalability, and even sustainability, were invariably glowingly positive. Contrasting with that is the extremely mixed record of success observed, is the set of hard questions asked but not fully answered in the presentations and debates. In short, the conference made substantial progress in assessing what tools and approaches are out there, and what specific innovations are being applied in their use, but on the agenda, on the table for the future, is grappling with whether the solutions are truly scaleable, sustainable, and affordable, and what new round of inventive solutions are needed to make them so if they are discovered to fall short.

Table 1: Theme 1 Cases Presented at the Conference: Targeted Suppliers and Markets

1. Cargill Supermarkets, Sri Lanka's largest supermarket chain, sourcing from small produce growers to sell to mainly upper-middle and middle class domestic consumers; <http://www.cargillsceylon.com>
2. ITC/India: a large agribusiness, sourcing cereals and soya and non-staples from small/medium farmers to process and export and market domestically; www.itcportal.com/sets/agriexp_frame-set.htm
3. Ceylon Agro-Industries Ltd.: Sri Lanka's largest poultry and feed company, sourcing hybrid maize from small farmers via contract farming; <http://www.prima.com.sg>
4. IFFCO's Integrated Agro-Food Park, India: launching phase; platform for foreign and domestic investors in food processing for export and modern-domestic markets; Error! Hyperlink reference not valid.
5. Seafood Hub, Mauritius: private/public platform to export large finfish, sourcing from well-capitalized fishing companies; <http://www.seafoodhub.com/en>
6. National Federation of Coffee Growers of Colombia: using famous logo and marketing to exports mainly to US, Japan, Europe www.juanvaldez.com ;
7. ACDI/VOCA, US NGO/consulting firm project helping small/medium Egyptian farmers sell produce to global multinational Heinz; www.acdivoca.org
8. ZATAC (Zambia Agribusiness Technical Assistance Centre), US consulting firm project helping small Zambian farmers export produce; www.zatac.org
9. Lebanon Healthy Basket: NGO turned small company sourcing organic produce from local farmers to sell to high-income local urban consumers; Error! Hyperlink reference not valid.
10. International Trade Centre, UNCTAD/WTO: helping small organic farmers get certification to sell to consumers in US, Japan, and Europe; www.intracen.org
11. FairTrade Labeling Organization: NGO helping small farmers get fair-trade certification to sell to US, Japan, and Europe; www.fairtrade.net
12. Equitrade: NGO selling to donors and others shares of stock in fair-trade label then providing those to small African farmers to give them incentive/return to export produce; www.equitrade.org
13. Italian Food Industry Federation, networking with other federations to, inter alia, help developing-Mediterranean food SMEs upgrade to lower costs and meet EU safety standards; www.truefood.eu and www.federalimentare.it
14. UNIDO Export Consortia Program, Morocco: help women coops producing Argan oil to export to
15. cosmetics companies and others in Europe, US/Canada, and Japan.



Table 2: Categorization of Solution Cases					
Columns: Function	Dis- intermediation	Re- intermediation	Dis- intermediation	Re- intermediation	
Columns: Supply chain segment that facilitates	1.Downstream	2.Midstream	3.Upstream	4. Multi- segment	
Columns: specific "facilitator type"	Food industry client	Private sector- formed hub or "platform"	Govt.- formed hub or platform	Collective of suppliers	Donor/NGO/ Consulting firm BDS & intermediation
Rows Below are specific "solution cases", x marks which columns apply to case					
1.1.Cargill Supermarkets/Sri Lanka – procurement centers	X				
1.2.ITC/India – procurement centers and "rural services hubs"	X	X			
1.3.Ceylon Agro- Industries Ltd. (company-led contract farming)	X				X
2.1.IFFCO's Integrated Agro-Food Park, India		X			
2.2.Seafood Hub, Mauritius		X	X		
3..Mahagrapes, India				X	
4.1.1.ACDI/VOCA Egypt					X
4.1.2. ZATAC, Zambia					X
4.1.3. Lebanon organics					X
4.2.1.International Trade Centre, organics					X
4.2.2.FairTrade					X
4.2.3. Equitrade					X
4.2.4. Italian F.I. Federation					X
4.2.5. UNIDO Argan					X
4.2.6. Coffee Federation, Colombia					X



References

- Austin, J.E. (1981) *Agroindustrial Project Analysis*. Baltimore: Johns Hopkins University Press.
- Berdegú, J., 2001. *Cooperating to Compete – Associative Peasant Business Firms in Chile*. Ph.D. Thesis, Wageningen University.
- Berdegú, J.A. F. Balsevich, L. Flores, T. Reardon. 2005. “Central American supermarkets’ private standards of quality and safety in procurement of fresh fruits and vegetables,” *Food Policy*, Vol 30 Issue 3, June: 254-269.
- Davis, J.H. and R.A. Goldberg. 1957. *A Concept of Agribusiness*. Boston: Division of Research, Graduate School of Business Administration, Harvard University.
- Economic Times. 2009. “Investors keen on Iffco’s AP agro park,” *The Economic Times* May 2, page 6.
- Esham, M. and K. Usami. 2005. “Present State and Issues of Farmers-Agribusiness Linkages-through Farmer Organization/Group in Sri Lanka: A Case Study of Hybrid Maize Production,” *Journal of Agricultural Development Studies*, 16(2): 27-36.
- Goldberg, R.A. 1965. “Marketing Costs and Margins: Current Use in Agribusiness Market-Structure Analysis,” *Journal of Farm Economics*, 47(5), December: 1352-65.
- Goldberg, R.A. 1968. *Agribusiness Coordination: A Systems Approach to the wheat, soybean and Florida orange economies*. Boston: Division of Research, Graduate School of Business Administration, Harvard University.
- Gulati, A., B. Minten, and T. Reardon. 2008. *Open-Source Intermediaries in Agricultural Markets in India*. IFPRI/New Delhi Office Report to the Bill and Melinda Gates Foundation. June. (Reardon in particular involved in writing Chapter 4 on the Rural Business Hubs, with Ashok Gulati and Kanupriya Gupta.)
- Haggblade, S. 2007. “Subsector Supply Chains: Operational Diagnostics for a Complex Rural Economy,” in Haggblade, S., P. Hazell, and T. Reardon (eds.). 2007. *Transforming the Rural Nonfarm Economy: Opportunities and Threats in the Developing World*, Baltimore: Johns Hopkins University Press.
- Hellin, J., M. Lundy, and M. Meijer. 2009. “Farmer organization, collective action and market access in Meso-America,” *Food Policy* 34 (2009) 16–22.
- Henson, S., Masakure, O, and Boselie, D. 2005. “Private food safety and quality standards for fresh produce exporters: The case of Hortico Agrisystems, Zimbabwe,” *Food Policy* 30, 371–384.
- Jaffee, S., R. Kopicki, P. Labaste, and I. Christie. 2003. Modernizing Africa’s agro-food systems: Analytical framework and implications for operations. Africa Region Working Paper 44. Washington, D.C.: World Bank.
- Kaplinsky, R., and M. Morris. 2000. A handbook for value chain research. Ottawa: International Development Research Center.
- Key, N., Runsten, D., 1999. Contract farming, smallholders, and rural development in Latin America: the organization of agro-processing firms and the scale of outgrower production,” *World Development*, 27(2): 381–401.
- Kimenyi, M.S., J.M. Mbaku, and N. Mwaniki. 2003. *Restarting and sustaining economic growth and development in Africa: the case of Kenya*, London: Ashgate Publishing, Ltd.



- Kodithuwakku, S.S. and J. Weerahewa. 2008. "Supply chains of supermarkets and their impact on vegetable farmers in Sri Lanka: an exploratory case study," The First Annual Conference of the Indian Society of Agribusiness Management on Emerging Trends in Agribusiness Management. Indian Agricultural Sciences, Bangalore, 25-27 September.
- Mainville, D.Y., D. Zylbersztajn, E.M.M.Q. Farina, T. Reardon. 2005. "Determinants of retailers' decisions to use public or private grades and standards: Evidence from the fresh produce market of Sao Paulo, Brazil," *Food Policy* 30 (3), June: 334-353.
- Natawidjaja, R., T. Reardon., and S. Shetty, with T.I. Noor, T. Perdana, E. Rasmikayati, S. Bachri, and R. Hernandez. 2007. *Horticultural Producers and Supermarket Development in Indonesia*. UNPAD/MSU/World Bank. World Bank Report no. 38543, published by the World Bank/Indonesia, July.
- Neven, D., R. Hopkins, D. Weatherspoon, and T. Reardon. 2005. "Small Farmer Organizations and Transformed Markets in Southern Africa," Staff Paper 2005-21, Dept. of Agricultural Economics, Michigan State University.
- Porter M.E. 1985. *Competitive Advantage: Creating and Sustaining Superior Performance*, New York: The Free Press.
- Reardon, T. 2009. Value Chain Research to Improve "Efficiency with Equity" for Asian Food Security: Research Issues, Concepts, and Methodology to Open the Black Box of the Market, report submitted to Asian Development Bank via IFPRI New Delhi Office for Value Chains Component, IFPRI project for ADB RETA 13th. , "Policies for Ensuring Food Security in South and Southeast Asia".
- Reardon, T., G. Vrabec, D. Karakas, C. Fritsch, 2003. "The Rapid Rise of Supermarkets in Croatia, with Implications for the Produce Distribution System," Report to USAID under the RAISE/ACE Project.
- Reardon, T., C.B. Barrett, J.A. Berdegue, J. Swinnen. Forthcoming. "Agrifood Industry Transformation and Farmers in Developing Countries," *World Development*.
- Reardon, T., J-M. Codron, L. Busch, J. Bingen, C. Harris. 1999. "Global Change in Agrifood Grades and Standards: Agribusiness Strategic Responses in Developing Countries," *International Food and Agribusiness Management Review*, 2 (3/4): 421-435.
- Reardon, T. and L. Flores. 2006. " Viewpoint: 'Customized Competitiveness' Strategies for Horticultural Exporters: Central America Focus with Lessons from and for other Regions," *Food Policy*, 31(6). 483-503
- Reardon, T. and C.P. Timmer. 2007. "Transformation of Markets for Agricultural Output in Developing Countries Since 1950: How Has Thinking Changed?" chapter 55 in R.E. Evenson, and P. Pingali. *Handbook of Agricultural Economics, 3: Agricultural Development: Farmers, Farm Production and Farm Markets*. Amsterdam: Elsevier Press: 2808-2855.
- Roy, D. and A. Thorat. 2008. "Success in High Value Horticultural Export Markets for the Small Farmers: The Case of Mahagrapes in India," *World Development* 36 (10): 1874-1890.
- Simmons, P., P. Winters, and I. Patrick. 2005. "An analysis of contract farming in East Java, Bali, and Lombok, Indonesia," *Agricultural Economics* 33: 513-525. Von Braun, J., Hotchkiss, D. and Immink, M. (1989). *Non-traditional Export Crops in Guatemala: Effects on Production, Income, and Nutrition*. Research Report 73, Washington: IFPRI.
- Weatherspoon, D.D and T. Reardon. 2003. "The Rise of Supermarkets in Africa: implications for agrifood systems and the rural poor," *Development Policy Review*, May, 21(3): 333-355.



Conference Theme 2: Compliance with Standards and Conformity Assessment

By Dr. Marian Garcia, Kent Business School

Introduction

Increases in the recorded incidence of food-borne illness alongside the recent history of high-profile outbreaks of food-borne disease in a number of industrialised countries have created both political and economic demands for more effective food safety controls. Consequently, government oversight of food safety has increased substantially with major financial implications for the cost of food safety controls, to both government and the private sector, without concomitant improvements in food safety standards (Fearne, et al., 2004).

In addition, private mechanisms of food safety control have evolved and now play an important role in the supply of higher quality and safer food in many industrialised countries. Major drivers behind private governance of food safety include the mitigation of reputational and/or commercial risks associated with food-borne illness, related in part to the level and nature of public regulatory requirements, alongside quality-based modes of product differentiation (Henson, 2006). The result is an intricate and complex network of public and private incentives to implement enhanced food safety controls (Fearne, et al., 2004).

However, increasing demands for food safety by developed countries have raised concerns about likely food regulatory impacts on international trade, particularly in the case of developing countries (Henson, et al., 2000, Henson and Loader, 2001, Otsuki, et al., 2001, Unnevehr, 2000). It is recognised that developing countries are likely to have difficulties in meeting requirements associated with the implementation of high level sanitary and phytosanitary (SPS) measures which come in connection with technical regulations, standards and conformity tests (García Martínez and Poole, 2004, IMF/ World Bank, 2002, Wilson and Abiola, 2003). As the commercial and institutional infrastructure develops, there is the risk that new regulatory barriers will be erected. This is of particular concern for developing countries, where existing technical and institutional capacity to control and ensure compliance may not allow for the adjustments needed to meet new requirements.

Most of the current debate has focused on the impact of public national and supranational (e.g. European Union) regulatory demands on market access for developing countries (see for example, Busch, et al., 2000, Reardon, et al., 1999, Unnevehr, 2000, Weatherspoon and Reardon, 2003). The critical focus now needs to shift from such public regulatory standards, or TBTs (technical barriers to trade), towards the increasing importance of food safety regulations imposed over and above public standards by private sector (commercial) firms, and their potential impact on agricultural and food product exports from developing countries.

Opportunities and threats both arise from the growth of such private standards, which can be termed 'commercial barriers to trade':

- private standards can undoubtedly impede trade in the same way as 'public' regulatory requirements. In practice, compliance with de facto standards is mandatory in virtually the same way as regulatory requirements if an exporter wishes to access a particular market (Henson and Hooker, 2001, Henson and Northen, 1998);



- whilst voluntary consensus standards are not mandatory in the same way, differences in costs of compliance can act to enhance or diminish international trade competitiveness. A deep compliance gap therefore becomes an insurmountable barrier;
- on the other hand, when the use of a particular private standard becomes widespread it can facilitate trade in the same manner as harmonisation of national regulatory requirements (this is the rationale behind initiatives like Global Gap and the Global Food Safety Initiative (GFSI) which aim to develop a harmonized international scheme as the preferred system for quality and safety control in the fresh produce sector);
- moreover, private standards can be utilized by exporting countries as a means to position or reposition themselves strategically in international markets. Kenyan exports of green beans provide a good example of this (Jaffee, 2003), as well as exemplifying the costs of compliance (Financial Times, 2004).

This document provides a summary of the solutions presented at UNIDO International Conference on Sharing Innovative Agribusiness Solutions under Theme 2 – Compliance with Standards and Conformity Assessment.

A total of 23 solutions were submitted under Theme 2 covering a wide range of areas, including:

- Training / capacity building to ensure compliance with international standards
- Development of traceability systems
- QMS development, testing and implementation
- Certification (organic, GAP)

Standards as an OPPORTUNITY

All solutions see standards as an opportunity and follow a proactive approach to SPS management. They provide additional economic value through certification (organic, fair trade) and traceability, helping, as a result, producers in developing countries to move away from the commodity trap and develop a competitive edge in international markets.

Solutions view strict standards as a stimulus for investment in supply-chain organization, providing incentives for the adoption of better safety and quality control practices in agriculture and food manufacturing and clarifying the appropriate and necessary roles of government in food safety and agricultural health management. Rather than degrading the comparative advantage of developing countries, the compliance process can result in new forms of competitive advantage and contribute to more sustainable and profitable trade over the long term.

A proactive approach to compliance, staying abreast of changing technical and commercial requirements in destination markets and anticipating consumer and market trends, has enabled producers in developing countries to reposition themselves in more lucrative, quality-oriented market segments in the EU.

A key feature of all solutions is the attempt to link smallholders to markets by making them key partners in the supply chain. While value chain approaches to smallholder inclusion are notching up success in the case of submitted solutions, the poverty reduction impacts at community and household levels cannot be assumed.



Success factors

- **Demand oriented responding to beneficiaries needs/demands:** this approach means that companies have a say in designing the intervention and ensure buy-in and relevance.
- **Establishing links between all relevant actors in the value chain:** extensive dialogue and coordination is required to maximize the impact of intervention policies. Building of partnership between small, medium and large producers, exporters and processors is crucial for a functioning marketing. Specialized training and awareness sessions are necessary to mobilize and commit target producer groups, including farmers, supervisors, laborers, middlemen, and transport agents to the standards of performance necessary to ensure that initial export quality is maintained until reaching the consumer.
- **Screening of participants:** willingness is the most important characteristic in farmer selection. Financial capacity and readiness to invest in a new idea are often not enough to make the exports successful. Unfortunately, willingness is not easily quantified or screened; therefore, contractual agreements are needed to insist on the stringent requirements of the export market. These requirements cannot be left to farmer discretion.
- **Financial and technical assistance:** the support provided by the international donor community and development financial institutions has been critical to the success of reviewed solutions. However, questions have been asked regarding the long term sustainability of development initiatives once outside support is withdrawn. Achieving sustainability may require a long-term commitment.
- **Investment in transformation and knowledge systems:** Training is fundamental since specific experience and know-how in terms of production and post-harvest are lacking.

Challenges

- **Market-oriented culture:** solutions aimed at facilitating compliance with standards are likely to have a greater, long-term impact if they target/involve producers, exporters or business organizations with a market orientation. Their awareness of market requirements, both at home and export markets, would act as key drivers for cooperative arrangements and greater ownership of development initiatives. Moreover, potential benefits derived by linking producers to markets, particularly markets where producers and exporters may develop a sustainable competitive advantage, will generate the market incentives for project participation and project ownership.
- **Size factor:** Market orientation and entrepreneurial culture in developing countries, however, tend to be highly correlated to farm or business size. Low human capital and lack of financial resources among small producers hinder their participation in development initiatives.
- **Selection of sectors/chains (picking the winners):** the selection of products based on demand factors (export markets) alone is unlikely to have a major impact on poverty reduction and rural development. Exports are likely to remain a fairly small percentage of overall volume marketed by developing countries. A 'multi-chain' approach is likely to have a greater impact where the program focuses its activities in various regions with a wide range of crop and livestock systems that are broadly representative of the country's major agricultural production regions.



- **Supporting national and industry capacities:** solutions require supporting capacities including those for challenging information and interpreting international regulatory trends, conducting risk analysis, undertaking hazard surveillance and monitoring, and applying contingency planning in SPS management. A successful proactive approach also requires that policymakers, firms and industry organizations adopt the perspective that effective SPS management is a core element of overall competitiveness strategies. Failure to address SPS problems or concerns may underestimate an industry's access to lucrative international markets.
- **Consolidation of national food safety systems:** in order to overcome the diffusion of regulatory responsibility, with the resulting overlaps and gaps, governments must move towards a centralized structure for the implementation and administration of standards for the agri-food sector comparable to those emerging in industrialised countries in order to improve the efficiency of resources and the effectiveness of control procedures.
- **Achieving internationally recognized accreditation bodies:** the accreditation of laboratories in developing countries is hindered by the lack of internationally recognized certification and accreditation bodies. Accreditation granted by exclusively national bodies is usually of only limited value to exporters. As a result, laboratories have to be accredited by overseas bodies at great expense.
- **Efficient systems of conformity assessment and/or enforcement** are key to the efficacy of quality and safety standards for evaluating whether products/processes conform to international buyers' requirements. The wider the gap in systems of conformity assessment, the greater the compliance cost for developing country producers vis-à-vis developed country suppliers to any importing country.

References

- Busch, L., et al. "Markets, Rights and Equity: Food and Agricultural Standards in a Shrinking World." Institute for Food and Agricultural Standards, Michigan State University.
- Fearne, A., et al. "Review of the Economics of Food Safety and Food Standards." Imperial College London, 24 February 2004.
- Financial Times (2004) African farmers dig deep to comply with EU food rules, pp. 18.
- García Martínez, M., and N. Poole. "The development of private fresh produce safety standards: implications for developing Mediterranean exporting countries." *Food Policy* 29, no. 3(2004): 229-255.
- Henson, S. (2006) The role of public and private standards in regulating international food markets. Bonn.
- Henson, S., A.-M. Brouder, and W. Mitullah. "Food Safety Requirements and Food Exports from Developing Countries: The Case of Fish Exports from Kenya to the European Union." *American Journal of Agricultural Economics* 82, no. 5(2000): 1159-1169.
- Henson, S., and N. H. Hooker. "Private Sector Management of food safety: Public regulation and the role of private controls." *International Food and Agribusiness Management Review* 4, no. 1(2001): 7-17.
- Henson, S., and R. J. Loader. "Barriers to Agricultural Exports from Developing Countries: The Role of Sanitary and Phytosanitary Requirements." *World Development* 29, no. 1(2001): 85-102.



Henson, S., and J. R. Northen. "Economic determinants of food safety controls in the supply of retailer own-branded products in the UK." *Agribusiness* 14(1998): 113-126.

IMF/ World Bank. "Market Access for Developing Country Exports-Selected Issues." International Monetary Fund and the World Bank, September 26, 2002.

Jaffee, S. "From Challenge to Opportunity: The Transformation of the Kenyan Fresh Vegetable Trade in the Context of Emerging Food Safety and Other Standards. Unpublished manuscript." World Bank.

Otsuki, T., J. S. Wilson, and M. Sewadeh. "Saving Two in a Billion: Quantifying the Trade Effect of European Food Safety Standards on African Exports." *Food Policy* 26, no. 5(2001): 495-514.

Reardon, T., et al. "Global change in agrifood grades and standards: agribusiness strategic responses in developing countries." *International Food and Agribusiness Management Review* 2, no. 3-4(1999): 421-435.

Unnevehr, L. J. "Food safety issues and fresh food product exports from LDCs." *Agricultural Economics* 23, no. 3(2000): 231-240.

Weatherspoon, D. D., and T. Reardon. "The rise of supermarkets in Africa: implications for agrifood systems and the rural poor." *Development Policy Review* 21, no. 3(2003): 333-355.

Wilson, J. S., and V. O. Abiola. *Standards and Global Trade: A Voice for Africa*. Washington, DC: The World Bank, 2003.



Conference Theme 3: Technology and value addition

By Prof. Achille Franchini, Alma Mater Studiorum – University of Bologna

The solutions presented under the theme “Technology and value addition” focus on economic growth and poverty reduction through innovative technology. The task was to single out innovative technologies applicable in agribusiness and accessible for developing countries with the aim to improve:

- The organizational system
- The production process
- The production transformation and commercialization to reduce production losses, increase profitability, enhance quality and to develop education and training

Not all solutions submitted were characterized by elements relating strictly to technology aspects and to technological value addition.

The solutions presented during the first day of the meeting were mainly related to the organizational system, to product commercialization and training.

Certainly, a large number of these projects will bring additional value to farmers and small-producers and developing countries’ production systems, even though they do not show any outstanding technological value. A number of these projects have demonstrated very interesting perspectives and originality of the process. Hopefully, these projects can find the right application in developing countries.

The “International conference on sharing innovative agribusiness solutions: from farm to markets, providing know-how and finance” focused on four themes:

1. Supply/value chains, market access and linkages
2. Compliance with standards and conformity assessment
3. Technology and value addition
4. Innovative forms of financing

Referring to the Technology and value addition section the description of the theme is as follows:

“Food producers in developing countries need to progress from producing and exporting commodities to adding value and increasing quality, safety and productivity through sustainable processing and manufacturing. Such changes also contribute to domestic food security, by reducing post-harvest crop losses. Important aspects include: product development, quality and productivity, upgrading enterprises by introducing management and sustainable technological solutions (e.g. processing, ICT, TQM), research and development that is relevant for developing countries, and introducing more ecologically sustainable means of production relating to the use of water, energy, chemicals and other inputs”.

The premise to develop this theme was based on knowledge of the issues related to food production and food consumption in developing and developed countries.

With regard to food consumption major elements are only partially defined in developing countries compared to the developed world and they specifically emerge in the context of:



- Food security: quantity and variety of products
- Food safety: quality, hygiene and health standards
- Consumption - globalization
- Role of food retailers: distribution chains

They are also related to differentiation (functional, organic, ethnic food) and to a change in consumer behaviour.

In relation to the production system dynamics, the increase of international competitiveness gains great importance with regards to quality as well as to production costs. The same importance is gained by the differentiation of products aimed to guarantee the increase of value added and production standardization in order to cope with trade barriers, SPS and bilateral agreements. In recent years, efficient natural resources management and a non-food use of agricultural production has strengthened their role.

To face these dynamics public and private stakeholders need to set up tools capable to benefit innovation and progress through three main guide lines:

- Research
- Technology transfer
- Human resources development

The investments in innovation can be referred to:

- Product innovation, in particular with the aim to increase product variety, to adjust nutritional requirements, to enhance value for money
- Process innovation especially referring to technology innovation, genetics, etc.; food safety; food quality and packaging; and waste management
- Food Chain Innovation especially referring to information communication technology; networks, local production systems; logistics; and supply chain integration

The relation between technology innovation and developing countries is characterized by some focal themes relating to innovation that imply the following consequences:

- Increase of production factors' productivity
- Increase of product/food quality
- Reallocation of inputs and promotion of local factors
- Social organization and local impact of innovation system
- SMEs and local system as central focus for job creation and economic growth in the agri-food industry in developing countries

In relation to the conference themes interaction concentrates on the following areas: agricultural production, processing, distribution and consumption.

The development of agricultural production needs to focus on:

- More efficient utilization of natural sources (land, water, etc.)
- Development of structures and infrastructures that are compatible with nature and environmental friendly (energy saving, waste management)



- Service and structures for technological innovation spreading and training

The required actions regarding the processing stage can be identified as:

- Increased cost-efficiency related to local production conditions
- Reduction of post-harvest losses and conservation
- Quality preservation – processes and innovative ingredients to reduce microbial and toxins contamination
- Collective brands and quality criteria enhancement to strengthen single small producers
- Packaging technology
- Logistics efficiency and cold chain

The afore - mentioned actions will have consequences on distribution and consumption sectors and the following areas:

- Efficient management of product flows and information – traceability and effective commercial practices
- Life Cycle Assessment (LCA) and models to describe and evaluate sustainability of food system

Overview of the solutions submitted

17 of the 40 solutions submitted under the theme Technology and Value Addition are characterized strictly by technology aspects and technology value addition elements.

Other project proposals are differently related to the organizational system, product commercialization and training. In certain cases they are strictly related to the primary production (eg. Center for Rural Innovation) with the aim to promote crop production converted into oil for energy production.

Several solutions are aimed at the rationalization of production systems related to organic productions, or to improve primary productions and transformation through a cleaner production approach. Many of these projects can offer an additional value to farmers and developing countries' production systems, but they do not show any technological content. They are mostly related to labour organization, training and education, application of more suitable production techniques, and more suitable production coordination.

At last, some solutions lacked elements for evaluation, therefore even if potentially showing technology contents they could not be assessed. Late submissions and solutions giving insufficient information created similar difficulties. One institution, for instance, although well known for its activities in packaging, did not present a project idea applicable in developing countries using their technology for food conservation.

The projects with technology contents can be divided into two categories:

- projects based on a technology process
- projects where the technology process is as an element in a more elaborated programme

In these projects technology and special technology procedures represent a phase of product development and transformation in a production chain.



A further examination shows how a certain number of these projects is aimed at:

- improving production contextually reducing the environmental impact of production and transformations (eg. Cuban Experience on Cleaner Production as Innovative Solutions for the Food Industry; Flowers production on Constructed Wetlands for wastewater treatment; Production of biodegradable and compostable bags, Waste management and Plant for the production of compost)
- improving production processes to increase quality benefiting product commercialization (eg. Design, Fabrication, Installation and Testing of an improved flash dryer for producing 500 kg/hour of high; Lebanese University/Faculty Of Agricultural Sciences)
- improving production preservation reducing losses in the post-harvest phase, in relation to feed and food utilization and commercialization in regional and international markets (eg. Grain storage technology; Passive refrigeration for postharvest/postslaughtery/postfishing/postmilking, storage and transport of perishable foodstuff)
- Some projects are particularly relevant, since they are aimed at extending the production process through a territorial diffusion, as well as to improve the yield of wheat and grains locally produced (eg. Pavan; Advanced technology for transforming semolina or soft wheat flour into pasta or couscous; 4000 Tons Per Day - Global Development Alliance)

The best solutions chosen

Passive refrigeration for postharvest/postslaughtery/postfishing/postmilking, storage and transport of perishable foodstuff

Mr. Alberto Ghiraldi – Italy

This innovative technology enables producers to maintain the fresh/cold chain from farms to markets – irrespective of a continuous power supply. The technology thus reduces post-harvest, post-slaughter and post-milking waste and provides safer food to consumers. The solution - competitive in price compared to conventional technology – saves energy and maintenance costs. The storage life of all perishable food stuff depends on the quality of the cold-fresh chain and its application from the field/slaughter/fishing/processing to the point of sale. The operation of conventional cold-fresh chain requires H24 large amounts of electricity and the quality of preservation is such that timing becomes an extremely critical factor.

Improved preservation without using power

The PRSTM technology has been developed by High Technology Participation S.A. as a spin-off of Passive Conditioning technology, which is extensively used in Middle Eastern countries for the temperature control of telecommunication sites. The main features of PRSTM are:

- the quality of preservation, which results in a longer storage life;
- multiple vs. conventional refrigeration technology;
- thermal autonomy that allows the system to operate without using power, thus maintaining a continuous cold/fresh chain independent of external power supply; and
- 100% environment-friendly system, thanks to the total absence of noise and polluting emissions. The system accumulates thermal energy during the night allowing to benefit from cheaper power rates and using the aggregated energy during daytime, with energy cost savings of over 50 percent.



The system has been further improved using solar panel energy, powering the cold charge unit even in places with no electricity, therefore in harvest area too.

The technology finds a large application in different fields (animal and vegetable products) and has overcome difficulties in national and international commercialization.

The project has been completely developed, so that implementation costs might occur only in certain territorial contexts.

Songchon goat milk dairy project

Mr. Il Chul Ri – DPR Korea

The project consists of repeating a previous UNIDO initiative in another DPR Korea Province. The initiative consisted in realizing a goat milk processing plant for children nutrition.

The project is aimed at organizing goat milk production, through the creation of a breeders chain furnishing the milk to a factory.

The project aims at favouring milk and dairy products availability for children in child care centres and in primary school.

The project has been previously developed in a different Province of the same Country and is based on milk harvest and transformation technologies already available and easy to use.

In this project the economic aspects are quite clear and related to the possibility of organizing a breeders network. At the same manner social aspects are evident and connected to the aim of increasing the breeder income and favouring the availability of food of high biological level especially suitable for babies and kids as goat milk and cheese.

Grain Storage Technology

Mr. Baoxing Zhao – China

The proposed technology has the particular characteristic of coping with a typical problem in developing countries: the need for a better preservation of grains (for feed and food utilization), and their transformation.

The technology is proofed and widely applied, therefore it probably does not need special improvements, but its reliability needs to be verified with regard to treatment quality and application costs.

The equipment could be shared in a consortium, allowing several farmers to benefit from the technology and thus improve product quality through better preservation.

This technology mainly shows an economic impact. It reduces micro toxins development, consequently improving hygiene and quality characteristics of grains and thus reducing loss in quantity and quality of the products.

The technology is known and well developed and therefore easily adaptable to different territorial needs.

Green charcoal and Biochar

Mr. Guy F. Reinaud – France

This technology transforms vegetable waste products and renewable biomass into green charcoal. The equipment is based on a pyrolysis process which allows a higher yield than classic techniques.



The process is based on the continuous carbonization of vegetable matter and is able to produce 4-5 tons of green charcoal per day. The solution obtained an international award for technological innovation and is successfully being applied in Africa.

This technology allows the consumption of large amounts of renewable biomass not differently usable, avoiding the use of wood to produce energy for domestic needs, consequently reducing deforestation and CO₂ production.

The targets are primarily economic and environmental, related to the waste material utilization and to the reduced CO₂, CH₄ and N₂O emissions from the lack combustion of agricultural residues. The technology of the equipment seems well developed and does not require additional implementation costs.

Other solutions chosen

Buried diffusers: a new irrigation technique for trees, vegetables and plants in containers

Prof. Chahbani Bellachheb, Arid Regions Institute - Tunisia

This irrigation technology is of great use for the irrigation and fertilization of a great variety of plants and allows water savings of at least 25% or higher depending on territorial climatic conditions.

A weak point of this technology is the risk of obstruction of the water exit points by plants roots.

Centre for Rural Innovation

Mr. Lombardo Cedric, BeTheDev - Cote d'Ivoire

This project is based on the research of plants for the production of biofuels. The project aims at creating a rural innovation centre to pursue several objectives in the agro-industrial and environmental production.

The objective is the development of biofuels through a multi-year plan providing training, business plans and activities involving farmers cultivating 2500 hectares of agricultural land.

Production of biodegradable and compostable bags, waste management and Plant for the production of compost

Ms. Noemi Edith, CermesoniTriTellus SRL – Argentina

The project aims at the introduction of biodegradable plastics in food industries and innovative products with environmental sustainability impact.

The project is based on the diffusion of biodegradable plastic containers to promote composts of biodegradable materials for multi-purpose use, as for example for fertilization, aiming at reducing the use of environmentally unfriendly plastic containers.

World Food and Commodities On-line Exchange

Mr. Riccardo Cuomo, Borsa Merci Telematica Italiana – Italy

The project aims at promoting trade between developing countries and developed countries.

The project is elaborate and particularly interesting as it gives visibility to agro-food production in developing countries.



The project is very well integrated with numerous projects aimed at commercializing production from developing countries to developed nations and consumers.

Pilot Plant / Product Development Center

Ms. Layal Karam - Chamber of Commerce, Industry and agriculture of Tripoli and North Lebanon – Lebanon

The availability of a pilot plant laboratory is of crucial importance to foster the development of SMEs in the food industry.

The project has simple and clear methods and objectives and could be of relevant importance in the development of small and medium size enterprises in the food production that need to evaluate the feasibility of new products before investing. These structures are particularly useful in highly fragmented production systems.

Design, Fabrication, Installation and Testing of an improved flash dryer for producing 500 kg/hour of high quality cassava flour

Mr. Emmanuel Kwaya - Raw Materials Research and Development Council- Kenya

The project has developed a flash drier with basic technological features. Its simplicity and affordability make it ideal for use in developing countries.

Advanced technology for transforming semolina or soft wheat flour into pasta or couscous

Mr. Armando Barozzi - Fava spa – Italy

This project has developed a technology for the processing of pasta and couscous.

The project aims to repeat a previous experience made in a developing country, with a small enterprise growing during the years to become an industrial development model replicable in other developing countries.

Small and economic couscous and pasta production units

Mr. Luciano Mondardini - Pavan SRL – Italy

The project's objective is to create small transformation structures to produce marketable products of higher value.

The projects propose is to use reduced scale machineries to process limited quantities of wheat for the production of pasta and couscous.

It is necessary to evaluate the capability of the local system to manage the use of this equipment typology in the long-term.

Fodder Yeast From Bioethanol Distillery Slops. An Environmental Solution

Mr. Miguel Angel Otero Rambla - Instituto Cubano de Investigaciones de los Derivados de la Caña de Azúcar (ICIDCA) – Cuba

The project deals with the scale up of an optimized process for the conversion of a waste/ effluent at high environmental impact resulting from an yeast based bioethanol production facility into bioproteins of interest for the food and feed industry.

The presentation is convincing and effective. It is, however, too optimistic on the environmental impact. The presentation contains some information on the LCA and economical



analysis of the process to be scaled up. Too much emphasis has been also addressed to the transferability of the process and its suitability in the treatment of other effluents or wastewaters.

Farm compost to reduce carbon emissions

Mr. Helmy Abouleish - SEKEM - Egypt

Improvement of the hygienic and sanitary conditionsItaly

Mr. Marco Falappa - SINT Tecnologie SRL - Italy

Carbon driven biogas program

Mr. Matthew Hayden - Trade Plus Aid Africa - South Africa

The projects that show mainly technological aspects seem suitable for being developed in different territorial contexts characterized by those issues and needs that the innovation technology is aimed to solve.

On the contrary, most of the projects that refer to local production systems are necessarily influenced by the social, political and environmental situation, as well as those projects related to the development of competences in defined territorial areas in relation to the development of a particular production for food or industrial use.

However, the evaluated projects show a good level of portability, especially with regard to financing.

Factors for the success of the evaluated projects are : the collaboration among the different actors of the production chain, the cooperative use of technological means, and the organization of training and of the production chain.

The implementation of these actions will determine the positive consequences on the social and economic development of the territory and its population.



Conference Theme 4: Innovative forms of financing

By Mr. Ronald KOPICKI

Nineteen innovative finance “solutions” were offered at the UNIDO Conference on “Sharing Innovative Agribusiness Solutions” for consideration by sponsors, collaboration with the sponsor and possible extended use in parts of the developing world beyond their point of origin. A number of the offerors also made presentations and/or participated in panel discussions during the conference, which took place in Cairo between November 26 and 27, 2008.

The merits of specific solutions were judged based on the risks which they presented to private sector investors and the ability of offered solutions to sustain growth in farm to market chains, without continuing government subsidy. Two other criteria were applied in evaluating solutions. These include the relevance of solutions for modernizing agribusiness systems in developing countries and their transferability from the venue in which they were pioneered to others. Among the proposals submitted, a few ranked quite high against these criteria. These solutions are the ones referenced to as “best practice” in the summary report which follows.

Financial Market Context:

A discussion of innovative forms of finance for agribusinesses development was timely for several reasons. These include the following:

- **Agricultural and agribusiness assets are under valued.** Asset classes normally associated with agribusiness investment, include i) commodities, ii) farm land, and iii) publically traded agri-businesses. Assets in each of these categories have deflated significantly in value during the current financial crisis. One speaker pointed out that equity shares of many agribusiness companies are currently trading for less than their liquidation value on major international exchanges. Over the longer term this situation will almost certainly correct itself. There seemed to be little doubt among the panelists that demand for agricultural assets will continue to increase in the future more rapidly than will supply, with the result that asset values will be bid up from their current low levels. Several speakers cited several telling parameters as evidence that demand for food products will continue to outstrip supply: i) increased per capita consumption of meat products in China and India. One kilo of meat requires multiple kilos of grains to produce. Hence increased meat consumption accelerates demand for food staples well beyond the rate of population growth; ii) year end stocks of food staples are at low levels. The ratio of food staple stocks to global consumption, as reported by USDA, has continued to decline year-over-year for the past 10 years. One speaker pointed out that if it were not for a record high harvest in 2008 food shortages would have been severe this year; iii) the level of productive land assets compared with food demand has continued to decline as well. Thus, another speaker pointed out that the ratio of arable land to global population, as reported by the FAO, has witnessed a steady secular decline over the past decade, as well.. The bottom line is this: Additional investment is required in food systems and food producing assets. If no new investment is forthcoming, the value of existing assets will simply be bid up rapidly. Either way the investment environment for agriculture is strong and is becoming stronger.



- **Rising food prices are attracting new forms of private investment.** Over the past five years a number of new investment institutions have emerged whose expertise is managing agribusiness investments. Included in this group are hedge funds, venture capital funds and new special purpose investment trusts like the one announced by UNIDO during the conference and other sovereign funds, which were also represented at the conference. In addition, new investment instruments have emerged which target new categories of assets and which manage risk in new and different ways. In this category, on the private sector side, are instruments like agribusiness REITs, project finance vehicles, managed commodity funds, structured finance, other asset backed investments including supply chain finance. On the public sector side, new instruments include social public offerings, public-private partnerships, matching grants and “green” bonds.
- **Markets have developed for agribusiness risk mitigation instruments, as well.** An increasing number of risk management products have also emerged and are likely to continue to be refined. These products allow investors in various agricultural asset categories to sell those risks which they would prefer not to incur and to protect their investments on the downside by sacrificing some measure of upside potential return. Risk management products, in theory, should allow investors to invest more confidently in agribusiness. The development of international markets for new forms of risk mitigation instruments, such as derivatives, may have been set back by the current financial crisis. However, over the longer term this crisis is likely to stimulate the development of these products in more responsible directions, as prudential regulations and international controls are set in place to protect investors.
- **Long term concerns with food security are provoking new policy thinking and new forms of public intervention:** A great deal of concern has recently been expressed by policy makers regarding adequate and secure food supply. This is an increasing concern everywhere, but particularly in the Middle East. Innovative forms of financing agribusiness, particularly in partnership with the private sector, represent one sub-set of options which policy makers are exploring as a potential response. Investments in structure trade and in structured food finance, as well as investment in food chain infrastructure can enhance regional supply significantly and reduce wastage and inefficiencies within chains. In this context, a great deal of policy analysis is underway to determine what specific financial instruments and what specific forms of public-private joint investment are most likely to achieve the public interest objectives of regional food security with minimum risk being assumed by tax payers.
- **Large global disparities persist in food production and distribution productivity.** This circumstance signals significant opportunities for profitable investment. What is clear is that disparities in both land and labor productivity across the developed world compared with the developing world hold out the very real prospect of realizing break through gains in food production. Clearly, transferring appropriate technologies to farmers in developing countries is part of what needs to be done in order to increase food production. An equally important part of what needs to be done is the need to shorten supply chains and to strengthen farm to market linkages. Private investment in both areas of opportunity is essential.
- **Intensified competition among food chains and their “second generation” competitive responses afford additional opportunities for investors.** Competition is rife in global



food distribution. Supermarket business models have become globally pervasive. Modern modes of food processing and distribution are being widely disseminated through MNC expansion as well as through local business innovations, some of which were on display at the conference. This competition drives the relentless introduction of new chain integrating models, the testing of new modes of inventory management and stock replenishment, the application of new forms of ICT to chain control and quality food monitoring and the continuous refinement of cold chain technologies. All of these developments have the effect of increasing potential gains to investors who are aware of emerging opportunities.

- **At the same time.....Rapid learning is taking place within the global financial service industries.** Capital markets are also learning faster and partnering more extensively. Some of these partnerships were again on display at the conference¹. The current global financial crisis has set back this process in the short term but no one can doubt the resilience of bankers and venture capitalists and their ability to respond creatively to the challenges and constraints currently facing them. At the same time, mutual dependencies are forming between financial institutions and private investors. Part of the institutional learning which is taking place in the financial sector involves the discovery of means and modes for collaboration and risk sharing between institutional money managers and institutional investors, such as sovereign wealth funds, special purpose investment trusts, pension funds, endowments and private trusts. Within the financial sector new kinds of partnerships are being formed whose net effect is to engage higher competencies in agribusiness risk analysis, risk pricing and risk management.

Linking Financial Institutions to Supply Chain Integrators:

The fundamental challenge which the “ Innovative Finance” Session addressed at the conference was the challenge of taking full advantage of the developments discussed above in order to channel increased investment into supply chain development and more specifically into chains, which are anchored in developing countries and which link small scale farmers to markets.

The emergence of supply chains has had direct implications for the ways in which financial institutions both perceive investment risk and manage it. This is because the pre and post chain business environments are quite different. A brief discussion of these differences may be helpful in setting the stage for the more tactical and instrumental discussions which follow.

What most fundamentally differentiates pre chain from post chain investment opportunities is a new emphasis on creating value for food customers. If the primary risk which investors concerned themselves with in the pre-chain era was price, their first order concern in the post chain era is the chain’s value proposition---the way in which each chain proposes to meet or exceed customer expectations in competition with other chains.. This shift in emphasis is reflected in the supermarket revolution which is taking place globally, even in the poorest of African countries. Thom Reardon and his colleagues have documented this revolution in a recent volume of World Development².

1 The Executive Director of the Horus F&A Fund addressed the conference, for example, and spoke about the need for equity funding (risk capital) for Egypt’s Food & Agri-business Industries. This fund is co-managed by Egypt’s leading investment bank (EFG - Hermes), the world’s premier food & agribusiness bank (Rabobank) and an M-E investment boutique (PrimeCorp). The experiences of the three co-managers complement each other as the Executive Director reported.

2 Agrifood Industry Transformation & Small Farmers in Developing Countries, World Development, Thomas Reardon, Christopher B. Barrett, Julio A. Berdegue and Johan F.M. Swinnen, World Development, forthcoming



One of the implications of this new emphasis on consumer acceptance is that supply chains have reversed the operational valence of traditional channels. Formerly products were pushed through chains by those who processed and produced them. Increasingly, however, they are pulled through chains by consumers and by food retailers. The implications of this shift are profound. For one thing it requires investment in the supply chain systems software....software which forecasts consumer demand, monitors product flows and synchronizes production, shipment and delivery processes so that food products arrive at food retailers fresh and in just enough quantities to match consumer demand. In addition to new technology, this kind of precise, channel control requires an active and effective integrating agent.....a supply chain integrator..... who invests in the control technologies and uses them to synchronize the entire set of chain linked business processes so that they consistently meet consumer expectations.

In the new supply chain environment, economic advantage is realized through networked interactions rather than through the realization of economies of scale. The adaptability of networks, their ability to learn and to change quickly in response to changes in consumer preferences, challenges from competitors or the introduction of new technologies have become paramount strategic prerequisites in the era of the supply chain.. The agility of networks as well, their ability to match demand precisely with supply at the point of retail sale is a second network competency which has become strategic. Finally, the efficiency of networks, their ability to create greater consumer value with fewer resources and in particular to use working capital productively has become even more critically important than it was previously. Supply chain efficiency encompasses several forms of comparative advantage, including full utilization of fixed assets, minimization of losses within the channel, rapid inventory turnover, minimum discounting and spoilage of stock at the retail end of the chain, as well as minimum unit costs. It is these three network characteristics--- adaptability, agility and efficiency--- which prospective third party investors in food systems use for assessing risk and potential reward.

All of three of these network attributes require strong commercial linkages. In particular, they require the alignment of basic business processes in ways which assure quick reactions, up and down the chain, to events which challenge superior performance, which assure precise demand response, and which facilitate rapid inventory flows through the entire chain. To these ends, investors assess the discipline of specific chains, the effectiveness of their internal control systems which monitor and schedule end to end business processes and the effectiveness of their internal governance mechanisms. In a post chain era when investors carry out their due diligence reviews of food systems, these are the performance parameters which they measure..

Two additional differences between the pre and post chain eras of agribusiness investment are worth noting. These include increased opportunities for managing investment risk, through diversification and partnering, and for selling risks to third parties which principals cannot effectively manage. We commented on both of these developments in the discussion above. Suffice it to say here, that parsing risks and dividing them among different investors each of whom has a different risk/ return profile has become a defining aspect of the post chain investment environment.

One last difference worth noting is that the kinds of financial assets available to investors have expanded as well in the current era, to include, for example, structured finance within the chain itself and joint investments in chain hardware and software financed from



expected future intra chain cash flows and even investment in the intellectual property rights which move through chains.

One example of the former are lines of credit extended to farm groups which in turn are backed by accounts receivable due from their chain partners or better still by forward purchase contracts with chain partners which can be pledged to financial institutions..

An example of the later is a brand equity model called Equity Trade (ET). This model entails the creation of branded intellectual property rights which are shared between farmers and a brand management company whose equity is bought back by farmers from the revenues which they realize from their food product sales. In his presentation Ged Buffee of the International Research Institute for Organic Agriculture proposed to mainstream the ET model by setting up a set of brand marketing companies whose ownership would pass to farm level groups through buy back schemes based on the sale of sustainable agriculture brands.

Obstacles to be over come and opportunities claimed:

New opportunities invariably bring with them new obstacles. Supply chain financing is no exception. Several obstacles were discussed during the conference and ways suggested for circumventing them.

The most fundamental of these is the fact that the kinds of assets which supply chains require typically include a number of intangibles, such as systems (for quality control, for inventory monitoring and for order fulfillment), brands and specialized management competencies. Although investments in supply chain development require hard ware, as well, e.g. investments in so called supply chain infrastructure such as grain silos, cold chains, cross docks and warehouses, the most important elements of supply chains remain their software. Moreover, these “soft ware assets” are typically embedded. That is to say them exist and operate only within inside organizations. Their utility is inherently contextual. Even if they could be separated from the organizations which develop and use them, no secondary markets exist into which these assets could be sold. They are inherently illiquid. Hence, third party investors have significant exposure when they consider investing in supply chain management directly and without the co-financing of chain integrators.

The prudent response, to this challenge, is to have supply chain integrators invest their own equity in supply chain software, in quality controls systems, supply chain management systems and proprietary brands, and to extend the use of these assets to farm level groups who supply them with food products. Third financial institutions might consider providing supplementary investments in the form of equity in chain integrators but might also consider investing in the working capital requirements of chain linked partners, fixed assets in the form of leases or investments in service providers which supply collateral services to chain participants.

When it works this division of investment responsibility affords relatively low risk “ win-win” investment opportunities. The prudent use of software assets can reduce risks which third party financial institutions face in providing working capital loans, in leasing equipment and in providing credits for equity buy-ins to farm level groups. In addition the pledging of sale contracts negotiated among chain participants can be used as security or collateral to reduce the risk attached to external financing.

What emerged from several discussions is this insight: Significant opportunities exist for inside-the-chain controls and inside-the-chain purchase commitments to be used to reduce



risks of investment in chain development to third party financiers. In this way the cost of capital can be reduced overall for the chain and a felicitous circle initiated of lower cost financing, increased investment, and enhanced competitiveness and wealth creation.

Based on discussions which took place at the conference it seem clear that successful supply chain integrators resist providing trade credits directly to their farm level suppliers. If they are growing, their internal cash flow is fully committed to their own growth. However, successful chain integrators are able to leverage the additional debt absorption capacity of vendors and farm level supplies to accelerate their own growth and in this way leverage the productive assets which chain partners are able to commit to the joint chain undertaking.

Typology of supply chain financing options:

A useful way to think about supply chain financing is to distinguish investment situations by the agents who actually do the work of integrating the chain. As discussed during the conference supply chain integrators may be either principals who are part of the chain itself, such as supermarkets or food processors, or they may be so called fourth parties, such as NGOs or consultants who governments or development institutions fund, who have no ownership interest in the food products which move through chains. Alternatively, the chain integrator may be a third party service provider, such as an asset management company³ or the operator of a commodity exchange or wholesale market.

The identity of the chain integrator is important for several reasons. Most importantly, the involvement of different types of agents determines whether the chain is designed as an open food systems or as a closed food systems and thus whether the benefits created through chain investment have lesser or greater aspects of private goods or of public goods. Benefits from the former can be fully appropriated by investors which most benefits resulting from the later cannot. They are externalized into the larger economy.

The identity of the supply chain development agent also determines their ability to inject their capital of their own into a project. Moreover, if the integrator is neither a first or second party chain transactions, the specific identity of the integrator and as well as their sponsorship, determines typically the types and scale of capital commitments which their sponsors, donors, and collateral supporters are prepared to inject into the chain. These constraints sometimes limit the range and scope of chain development to demonstration scale.

Finally, different supply integrators are more or less effective in managing different types of risks, both risks associated with initially designing chains and risks associated with subsequently operating them.. In an important sense, third party investors define both the risks which they are willing to assume and the roles which they prepared to play around the risk taking capacity and the competencies of the chain integrator. In chain financing this complementarily principle appears to hold, with some regularity.

The typology for supply chain financing options, then might usefully include three types: i) closed supply chains with one buyer, who is a principal in the chain itself and its primary integrator/ sponsor; ii) open supply chains with more than one buyer, where is a fourth party, an NGO or expert consultant, who plays the role of chain integrator. Although most chains are designed to meet the demands of one buyer at a time and hence must invariably begin with a single buyer, this type of investment is rarely designed to benefit only a

³ ACE, the international asset management and surety company, participated in the conference.



single chain partner, and iii) an open system of structured trade which involves many sellers and many buyers. In this instance, the integrator most often involves a third party service provider, for example, asset manager who create security interests in farm commodities or in supply chain protected accounts receivable, for profit commodity exchanges which facilitate commodity trade by standardizing contracts, managing cash and assuring the completion of transactions. More generally this set of agents facilitates the integration of structured trade and of structured finance.

Examples of all three types of chain financing were presented during the conference.

Cargill of Ceylon presented a good example of the first type of supply chain finance. Cargill operates 130 Food City retail outlets' in 22 districts in Sri Lanka. The super market chain operates its own factories which process food and sells its private brand jams/cordials/ juices and sauces under the name KIST .

The Cargill's Chairman and CEO, Mr. Rangit Page, presented his company's business strategy at the conference. This model entails the development of a captive, farm based network of suppliers. The chain's core suppliers are farm level organizations which the company has developed and in which it has invested. Today Cargill works with 10,000 farmers throughout Sri Lanka to assure high quality vegetable and fruit supply and with 5000 additional farmers on dairy supply. Additionally, the supermarket has assisted farm level organizations in processing food and adding value to farm products though sorting, cutting and packaging. The company collects from these farmers on a daily basis at its 9 collection centers. This network has been notable successful in supplying most of the fresh food and processed food which Cargill distributes. The Cargill Model has been recognized by the Gates Foundation and other international groups as one of the most successful corporate driven strategies for Sustainable Development.

Mr. Page described the challenges which Cargill faced when it began its chain development program as follows:

- Packaging and transport costs accounted for fully 40% of food value on the chain's shelf
- Middle men received 20-30% of the value which consumer's paid for food products.
- Both human and financial resources available for rural development were underutilized
- Technology required for development was available. However, it was not being adapted to the vegetable and fruits production
- Prices to customer were barely affordable
- Food supply was uncertain
- Food quality was of poor quality
- Farm productivity was low
- In many districts no markets existed for fresh produce
- Grinding poverty persisted at the farm level

The chain invested its own capital as well as capital provided by a development partner in the software required to integrate business processes taking place at the farm level together with the business processes taking place within its own distribution system. In the



words of Mr. Page: “ These efforts resulted in a transformation in the way the food system affected farmers, consumers and Cargill itself.” The results of this transformation have been profound and represent a “win-win-win” outcome. They include the following:

- The grower is now customer oriented and market attuned
- Income variably at the farm level has decreased, incomes have improved and farmers have managed to accumulate productive assets
- Cargill’s development partner has achieved its objectives by creating significant opportunities for uplifting farmers’ livelihoods including both on farm and off value adding farm activities.
- Cargill itself is assured a steady, timely supply of quality produce at a competitive price.
- Supply reliability and quality have both been improved as input financing has increased
- The prevailing terms of trade have shifted from farm-gate selling to factory-gate buying
- Up front payments offered to farmers as contrasted with the standard credit payment arrangements which prevailed earlier
- The mode of procurement, supply and shipment has been streamlined, so that the required quantity at the required quality is supplied just in time
- Higher prices are being realized by farmer and lower possible prices by consumers

In setting up its closed food system, Cargill has reduced financing risks to commercial banks and micro finance organizations that provide working capital credits and longer term loans to farm groups for investment in fixed assets which improve chain performance. The supermarket has effectively become a partner for the commercial banks and micro finance institution which supply funds by assigning forward purchase contracts to them and by guaranteeing repayment from the proceeds of farm supply purchases. This system of collateralizing and pledging forward purchase agreements and managing the payment process, minimizes default risk to third party investors.. For its core vendors Cargill also guarantees markets, develops transparent pricing mechanisms and provides technical and technological support.

A second example presented at the conference involved an open supply chain which was initially designed in cooperation with one major multinational food processor but which has subsequently been opened to other buyers. This example involved the development of supply chains for processing tomatoes. Initially the chain involved collaboration between an NGO, ACDI/VOCA, and H. J Heinz. ACDI/VOCA’s supply chain development efforts were funded by USAID. These efforts involved coordinating business processes among H.J. Heinz Company, various other processors and buyers and approximately 3000 small farmers. The processors involved in the project had made substantial investments in plant and equipment in Egypt but were not able to secure sufficient volumes of tomatoes or tomatoes of sufficient quality to operate their plants at high enough levels of utilization to justify additional investment.

The situation which prevailed before the collaboration began can be summarized as follows:



Heinz's contract processor (Cairo Food Industries) operated at 17% of design capacity due to seasonal shortages of raw tomatoes.

Heinz anticipated investing up to \$12 million in a new processing facility to be located in Upper Egypt

Heinz anticipated supplying customers throughout the MENA region from this facility and, possibly supplying Europe from its other facilities in Egypt

Most Egyptian processors operate well below their break even capacity, as well, because of raw material shortages

The NGO assumed the role of supply chain integrator and organized a system of reliable supply which as extended over most of the year. Egypt is unique in the length of its tomato growing season. However, before the intervention of ACDI/VOCA that potential source of comparative advantage was not being activated.

The NGO organized financing from a combination of public and private funding sources appropriate for each asset category required to align the chain. In order to stimulate more production, ACDI/VOCA developed forward contracts with Heinz and other processors/ exports to supply at least 50% of their seasonal production at an agreed upon price. The projects goal of a extending the production season and stabilizing supply at higher levels is being achieved through a program of targeted, mutually reinforcing interventions that build up the production and management capacities of stallholders, the sales/marketing capacity of their buyers, and enhance service capacity among input suppliers.

The program has not yet delivered on its promises. However, the following outcomes are anticipated:

- Increase smallholder production of varieties suitable for processing to 4000 tons per day. This volume will be supplied to Heinz under forward contracts
- Assist smallholders to implement profitable, market-oriented crop rotation, growing tomatoes and other high-value horticulture crops for exporters, processors and high-end local markets
- Increase annual per capita income of smallholders by an average of \$921 annually
- Increase production of tomatoes from 12-15 MT per feddan to 30 MT per feddan (or more)

A third example discussed at the conference involved several examples of structured trade, developed by Audit Control and Expertise Global (ACE). ACE is one of the world's major credit support institutions and a leader in providing collateral controls, warehouse controls, inspections, supervision and monitoring of supply chains.

ACE specializes in identifying and securing weak links in value chains. In some cases, it designs whole and entirely secured value chains for the account of its clients. ACE facilitates structure trade which is to say it facilitates the transfer of ownership rights to farm inventories or accounts receivable under its control and assures third party investors that the value of their collaterals and ownership rights are fully preserved for their liquidation.

Through a series of case studies, Mr. Lamon Rutten, CEO of ACE explained how his company has been able to provide specialized trade finance services in several developing countries across the entire asset-conversion spectrum. The company has been able to



create security interests in agricultural commodities in a large number of countries where securities laws and regulations for protecting interests of investors were missing. In these high risk environments ACE has created new secure and negotiable assets by relying on expertise in asset management and on its own off shore insurers to provide back up protection to its clients.

Mr. Rutten explained how ACE has been able to facilitate trade in agricultural commodities and to price risk associated with commodities with which it deals, to secure finance for commodity producers and traders and to originate deals for the account of financial institutions. He focuses on several case studies while showing how investors, banks, farm management companies, local farmers, processors and off takers could be “tied together” through proper financial structuring.

Keys success factors for securing investment in both instances appeared to be the preparation of business plans which were rigorous and which revealed deep appreciation of the risks entailed in organizing the chain and the offer of management remedies which were commensurate with each of the risks identified. Public sector financial supporters required assurances that social benefits were being realized; in addition to private benefits and that these two benefit streams were complementary and mutually exclusive. The form which this proof of economic merit took was a cost benefit analysis. These two important supply chain design utilities, business plans and cost benefit analyses, can and should reveal the points of intersection and back to back complementarities in anticipated benefits streams, e.g. private returns in the form of cash flow to investor and public returns in the form of welfare benefits to communities. Importantly, as well they can serve as the basis for prudential financial controls which prevent the diversion of public funds for private benefits.

As systems mature for securing agricultural commodities and for strengthening linkages between traders and financial institutions, opportunities emerge to develop commodity markets or auctions. This transition, however, typically requires investment on the part of donors or government authorities in standardizing commodity grades and standards, in lowering form barriers to food staple trade both at the nation and international level and in licensing exchanges, public warehousemen and asset managers and regulating them effectively without becoming overly intrusive.

Pre-Conditions for Supply Chain Finance:

Two sets of factors are essential for securing and then for sustaining supply chain finance. These include factors within the structure of the chain itself (internal factors) and factors outside the chain (external or business environmental factors). Both sets were discussed during the conference.

Internal factors include the following: i) the design of contracts which define organizational responsibilities clearly under various contingencies, ii) providing assurance (either through the supply chain integrator or through a third party asset manager) that specific risks are either assigned internally to the supply chain participant best able to manage these risks or alternative sold outside the chain to third parties in the form of an insurance policies, performance bonds or futures contracts and iii) organizing effective chain governance mechanisms and committing to modes of chain management among farm level organizations, chain integrators and third party financial institutions.

The diagram below represents some of the dimensions of the mutually reinforcing contracts



which are required to sustain a competitive chain. Systems need to be organized among chain partners so that supply chain integrators can provide timely updates to financial institutions on the status of outstanding orders, deliveries, and quality acceptance of supplies provided by farmers who are also debtors as well as on the status of payments due the farm level organizations and other small scale vendors.

If integrators are prepared to go further in assuming additional risk, they may secure repayment of credits extended to farm level organizations against payments due to them. Additional assurances may be offered by the integrator in the form of forward purchase agreements which can be assigned to financial institutions and used as collateral against subsequent credit repayment.

In these and related ways the three pronged approach to supply chain finance creates its own commercial ecosystem in which positive feedback is provided to producers, as well as credit and, importantly as well, mutual reinforcement of internal controls is fostered.



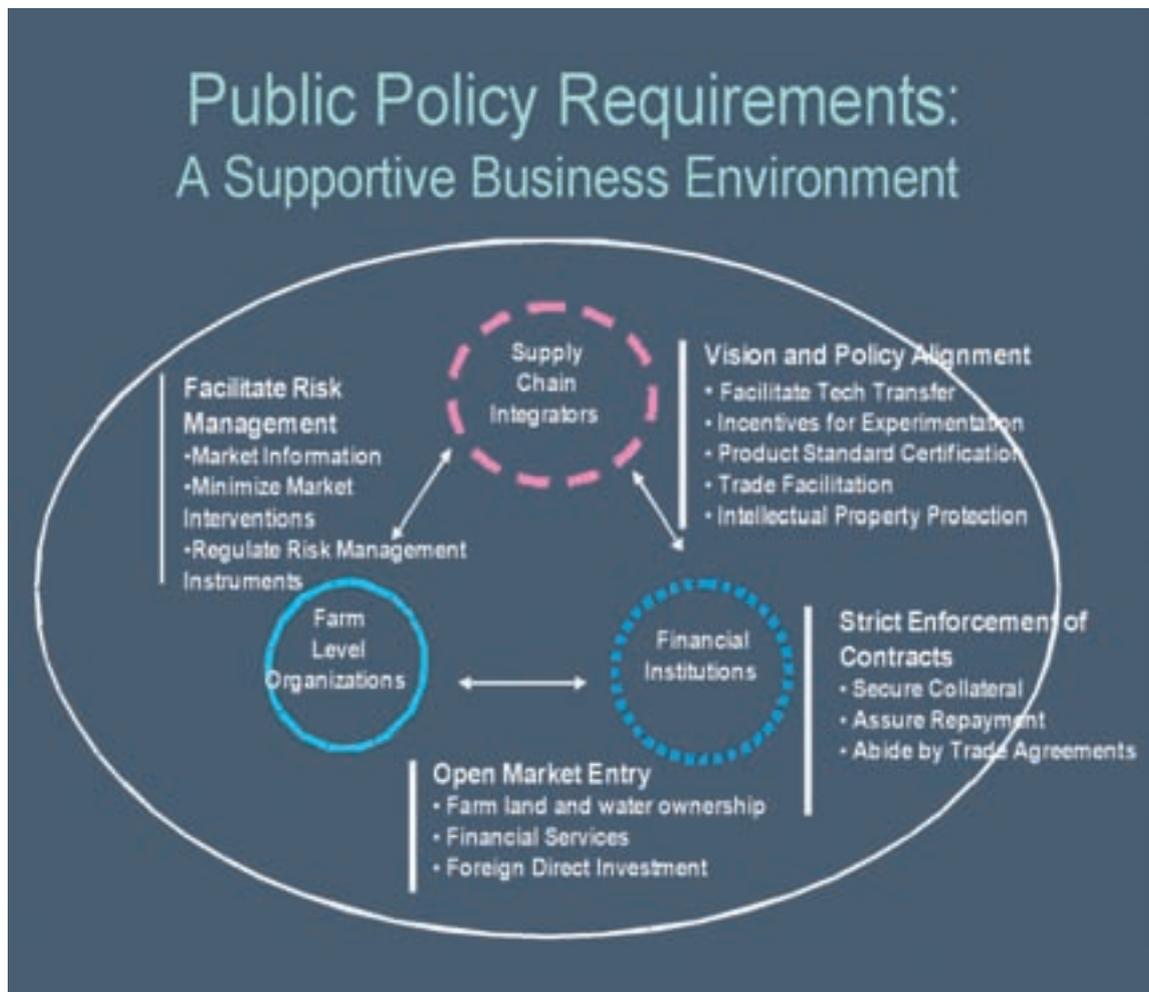
External factors, which are equally essential, include most importantly a business environment, which is established either by governments or by regional trade organizations, and which has the effect of reducing risks to chain participants and attracting investment into supply chain assets.

Most important among these considerations are the following pre-conditions: a) the secure and certain enforcement of contracts. As suggested in the discussion above nothing is more important to supply chain formation than the enforcement of contract among chain partners and between chain partners and financial institutions; b) security of collaterals.



Collaterals for farm products remain under developed and this circumstance greatly increases supply chain investment risk. In addition, deep secondary markets are missing for farm products in most developing countries and this circumstance also tends to enhance risk and to diminish the value of farm product collaterals even where they exist. c) rapid and fair resolution of disputes among chain participants through arbitration. All of these factors correspond to the general rubric of “strict enforcement of contracts” as represented in the schematic below.

An additional set of external pre-requisites represented in the diagram include the following: i) vision and policy alignment. In most developing countries policies are only partially supportive of innovative financing where the rights of investors are poorly defined. Moreover, in many national contexts, boundary lines between public and private investment require clarification and the adverse effects of public sector financing of private goods minimized. ii) market entry needs to be opened for new financial institutions and, in particular, for foreign investors in agribusiness sectors. Instruments for equity and quasi equity investment in chain assets remain to be refined in many developing country contexts and the rights of equity investors clarified in joint ventures and in agribusiness REITs. In particular, ownership rights for farm land and water rights remain uncertain; and iii) facilitated risk management. The sale of risks outside supply chains needs to be encouraged as does the use extended use of various forms of weather, price and performance insurance.





Take Away Points:

Discussions which took place during the conference dealt with the strengths and weaknesses of various solutions. Several key points have been distilled from those discussions. Are the primary lessons which can be taken away from the conference at least as regards innovative finance solutions? These include the following:

- Basic needs for financing remain at the supply end of the chain: The financial challenges which are at the center of improving productivity in traditional agricultural systems do not go disappear as farm to market linkages strengthen into supply chains. They only become more important and more complex. Needs of farm level groups, for example, to finance working capital for inputs, incomes which need to be sustained between harvest periods and investments in assets which can absorb income shocks are only extended in the supply chain context to include additional needs to finance supply chain infrastructure and to provide additional working capital for certifying chains linked processes, e.g. high quality food production, handling and shipment. So, instead of diminishing needs for financing supply chain development increases needs.
- Growth always requires external financing: Profitable, integrated chains require external sources of working capital in order to sustain their growth. Chain integrators cannot afford to finance other chain partners if they are growing. Moreover, growing chains require significantly more working capital to fuel their growth than do mature chains. They also require new investment in fixed assets...in supply chain infrastructure. The most effective way to finance growing supply chains in developing countries appears to be the formation of a triangle of interests which include financial institutions, farmers groups and supply chain integrators (e.g. supermarket chains).
- Some farm level organizations are better credit risks than others: The organization, business orientation, governance and culture of farm level groups are what qualify them as reliable supply chain partners in whom financial institutions can confidently invest. One of the panelists stressed the need to heed the following principles when choosing cooperatives or other kinds of farm level organizations with whom to invest: i) They should abide by a set of organizational principles which stress economic principles and business goals; ii) They should not consider themselves instruments for social development; iii) They should not tolerate cross subsidies among lines of business or different activity centers. Each should stand on its own profit and loss merits; iv) They should build and then maintain a healthy corporate governance structure; v) They should maintain clear and frequent communication with their members; vi) They should strive to progressively improve profitability; vii) They should be able to enter into contracts and should be organized under laws which assure that their contractual obligations are discharged; ix) They should avoid mixing together corporate governance and business strategies and x) They should use the proceeds of credits only for the purposes agreed with the financial institution..
- External financing as a test: External financing is an important market test for confirming chain sustainability. When third party investment is attracted into chains it demonstrates confidence in economic sustainability. Importantly as well, it assures that only the most economically beneficial chain projects will be funded. This is because third party investors must be able to appropriate sufficient benefits from their chain investments to cover their own cost of capital in addition to funding social benefits which cannot be fully appropriated. Third party investment in chains, either through



venture funds, hedge funds, special situation funds, leasing companies or commercial banks that can effectively price and manage agricultural investment risk, is tantamount to a certification of chain sustainability. Without such a market test, stand alone chain investment on the part of donors or governments or even non financial institutions can be highly speculative and, indeed, unlikely to realize either its anticipated social benefits or its appropriable private sector investment benefits.

- Supply chain design can mitigate risk: The checks and balances among the three sets of participants in chain financing are material both to supply chain sustainability and to profitable investment. These checks and balances take the form of mutual claims on each others assets under various contingent conditions....that is under conditions which cannot be known in advance with certainty. For example, contingencies which might be covered in contracts might include changes in customer product preferences, competitive challenges, limited supply availability and/or market dictated quality requirements. Sustainable supply chains must not only be efficient but just as importantly they must be agile and adaptable under various contingent states. The conditions which farm groups and supply chain integrators impose on one another and the liabilities which they assume as supply chain partners can either exacerbate or modulate risks assumed by third party providers of finance. and thus make specific chain designs either more or less viable.
- Non traditional forms of finance. Requirements for agility and adaptability generally recommend supply chain financing instruments other than term loans. Term loans are inherently inflexible; their terms, at least as they are extended by micro finance institutions, are too short to allow sufficient investment in assets with long economic lives like chain infrastructure. Moreover, because they are callable, they may actually threaten the security of supply within chains. For these reasons other investment instruments such as equity, convertible debt and lease financing, as well as various forms of risk sharing such as cross guarantees within chains, weather insurance, public private partnerships with governments and with donors and matching grant facilities need to be tested as well.
- The role of public financing: Because supply chains are themselves a kind of “public good.” This is why they are typically underinvested, in developing countries. The marginal cost of new investment to a private agent is always less than the full marginal social benefit associated with starting up a new supply chain particularly one anchored in rural space. Pro poor supply chain investments generate social benefits in forms which it is difficult for investors to appropriate, including: i) sustained livelihoods for poor farmers, ii) the accumulation of productive assets in rural space and iii) diversification of income sources. In addition, their adequate investment can and should include sustainable agriculture, the replenishment of soil nutrients, reforestation of cultivated areas with wind breaks, the development and the use of sustainable irrigation systems. Investments of this kind strengthen supply chain linkages and improve chain competitiveness; however, they also generate additional benefits which private investors cannot fully appropriate. For this reason, in order to assure adequate investment in assets which generate large social benefits or externalities, some form of government or donor support may be appropriate. This is the basic argument for using mechanisms such as matching grants, public private partnerships and brand equity buy backs to finance supply chains. With that said opportunities for chicanery, fraud and miss use of public funds are rife in this area of investment. Hence, structuring supply chain finance, so



that risks are shared with a competent private co-investors, and designing prudential controls into all supply chain transfers, e.g. assuring accounting transparency and third party monitoring, are essential safeguards.

Translating Lessons into Actions:

What then is required to jump start innovative supply chain financing in the developing countries? A clear priority is genuine competencies in risk management. Professional competencies need to be developed in pricing, managing and selling the risks associated with making food chain investments in specific national contexts. Unfortunately, these competencies come at a high cost. They come from accumulated experience and in particular from making mistakes before finally succeeding.

At the present time funding from various sources (e.g. sovereign funds, state provided funds, pension funds, etc.) appear to be more abundant than are the basic competencies required to manage funds productively and profitably. With that said, a number of participants in the conference claimed to have the pre-requisite skills and investment management experience need to price, manage and mitigate supply chain investment risks, as well as an interest in expanding their investment portfolios in partnership with regional investors and project sponsors. Institutional investors who participated in the conference included at least one international hedge fund, an agribusiness oriented venture capital fund, an international asset company and the International Financial Corporation, the venture capital arm of the World Bank.

A second point of avenue into chain finance is through chain integrators (e.g. supermarkets who are interested in integrating backwards, NGO's interested in branding new food distribution channels.). Chain integrators whose value proposition includes changing the behaviors and improving the productivity of farm level suppliers typically require external financing. In order to secure external financing and thus leverage the assets of their agricultural product suppliers, integrators must at a minimum pass a market test in the form of an investment quality business plan.

“Business plans” are the codified bases on which supply chain integrators and financial institutions communicate with each other and convey clearly the merits and risks associated with chain investments. Business plans are virtual economic experiments. They declare and defend the business strategies, market opportunities, resource requirements and management requirements required to create value for investors. Conducting these virtual experiments in advance of undertaking real experiments with real capital is simply prudent. Importantly, business plans a great deal about chain integrators. They reveal, for example, the level of their market knowledge, the level of their management sophistication and their readiness to manage various categories of risk on behalf of the financial institution. In any case, the arrangements which compete available investment capital based on the merits of business plans designed to develop farm to market chains is a second way to move forward.

A third way forward is to transfer knowledge about what works and about what does not seem to work as well in the arena of supply chain finance. Organizations like UNIDO have taken up this challenge and a proceeding to broker market tested solutions across national borders.

The fact remains that to date no effective global markets exist for genuine competencies either in the areas of supply chain integration or of supply chain investment management.



UNIDO and its sister multinational donors are trying to develop such a market through a number of brokering, expertise referrals and demonstration investment programs. The rationale behind these programs is to vet and to supply information and to certify genuine competencies via the internet and other media and thus reduce the search and delivery costs associated with mission appropriate supply chain technologies.

During the conference, the UNIDO country director made an announcement concerning the start up of one such demonstration project in Egypt. This is the new UNIDO Agribusiness Investment Trust. Its management is still too new to have taken a forceful leadership role in directing funds into farm to market chain within the region. However, clearly this is their intent.

A fourth entry point involves structure trade which involves an important subset of farm to market linkages. Particularly in food staple markets, the benefits associated with building up strong regional market institutions which allow for efficient price discovery, low cost transactions and efficient trade facilitation. Most of these benefits fall under the category of public goods. They are difficult or impossible for private investors to appropriate fully. Hence a role exists for government or, indeed, regional trade associations to invest in the software (e.g. standardized commodity classification and grading systems, public warehousing or other forms of asset assurance, low cost certification of quality and origin, standardization of sales contracts, contracts for forward sale, other risk management instruments and commodity exchanges where these contracts can be exchanged) required to support this trade and to incentivize private investment in to the complementary hardware (e.g. gain silos, port bulk transfer terminals, rail truck transfer facilities, etc.)



D. Conference Application Forms

Solution Submission Form

Focus Themes: *

- Supply/value chains, market access and linkages** (Solutions that address gaps in the value chain, such as logistics, infrastructure, market intelligence and outreach, linking farmers or food processors, including small-scale ones, to retailers / markets)
- Compliance with standards and conformity assessment** (Solutions, such as traceability, which enable agribusiness actors in developing countries to comply with standards throughout the supply chain, including ones related to food safety and organic best practices. These solutions can help overcome barriers to trade and lead to increased exports.)
- Technology and value addition** (Solutions based on utilization of a specific technology or process, adding value and increasing productivity. This can take the form of increased shelf life of the product and/or improved methods for handling agricultural produce.)
- Innovative forms of finance** (Solutions featuring unconventional forms of financing, both for business investment and technical cooperation, for example, specialty funds, new ways or tools for micro financing, reaching a larger customer base.)

Title of the Solution/Project: *

Description of the Solution / Project

To which sector/s of agribusiness does the solution apply?

- Dairy
- Aquaculture/ Fishing
- Horticulture
- Processing
- Meat/ Poultry
- Logistics
- Mechanization
- Organic agriculture
- Market Info / Intelligence
- Other

Please specify:

Logistics:

- Cold Chain
- Warehousing
- Transportation

Please describe the solution / project : *

What problem or market opportunity does it address?

How was the solution developed?

Please describe the implementing stages of the solution:

* Mandatory questions



Please describe the challenges that had to be overcome:

What are the main outputs / outcomes of the solution?

What are the lessons learned in implementing the solution? Which factors were critical for its success?

Please describe the innovative character of the solution:

Please indicate the duration of the project:

Stakeholders

Which institutions / organizations supported / support the implementation of the solution?

- Local / national government agencies
- Private sector associations
- International organizations
- Donors
- Banks
- Academia
- Other

Please specify:

Impact

What are the key areas of impact?

- Social
- Capacity building/ Training
- Trade
- Productivity
- Employment
- Quality
- Safety
- Food security/availability
- Other

Please Specify:

How is the impact evaluated?

Funding

What was/is the budget allocated to design/implement your solution?

How was the solution financed?

- Donors
- Local/national government
- Private sector
- NGO



Other Please specify:

Were alternative sources of finance considered?

Yes
 No

Please Specify:

Sustainability and future prospects

How can the sustainability of the solution be ensured?

Is a cost recovery scheme in place?

Are beneficiaries able / willing to pay for services?

Please describe the future plans for the implementing institution:

How will the implementing institution continue to provide services to beneficiaries?

Are there expansion plans for new services - new potential beneficiaries?

Opportunities for replicating or scaling up the solution

Can the solution be replicated/scaled up to cover other areas/regions/countries/groups/products?

Please describe how can this be achieved and indicate the resources required in order to replicate/ scale up the solution?

What should be considered in the implementation?

Is a business plan or project document available?

South-South Cooperation

Does the solution/project offer opportunities for South-South cooperation?

Yes please specify:
 No

Is there already cooperation with initiatives or projects in other places?

Yes please specify:
 No

What are the tools and elements needed for South-South cooperation?

How could South-South cooperation be achieved?

Comments:



Solution Seeking Form

Focus Themes:

- Supply/value chains, market access and linkages** (Solutions that address gaps in the value chain, such as logistics, infrastructure, market intelligence and outreach, linking farmers or food processors, including small-scale ones, to retailers /markets)
- Compliance with standards and conformity assessment** (Solutions, such as traceability, which enable agribusiness actors in developing countries to comply with standards throughout the supply chain, including ones related to food safety and organic best practices. These solutions can help overcome barriers to trade and lead to increased exports.)
- Technology and value addition** (Solutions based on utilization of a specific technology or process, adding value and increasing productivity. This can take the form of increased shelf life of the product and/or improved method for handling agricultural produce.)
- Innovative forms of finance** (Solutions featuring unconventional forms of financing, both for business investment and technical cooperation, for example, specialty funds, new ways or tools for micro financing, reaching a larger customer base.)

Field of interest:

- Dairy
- Aquaculture/ Fishing
- Horticulture
- Processing
- Meat/ Poultry
- Logistics
- Mechanization
- Organic agriculture
- Market Info / Intelligence
- Other

Please describe the situation/project that you are seeking solutions for:

Please describe the problem/market opportunity to be addressed:

What are the challenges or difficulties that need to be addressed?

What are the expected outputs/outcomes?

What factors could be critical for the project's success?

Stakeholders

Which institutions / organizations would support the implementation of the solution?

- Local / national government agencies
- Private sector associations
- International organizations
- Donors
- Banks
- Academia
- Other

* Mandatory questions



Impact

What are the key areas of impact?

- Social
- Capacity building/ Training
- Trade
- Productivity
- Employment
- Quality
- Safety
- Food security/availability
- Other

Funding

What would be the budget required to design/implement your solution?

How do you plan to finance the solution?

- Donors
- Local/national government
- Private sector
- NGO
- Other

Market Opportunity

Are you aware of any projects/solutions which address/ have addressed the same problem or market opportunity?

- N/A
- Yes
- No

If so, we would very much appreciate receiving information on those projects/solutions as well as contacts of those in charge of their implementation.

Comments:

Project / Solution Documentation

Is a business plan or project document available?



E. Special Thanks

We would like to thank herewith our Partner and Support Institutions, our Sponsors, the International Advisory Board and the Technical Selection Committee, the entire UNIDO team and many others who worked hard to make this conference possible.

Partner and Support Institutions

- ETRACE
- Food and Agriculture Organization of the United Nations (FAO)
- Industrial Modernization Centre (IMC)
- Italian Development Cooperation
- Ministry of Trade and Industry, Egypt
- SEKEM Initiative
- Swiss State Secretariat for Economic Affairs (SECO)
- UNIDO Investment and Technology Promotion Office (ITPO), Italy
- UNIDO Investment Promotion Unit (IPU), Egypt

The Sponsors

- Ms. Rawya Mansour
- Banque Misr
- Farm Frites - Egypt
- Magrabi Agriculture
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- IT Synergy





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- Mr. Yiping Zhou, Director, Special Unit for South-South Cooperation, United Nations Development Programme (UNDP)

Organizations

- African Development Bank, represented by Mr. Abou-Sabaa, Director of the Agriculture and Agro-Industry Department
- Arab Gulf Program for United Nations Development Organizations (AGFUND), represented by H. E. Mr. Nasser Al Kahtani, Executive Director
- European Investment Bank, represented by Ms. Jane Macpherson, Head of the Regional Office for Near East in Cairo
- Fairtrade Labelling International (FLO), represented by Mr. Ian Bretman, Director of Strategy and Policy
- Food and Agriculture Organization of the United Nations (FAO), represented by Mr. Mohamad Albraithen, Assistant Director-General for the Near East
- Global Food Safety Initiative (GFSI), represented by Prof. Hamish Gow, Michigan State University
- International Finance Cooperation (IFC), The World Bank Group, represented by Mr. Michael Essex, Director for the Middle East and North Africa
- International Fund for Agricultural Development (IFAD), represented by Dr. Mohamed El-Eraky, Country Presence Officer



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