



# Report of the Regional *Agro-industries Forum* for *Asia and the Pacific*

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3–6 November 2009. Yangling, China



Shaanxi  
Provincial  
People's  
Government







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FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED NATIONS  
REGIONAL OFFICE FOR ASIA AND THE PACIFIC  
INTERNATIONAL FUND FOR AGRICULTURAL DEVELOPMENT  
SHAANXI PROVINCIAL PEOPLE'S GOVERNMENT  
UNITED NATIONS INDUSTRIAL DEVELOPMENT ORGANIZATION

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## Executive Summary

The first Regional Agro-Industries Forum for Asia and the Pacific (RAIF-AP) was convened in Yangling, China, during the period 3 to 6 November 2009. It was jointly organized by the FAO Regional Office for Asia and the Pacific, IFAD, UNIDO and the Shaanxi Provincial People's Government of China. The forum provided follow-up to the Global Agro-Industries Forum, (GAIF) organized by FAO, UNIDO, IFAD and the Government of India in April 2008 with a view to raising awareness, considering strategies and promoting partnerships towards the development of competitive agro-industries. The Asia-Pacific regional workshop convened during the GAIF concluded that context specific interventions were required to meet the challenges specific to the Asia Pacific region, in: 1) promoting investments in physical and social infrastructure; 2) creating an enabling environment for agro-industries; and 3) integrating smallholder farmers into competitive agro-industries.

The RAIF-AP therefore sought to facilitate discussion and dialogue on the creation of an enabling environment and on competitive agro-industries that incorporate smallholders as significant stakeholders in agri-food supply chains in the region. Approximately 110 delegates from 25 countries in the region, including government officials responsible for agriculture, trade and industry, food industry leaders, agro-industry specialists and civil society representatives, participated in the RAIF-AP.

The Forum was inaugurated on Tuesday 3 November by Mr Yao Yinliang, Vice-Governor of the Shaanxi Provincial People's Government. During the inaugural ceremony, addresses were made by Mr Yao Yinliang, Vice-Governor of the Shaanxi Provincial People's Government, Mr Edward Clarence-Smith, Representative and Head of the UNIDO Regional Office in Beijing who spoke on behalf of FAO and UNIDO in line with the One-UN policy and Mr Vineet Raswant, Senior Technical Advisor of IFAD.

The programme of the Forum included two plenary sessions, four parallel round tables, nine peer assist workshops and two facilitated side discussions. The first plenary paper, titled *Creation of an Enabling Environment for Agro-industries*, highlighted the essential catalytic role of the public sector in fostering innovative institutions and improving enabling policies, and in maintaining competitiveness in order to encourage agro-industrial development. It highlighted the critical role of governments as "fundamental" enablers in formulation of trade policies and development of infrastructure and land and intellectual property rights. Provision of financial services, research and development, and standards and regulations were recognised as "important" enablers. Business linkages, business promotion services and business facilitation were considered "useful" government enablers. While the public sector was viewed as the primary driver of reform processes, it was recognized that the private sector also had a role to play. In effect, due to the rapidity of globalization, a parallel reform process is occurring – one in which both the public and private sectors work together to create an enabling environment.

The second plenary included two presentations: *Including smallholder farmers into competitive agro-industries: Regionalization of the GAIF conceptual framework* and a presentation on the *National Dairy Development Board of India*. The importance of business models for collaboration, joint investment and information-sharing between producers, suppliers, agro-processors and retailers, in order to satisfy customer needs for better food quality and safety, reliability of supply, lower costs and sustainability, were highlighted in the first presentation. The organization of farmers must be the cornerstone of all of these business models. The selection of an appropriate model for linking smallholder farmers with agro-industries should,

however, be informed by the local policy context. Examples of Asian business models that link smallholders and SMEs into competitive agro-industries in the region were highlighted. These include formalized models such as buyer-driven, specialized wholesalers and private farm companies as well as small farmer-oriented models such as leading farmer and development-oriented models. While the latter are likely to have widespread applicability across the region, the formalized models would be of limited success in contexts of insecure land tenure. Further investigation is required into possible relationships between the policy environment and the success of the different business models envisaged to link smallholders and SMEs into competitive agro-industries in a sustainable manner in the region.

The second paper of the plenary provided an example of successes achieved through the organization of dairy farmers in India. Key contributing factors to the success of the 35-year old National Dairy Development Board of India, include: the establishment of a domestic infrastructure to ensure a year-round market for milk producers; investment in technologies for milk production and processing, development of human capital as well as supportive government policies for cooperative growth and dairy development.

The four “competitiveness roundtables” allowed panels of invited experts and agro-industrial stakeholders to debate propositions and responses suggested by panellists on specific issues. The panel debates stimulated further discussion among delegates and led to feedback on the strategies proposed to address the issues identified during the two plenary sessions.

The roundtable on *Support to food safety guarantee systems in agro-industries* submitted that “agribusinesses, including small and medium-sized enterprises, must implement appropriate food quality and safety assurance systems that can reduce and manage food safety risks through the food chain from farm to table. This requires strong collaboration between governments and the private sector so as to develop technical resources as well as appropriate know-how within the agri-food industry.” While the proposition was very well supported by a number of participants who provided illustrative examples of their experiences, the need for awareness raising on the importance of quality and safety assurance schemes became evident during discussions as did the need to clarify the distinction between safety and quality.

The round table on *Human resource development* put forward the proposition that “there is a mismatch between the technical and managerial requirements of the agro-industrial sector, the quality and content of education, and the knowledge and skills base of stakeholders at all levels. This misalignment must be corrected if competitive agro-industries are to be developed.” Panelists and participants concurred with the proposition that a broad range of skills is required for the attainment of competitiveness in the region’s agro-industrial sector. To meet this end, a wide portfolio of education and training programmes at a range of levels, from basic to tertiary education is required. It was, however, noted that the retention of trained human resource capacity in agro-industry hinges upon improved remuneration of professionals and a supportive enabling environment wherein government policies prioritise improvements in food safety and quality.

The round table on *Financing small-scale agro-industry* put forward the proposition that “small-scale agro-industry is a critical sub-sector of the regional economy in light of its potential to be an important buyer and processor of smallholder farm produce as well as a source of value addition and employment in rural areas. As such, financing small agro-industry should receive increased attention in agro-industrial policy making.” Lack of financing on suitable terms and difficulty in securing long-term loans from micro-finance institutions and from banks were cited

as major hurdles faced by SMEs in accessing credit. Lack of entrepreneurial talent in rural areas was also cited as a contributing factor to the reluctance of banks to provide loans for SME development.

The Round Table on *The processed food market in Asia and the Pacific* put forward the proposition that “the processed food market in the Asia-Pacific region is currently undergoing a dramatic transformation in response to rapid urbanization, diet diversification, and the liberalization of foreign direct investment in the food sector. Variations in food habits and culinary traditions across the region provide a competitive advantage for small- and medium-sized local processors, given their familiarity with local food habits and markets. Strategies are required to ensure that small- and medium-sized local processors can continue to meet the demands of these growing market opportunities while staying competitive.” Participants noted the existence of a gradient of capacities in the processing of traditional foods across the region. One mechanism for reducing the steepness of this gradient would be through capacity development and technology exchange across the region as well as development of mutually beneficial linkages between small processors and large scale food retailers (supermarket chains). Food safety and quality issues along with process, product and packaging innovations are critical areas to be addressed if SMES are to successfully maintain their share in the processed food market. Supportive government policies are also pivotal in enhancing the competitiveness of small processors and in facilitating their entry into formal markets.

Nine peer assist workshops addressed specific problems and challenges faced by individual companies/projects/agro-enterprises, with the objective of coming up with recommendations on possible solutions. Each peer-assist presented a well-defined real-life problem to a group of peers who then discussed the problem and suggested solutions. Topics covered included finance, market access, praedial larceny, quality and safety issues, small holder inclusion in competitive agro-industries, the enabling environment, supply chain deficiencies and capacity building.

Facilitated side events addressed agro-industrial development in island nations and market-oriented support services.

The side event on *agro-industries in island nations* highlighted the unique challenges of island nations, given their small sizes and remoteness. Discussions identified the need for increased collaboration among island nations in harmonizing standards and in developing economies of scale to facilitate increased trade opportunities. Exploration of high-value niche markets such as local/regional tourism markets and the identification of strategies for import substitution and export growth were recommended areas for attention. Attention must also be paid to production planning and to generating and using market information, in order to reduce the high levels of losses sustained owing to seasonal gluts. In view of their unique challenges, participants recommended that a specific forum be convened to address agro-industrial development in island nations.

The side event on *market-oriented support services* noted that the ability of private enterprises to compete is highly dependent on the availability and quality of public goods (incentive structures, infrastructure, public services) and public “bads” (cost and disincentives of misguided interventions, poor governance). Public-private partnership arrangements were singled out as a practical way of combining both sources of funding to enable small-scale producers and other actors to integrate into profitable value chains. While public sector cooperation with the private sector is being rigorously promoted in the region more needs to be done to facilitate alliances between smallholders, SMEs and larger agri-businesses.

There was general consensus that the forum was useful, informative and interesting. The peer assist workshops were particularly appreciated in light of their relevance and practical approach to addressing problems faced by agro-industrial stakeholders. The side event on Market Oriented Support Services was also very highly rated.

## **Recommendations**

The following recommendations were highlighted towards building capacities for agro-industries development across the region:

- improved organization of small farmers to facilitate their linkages to markets;
- broad-based skills development of all actors associated with agro-industrial development - smallholders, SMEs, etc;
- promotion of knowledge and technology exchange across the region;
- service provision in areas of extension advice, market access, storage and credit;
- creation of policies and enabling environments to support agro-industries development and for the facilitation of public-private dialogue and partnerships;
- formulation of strategies for the utilisation of gluts and the processing of by-products;
- support to traders and middlemen who are a critical link in the supply chain.

Regional agro-industrial forums should be convened on a biannual basis. Future forums would, however, benefit from:

- An increased duration, i.e. a three day forum, rather than a two-day forum to cover all topics and leave adequate time for discussion and consultation;
- inclusion of a poster session that would allow participants to see and discuss the work of their peers. The poster session formats would allow more participants to gain from the experience of their peers than do the peer-assist settings;
- allowing more opportunities and appropriate space for regional dialogue and networking;
- greater emphasis on success stories from which lessons could be learnt, rather than focusing on problems;
- ensuring a broad section of stakeholders in agro-industries in order to capture multi-stakeholder views of agro-industrial development;
- inclusion of high-level policy makers as well as field level staff (implementers) to ensure that decisions on follow-up can be dealt with expeditiously;
- an e-forum debate prior to the forum to maximise opportunities for networking and cross-learning;
- a clearer articulation of the distinction between farmer-market linkages and agro-industries development

The appropriateness of the roundtable discussion format would need to be evaluated within the context of the stated objective of the forums and the target audience of the forum.

In view of the unique challenges of Pacific islands countries, a specific forum should be convened to address agro-industrial development in island nations.

It was also recommended that donors be identified and sensitised for funding (or cost-sharing) of the forum so that they could also provide the necessary follow-up.

## 1. Introduction

The first Regional Agro-Industries Forum for Asia and the Pacific (RAIF-AP), was organized as a follow-up to the commitments made by the Food and Agriculture Organization of the United Nations (FAO), the International Fund for Agricultural Development (IFAD) and the United Nations Industrial Development Organization (UNIDO) at the first Global Agro-Industries Forum (GAIF), convened in New Delhi from 8 to 11 April 2008.

The RAIF-AP was convened in Yangling, China, during the period 3 to 6 November 2009 by FAO, IFAD, UNIDO and the Shaanxi Provincial People's Government of China. It brought together government officials responsible for agriculture and trade and industry, food industry leaders, agro-industry specialists and civil society representatives. Approximately 110 delegates from 25 countries of the Asia-Pacific region (Annex 1) participated in the Forum and discussed the contribution of agro-industries to economic development as well as challenges faced by agro-industries in the region. The Forum also facilitated dialogue between the private and public sectors in order to foster partnerships for developing competitive agro-industries.

The specific objectives of the RAIF-AP were to:

- i) Discuss best practices from the Asia and Pacific region for implementation of agro-industrial strategies of relevance to member countries at national and local levels;
- ii) Promote dialogue among the private sector, governments and smallholders; and
- iii) Facilitate the emergence of multi-stakeholder programmes for agro-industries development based on concrete cases from member countries in the region.

## 2. Inaugural Ceremony

The Forum was inaugurated on Tuesday 3 November by Mr Yao Yinliang, Vice-Governor of the Shaanxi Provincial People's Government. During the inaugural ceremony, addresses were delivered by Mr Yao Yinliang, Vice-Governor of the Shaanxi Provincial People's Government, Mr Edward Clarence-Smith, Representative and Head of the UNIDO Regional Office in Beijing who spoke on behalf of FAO and UNIDO in line with the One-UN policy and Mr Vineet Raswant, Senior Technical Advisor of IFAD.

In his opening remarks, **Mr Yao Yinliang, Vice-Governor of the Shaanxi Provincial People's Government**, introduced Shaanxi Province to the forum delegates. He noted that the economy of Shaanxi Province had, expanded rapidly as a result of the implementation of reform policies. The last ten years had witnessed economic growth at a rate of over 12 percent per annum, the most rapid and favourable development in the history of the Province. The agricultural economy in Shaanxi Province has also developed with a steady growth of farm per-capita income. Agro-industries have also developed rapidly, and have thus increased the possibility of increasing the value of farmers' products and their incomes.

Mr Yao was positive that the forum would enhance the capacity for independent innovation, market development, and industrial upgrading so as to greatly influence agro-industries development.

**Mr Edward Clarence-Smith, Representative and Head of the UNIDO Regional Office in Beijing**, delivered a joint statement on behalf of FAO and UNIDO. In so doing, he stressed the need for governments of Asia and the Pacific region to bring in a focus on small farmers and fishers and their needs, in order to develop competitive and sustainable agro-industries that

support economic growth and social stability. This call for stronger government policies to support small farmers and fishers was issued against a backdrop of rising food prices and food shortages across the region. Shortages and price increases had devastating effects on millions of households, increased the numbers of malnourished in Asia and the Pacific to 642 million in 2009 and sparked social unrest in some countries. Mr Clarence-Smith noted that wealth creation based on industrial development, particularly manufacturing and agro-industrial processing, propelled by vibrant entrepreneurship was the core of successful long-term poverty reduction. Agro-industry was an important and vital component of the manufacturing sector in developing countries, and the means for building industrial capacity and tradition. He reminded forum delegates that food and beverage processing in the region was characterized by a large informal sector, which typically contributed over half of the total manufacturing value-added in agriculture-based countries. With the liberalization of national agro-systems, however, these key players had often been overlooked in policy initiatives aimed at growing and supporting agro-industries. Thus, the objective of FAO and UNIDO in convening the forum was to assist governments in creating an enabling environment that would allow industry stakeholders to develop competitive agro-industries that incorporated smallholders as significant stakeholders in agro-food supply chains.

**Mr Vineet Raswant, Senior Technical Advisor at IFAD Headquarters** concurred with the other dignitaries in his welcome address. He emphasized the need for development of competitive agro-industries in member countries to benefit smallholder farmers, who were the target group of IFAD. Mr Raswant note that IFAD had invested US\$11 billion of its own resources in low-interest loans and grants in developing countries over the past 30 years, and had leveraged a further US\$17 billion in co-financing. He informed of IFADs readiness to lend full support and make available its considerable expertise and funds to develop competitive agro-industries and to link smallholder farmers to agro-industries. He, however, reminded the forum that this could best be achieved through strong partnership among institutions.

### **3. Plenary Addresses**

#### **3.1 Creating an enabling environment for agro-industries**

The plenary address on “Creating an Enabling Environment for Agro-Industries,” was delivered by Mr David Kahan, Senior Agribusiness Officer, FAO Regional Office for Asia and the Pacific, Bangkok, Thailand. Mr Kahan noted in his presentation that developing nations in the recent decades had focused largely on economic prescriptions for “getting markets right”. This had been done through adjustments to macroeconomic policies, privatization of state-owned enterprises, and opening domestic markets to international trade in agricultural commodities and currencies, the assumption underlying this being that “structural adjustment programs” would attract foreign capital through the domestic and international private sectors, making domestic industries more competitive. As a result, a large part of economic development policy had centered on creating “enabling environments” to attract capital for investment in market-based solutions that contributed to economic growth. However, the effectiveness of these policies had varied markedly. Fostering competitive agro-industries, therefore, required a conducive business climate.

Globalization has the potential to benefit emerging economies. This had been shown by the remarkable rates of economic growth in many parts of the world. However, this process had reflected the view that economic development could only occur after the state first created the enabling environment which was then followed by private sector investments. It presumed a

traditional - sequential approach to development. Yet, with closer inspection of the evidence and a better understanding of the global economy and its changes, the private sector had become more assertive and in many situations was not passively waiting for an enabling environment to be created by the state. Rather, it was working in partnership with governments, to develop a suitable environment, while simultaneously pursuing market opportunities. A key question was what is the role of the State in creating a conducive environment for business?

The efforts by policymakers to measure competition, enhance the enabling environment and comprehend the rapidity of change in domestic global economies had given rise to the following questions: How well do the measures of business climate set up by international organizations and research institutions relate to the competition of the agricultural economies? If the current measures are inadequate, what are the essential factors underlying agro-industry competition in developing countries? How can we reform the public process, in the context of all the radical changes that are taking place, to develop and enact creative policies that improve the relative competition of agro-industries in emerging markets? It was noted that although there are many frameworks for assessment, the current approaches were not designed for the evaluation of business climates for specific agro-industry enterprises.

Mr Kahan noted that the public sector should play an essential catalytic role in fostering innovative institutions, improving enabling policies, and maintaining a country's competitiveness in order to encourage agro-industrial development. To understand better the issues at stake for agro-industries, studies leading to a ranking of countries in terms of competitiveness were useful in the sense that they created indicators about a country's friendliness to FDI and its capacity to inspire reform in its business environment. Given that many developing countries were undergoing a transition to a market economy, the role of the State in facilitating such a reform is paramount.

Governments were definitively the main actors in creating such "fundamental" enablers as trade policies, infrastructure, and land and intellectual property rights. Financial services, research and development, and standards and regulations were other "important" enablers that governments might provide. On the other hand, business linkages, business promotion services and facilitation in doing business were qualified as "useful" government enablers. The challenge faced was recognised as how to use the public process creatively to enact policies that improved competitiveness. While it was realised that the government was a primary driver of reform processes, the private sector also had a role to play. In effect due to the rapidity of globalization, a parallel reform process was occurring - one in which the state and private sector acted together to create an enabling environment. A conceptual framework originally presented at the Global Agro-Industrial Forum in New Delhi in 2008 analyzed the reform process in developing countries by focusing on two key variables – risk and capacity: the level of risk that agro-industries face when conducting business and the capacity of the state in shaping the environment for business.

Mr Kahan remarked that in our globalizing world economy, private and public sectors were increasingly working together to create the right enabling environment. Depending on the level of uncertainty faced by agribusinesses and the level of capacity of the State to adapt the rules of doing business in a country, the mix between private and public sector interventions in fostering an enabling environment for agro-industries varied. This was all the more true for the agro-industrial sector, where the mandate for change of many of the necessary enabling environments would be in hands other than those of the Ministry in charge of Agriculture. Awareness of the fundamental and important catalytic factors among private sector stakeholder organizations was,

therefore, essential in promoting coordination among government services towards establishing the right enabling environment for their agro-industries.

The issue of public and private cooperation was made explicit within the framework presented and reference was made to the sequencing of public- and private-sector actions. Reference was made to the incentives for private-sector provision. Innovative mechanisms to link public funding with private sector resources were also highlighted. Institutions were increasingly involved in promoting cooperation between and among organizations and sometimes work through intermediary organizations and NGOs.

The remaining key issues identified by the speaker were; i) whether governments need to review their institutional mandates for influencing, regulating and supporting private-sector investments in agribusiness and agro-industries; ii) what should be the scope of the responsibilities of the ministries of Agriculture, Commerce, Trade and Industry and how to create the dialogue between these different bodies; iii) how to identify and address trade-offs between the pace and nature of agro-industry development and its impact on smaller-scale producers, processors, stores and traders; and (iv) whether developmental strategies should focus only on enabling environments or whether the public sector should also help to support the creation, coordination and upgrading of specific agro-industries and value chains. Many of these issues were seen to reflect the current work that the Rural Infrastructure and Agro-industries Division of FAO was engaged in.

#### *Summary of discussions*

- During the discussion session, it was pointed out that while infrastructure is an essential enabler, “softer” issues are the primary focus of bilateral agencies. Clarification was requested on the UN’s vision for addressing this gap. The speaker underlined the vital importance of infrastructure and noted that UN agencies had been looking into public - private partnerships for infrastructure development. This had already been taking place in the case of irrigation. He noted that governance issues, i.e. enforcing and managing contracts in many developing countries could, pose a problem a problem with respect to the adaptation of knowledge and transfer of experience on infrastructure from developed countries. Public resources for infrastructure are inadequate in most developing countries, hence the need to explore the possibility of obtaining private sector funding through public-private partnerships.
- It was noted that while considerable emphasis had been placed on physical infrastructure as an essential element of an enabling environment, greater focus was required on social infrastructure - health, education and services provision- in order to teach small farmers how to cope with technical advancements and cooperation.
- A question was raised as to the relevance of the enabling environment to small farmers. The speaker noted that a major challenge had been the issue of how to bring the small farmer into the process of industrialization. Work of the UN agencies - FAO and IFAD- had focused largely on this issue, with capacity building initiatives designed to improve the entrepreneurial and management skills of smallholders. U.N. agencies had also been involved in promoting and supporting the development of linkages among producer organizations thereby allowing them to take on an advocacy role, as well as a role in providing support and business advice to small farmers.
- Regarding the role of private sector in providing technical and scientific support to small farmers, the speaker noted that in the past, much the focus had been on research and

extension, with relatively little attention paid to the needs of farmers. Attempts were now being made to revise this approach through public-private partnership, particularly in the area of value addition. The challenge had been how to make research more appropriate, effective and profitable for the investor, and beneficial to the user. In this regard he pointed to the need for development of innovative training programmes that improve the management skills of small farmers.

- On the question of the impact of contract farming on the rural economy, the speaker highlighted that contract farming was one of many options to be considered for rural economic development. The success of contract farming hinges on an enabling environment, wherein legal aspects of farming were enforceable. Through producer organizations and support to farmers, economies of scale could be created, thus making contractual linkages possible. Contract farming was conducted both in a formal context and an informal context (trust building). The key issue, however, being that of how small farmers could be linked to markets.
- An enquiry was made as to the role of the U.N. agencies in assisting countries to comply with trade requirements. The speaker noted there has been pressure to help countries to understand the implications of trade policies. FAO has been looking at ways of finding niche products and identifying specific local markets and trade agreements to assist developing countries.
- On the question of the avoidance of risk in agriculture, the speaker highlighted the need to consider the use of a range of systems for risk mitigation, such as insurance, contract farming and forward pricing. He, however, noted that under certain circumstances, and particularly in the case of climate change, risks could not be mitigated only by farmers or by governments. While the modification of farming systems was not easy, natural resource management might be considered as one approach.
- A number of questions were raised pertinent to FAO's programmes and views on specific issues. On the issue of FAO's definition of 'small farmers'; the speaker noted that these include farmers who are market-oriented and not just producing for household consumption. The speaker also clarified FAO's role in regard to gender and youth issues in response to a question raised on the subject. He cited some of FAO's work on developing the entrepreneurial capacity of women and youth, noting FAO's concerns over the movement of youth out of agriculture in Asia and the need to identify strategies for enhancing their interest in agriculture.

### **3.2 Linking smallholder farmers to markets**

This plenary included a presentation titled: *Including smallholder farmers into competitive agro-industries: Regionalization of the GAIF conceptual framework*, presented by Mr. Jean-Joseph Cadilhon, Marketing Officer (Quality Improvement), FAO Regional Office for Asia and the Pacific, Bangkok, followed by a presentation on the *National Dairy Development Board in India*, by Mr. B.S. Khanna, General Manager of Cooperative Services of the National Dairy Development Board, India.

#### **3.2.1 Including smallholder farmers into competitive agro-industries: Regionalization of the GAIF conceptual framework**

One of the plenary addresses that led to strong and vocal reactions by delegates from developing countries at the Global Agro-industries Forum, convened in India in 2008, was Bill Vorley's presentation on business models for small farmers and SMEs.<sup>1</sup> Vorley's main point was that successful business models – “ways of creating value within a market network of producers, suppliers and consumers”<sup>2</sup> – for small farmers and SMEs should deliver essential services to them, while ensuring a reliable supply to buyers. Successful business models should also allow chain actors to reduce transaction costs and to hedge the risks of buyers supplying from numerous cash-strained smallholders.

Vorley listed the advantages and drawbacks for agribusiness firms to procure from small-scale producers, as shown in Figure 1.

Figure 1: Pros and cons of working with small-scale producers



Source: Vorley, 2008 GAIF

Note: “BoP” refers to “base or bottom of the pyramid”.

Mr Cadilhon indicated that business models for collaboration, joint investment and information sharing between producers, suppliers, agro-processors and retailers are being experimented with, in order to satisfy the multiple objectives of customers: better food quality and safety, reliability of supply, lower costs and sustainability. Organizing farmers was the cornerstone of all of these business models. Farmers' cooperatives could be one such model if they had a strong business rather than social orientation. Buyer-led models were primarily geared to benefit agro-processors and retailers, but some of these models also allowed the sustainable involvement of smallholder farmers. Successful models involving traders, commercial service businesses or NGOs as intermediaries between small agribusiness actors and increasingly demanding modern markets were also being assessed. Supply chain intermediaries were particularly important as a link to markets for the poorest farmers and those living in remote areas.

The biggest challenge for private businesses wishing to receive supplies from small farmers and SMEs was the efficient organization of their supply base, while ensuring that business

<sup>1</sup> [http://www.gaif08.org/content/business\\_models\\_ppt.pdf](http://www.gaif08.org/content/business_models_ppt.pdf)

<sup>2</sup> [http://www.gaif08.org/content/business\\_models\\_brief.pdf](http://www.gaif08.org/content/business_models_brief.pdf)

agreements were followed by all parties and adapting their purchasing practices to be as benign as possible to the poorest suppliers.

Mr Cadilhon stressed that Asian agro-industrial buyers increasingly found that large-scale independent farmers and commercial farms were too few to supply the quantities of raw materials required to satisfy the buyers' demand. Therefore, it was worth noting that in the Asian region, because smallholder farmers and SMEs composed the majority of producers, agro-industries, needed to work with these small suppliers as their only alternative to imports. The BoP model of business depicted in Figure 1 was thus particularly relevant to the regional context. The types of business models that include smallholder farmers into competitive supply chains identified by Vorley had been documented in the Asian context. Some examples are listed in Table 1 below.

Table 1: Asian examples of business models for linkages between smallholders and SMEs into competitive agro-industries

Type of business model for linkages with smallholders	Asian examples <sup>3</sup>
Buyer-driven	“Bali fresh” vegetables in Indonesia MA’s Tropical Food Processing (Private) Ltd in Sri Lanka Leading enterprises in China PepsiCo’s FritoLay in India
Producer-driven Cooperatives	Full of Grace in the Philippines
Producer-driven Leading farmers	Bukidnon Lettuce Cluster and the Earthworm Sanctuary in the Philippines In-Net-Vegetable Growers' group in Thailand
Producer-driven Private farm companies	Swift Co., Ltd in Thailand K-farm in Malaysia
Intermediary-driven Traditional wholesalers	Mr Van in Viet Nam Abdul Kader in Bangladesh
Intermediary-driven Specialized wholesalers	Bimandiri in Indonesia
Intermediary-driven Development-oriented businesses	NorminVeggies in the Philippines
Intermediary-driven Multiple service firms	Hariyali Kissan Bazaar in India

Mr Cadilhon went on to indicate that the choice of an appropriate model for linking smallholder farmers with agro-industries should be informed by the local policy context; there were strong variations among Asian countries.

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<sup>3</sup> <http://www.fao.org/docrep/010/a1123e/a1123e00.htm>  
<http://www.fao.org/ag/ags/subjects/en/agmarket/linkages/index.html>  
[http://www.regoverningmarkets.org/en/global/innovative\\_practice.html](http://www.regoverningmarkets.org/en/global/innovative_practice.html)  
<ftp://ftp.fao.org/docrep/fao/010/ai416e/ai416e00.pdf>  
<http://www.fao.org/world/regional/rap/agro-industries/agriculture.asp>  
<http://www.fao.org/docrep/010/ah996e/ah996e00.htm>  
<http://www.globalfoodchainpartnerships.org/india/presenters.html>

1. Consideration must first be given to the type of producer. Were farmers relatively individualistic as in China and Viet Nam or did they prefer community-based activities as in the Philippines? What was the status of land ownership?
2. Consideration must also be given to government policy for rural development. Was government encouraging market -and business-oriented models of farming as was the case in China, Viet Nam and Malaysia? Were sustainability and local community development a more marked priority of rural development policies as in Thailand, Bhutan and the Philippines? Were intermediaries trusted as genuine good-will actors of the marketing system or was there a tendency to protect producers against commercial interests, as in India, the Lao People's Democratic Republic or Indonesia?

A review of case studies funded by FAO-RAP gave indications as to the business model that might be most appropriate given the local context, as presented in Table 2. The most adaptable model was that of the leading farmer. Leading farmers were relatively large-scale farmers who already had a market outlet that demanded more than they could produce themselves. This was the incentive for leading farmers to partner with other, usually smaller, farmers and coordinate the production of the group in order to respond to their customers' requests. As this was done at the initiative of the farmer in response to the demand of his or her market, this model was applicable to contexts of strong community interaction and relatively individualistic market players. The challenge was to find a farmer who would be willing to take on the difficult task of managing the production and marketing for all other producers, in some cases without the support of a formal association or group.

Development-oriented businesses were also a fairly adaptable model to suit all situations. Indeed, their social objective was explicitly geared towards both sustainable rural development and generating value for all stakeholders of the industry. They were usually small enterprises which did not seem as oversized or foreign as larger corporations may do to local stakeholders, and thus seem less threatening to them and to government officials. Likewise, given their dual objective, development-oriented businesses fit nicely into the agro-industries and social development agendas of governments and donors. They were a useful first business partner that could lead small farmers and suppliers to understand better how agro-industries function.

On the other hand, the more formalized models such as buyer-driven, specialized wholesalers and private farm companies were expected not to fare as well in contexts of insecure land tenure. Small producers involved with such companies would not be able to guarantee delivery over the long-term to their customer. However, this guarantee of delivery was a fundamental element of success for a supply chain, so buyers in this configuration would be expected to look for more secure sources of primary produce, usually large private and state-owned farms.

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Table 2: Matrix of Linkage model according to the local context

Policies	Producers	Individualistic producers	Producers prefer groups	Producers have secure title on their land	Insecure land tenure
Market-oriented rural development		Buyer-driven Leading farmers Private farm companies Traditional wholesalers Specialized wholesalers Development-oriented businesses Multiple service firms	Buyer-driven Cooperatives Leading farmers Private farm companies Traditional wholesalers Specialized wholesalers Development-oriented businesses Multiple service firms	Buyer-driven Cooperatives Leading farmers Private farm companies Traditional wholesalers Specialized wholesalers Development-oriented businesses Multiple service firms	Leading farmers Traditional wholesalers Development-oriented businesses Multiple service firms
Promote local community sustainability		Buyer-driven Leading farmers Private farm companies Development-oriented businesses Multiple service firms	Buyer-driven Cooperatives Leading farmers Private farm companies Development-oriented businesses Multiple service firms	Buyer-driven Cooperatives Leading farmers Private farm companies Development-oriented businesses Multiple service firms	Leading farmers Development-oriented businesses Multiple service firms
Strong protection of producers' interests		Leading farmers Development-oriented businesses	Cooperatives Leading farmers Development-oriented businesses	Cooperatives Leading farmers Development-oriented businesses	Leading farmers Development-oriented businesses
Wilful agro-industries promotion		Buyer-driven Leading farmers Private farm companies Traditional wholesalers Specialized wholesalers Development-oriented businesses Multiple service firms	Buyer-driven Cooperatives Leading farmers Private farm companies Traditional wholesalers Specialized wholesalers Development-oriented businesses Multiple service firms	Buyer-driven Cooperatives Leading farmers Private farm companies Traditional wholesalers Specialized wholesalers Development-oriented businesses Multiple service firms	Leading farmers Traditional wholesalers Development-oriented businesses Multiple service firms

There was a need for further investigation of the possible relationships sketched here between the policy environment and the success of the different business models envisaged to link smallholders and SMEs into competitive agro-industries in a sustainable manner. Mr Cadilhon indicated that the keynote address to follow would illustrate in more detail the business model used by the National Dairy Development Board, an Indian cooperative entity that [was](#) integrating poor small-scale farmers into consumer markets for dairy products.

#### *Summary of discussions*

- On the issue of the role of the consumer in the supply chain, the speaker noted that while there was considerable on-going work in the area of consumer research, very little had been done on market-led supply chains. He cited an FAO regional project covering

Thailand, Laos, Vietnam and Yunnan Province of China, that aimed to train researchers in conducting consumer market research on selected products, through focus groups. A plan then had to be devised to communicate this information to governments and to producers or traders.

- A question was raised as to how small farmers might be assisted in reaching buyers and consumers. The speaker noted that successful business models could help farmers to link with markets and reduce marketing costs. He referred to the FAO marketing website<sup>4</sup> which documents numerous case studies that showcase how marketing costs to small farmers might be reduced.
- A question was raised as to the definition of “market chain intermediaries.” The speaker noted that the terminology “market chain intermediaries” was the politically correct term for ‘middlemen.’ Given that in Southeast and East Asia, a majority of intermediaries are women, this term connotes gender balance. Middlemen have been important in creating a market economy and could also serve as an efficient link in targeting smallholders and the poorest of farmers.
- On the question of donor coordination in terms of linking smallholders to markets, the speaker noted that some donors had shown a preference for working with producer groups. FAO and IFAD were increasingly looking at models in which there was private sector involvement. He highlighted the importance of communicating to governments, the importance of collaboration.
- In response to a question on the subject of the influence of the Chinese Government on the dairy sector in China, the speaker noted that there were many government-driven business models in China, supported by a very strong enabling environment provided by the government. He highlighted that the Chinese government had created policies and incentives for private enterprises – whether producer-driven or private-sector-driven – to do business within the agricultural sector. While these models were government-driven, producer cooperatives, private entrepreneurs (who were farmers helping fellow farmers link with markets), processors (who were dealing with raw materials and then helping farmers link with the market) or large-scale distributors have been involved in linking farmers with markets.
- The issue of managing the contradiction between FAO’s policies of increasing farmers’ incomes on the one hand, and creating more competition and some governmental policies with the social objectives of maintaining food prices and putting a ceiling price on foods was flagged. In response, the speaker highlighted the fact that governments had now recognized that agriculture has become commercialized and were aware of the importance of the commercial sector for the profitable operation of farmers. In this regard, governments and agricultural agencies were longer completely incompatible

### **3.2.2 The National Dairy Development Board in India**

*The NDDB*

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<sup>4</sup> <http://www.fao.org/ag/ags/subjects/en/agmarket/linkages/index.html>

The NDDDB was established in 1965 by the Prime Minister of India in order to increase milk supplies. The objective of the NDDDB was to promote financial support for producer-owned organizations. This model was replicated all over India. Subsequently, the NDDDB became a cooperative body and was declared an institution of national importance by India's government. The NDDDB has a Board of Directors which controls its functions. The Chair of the Board was appointed by the government of India. Elected representatives were selected from two milk federations.

The NDDDB was headquartered at Anand in Gujarat, with offices located in Delhi, Bengaluru, Mumbai and Kolkata. It worked well in collaboration with about 15 technical groups and employed about 400 officers, including specialists in business quality, finance, plant management, human resources and information technology. There was also substantial technical input on animal breeding and health research of both animal and plant products.

The NDDDB had five training centres and three subsidiary companies:

- *Indian Dairy Machinery Company Ltd*, a manufacturer of dairy plant equipment
- *Indian Immunologicals Ltd*, a manufacturer of veterinary biologicals and drugs
- *Mother Dairy Fruit and Vegetable Ltd*, which received surplus milk from cooperatives for processing and which also had a fruit-and-vegetable processing unit and then sold the products.

#### *The Indian dairy sector*

Approximately 260 million kg of milk were produced on a daily basis in India. Almost half of this milk was consumed by villagers. The remainder (around 140 million kg) was sold by milk farmers either through organized channels (approximately 30 percent of the total) or through informal channels (70 percent of the total).

Milk was produced primarily by small producers in India. There were approximately 70 million milk producers, many of whom were small-scale farmers who owned one or two head of cattle. These small farmers accounted for approximately 60 % of India's milk supply and occupied about 30 percent of the total land area. Cattle were fed with agricultural by-products and crop residues; very small quantities of grain concentrates were fed to cattle. Cattle were tended to by families – in particular, women.

Dairy practices in India were very well integrated with crop production. The by-products of agriculture were consumed by animals and dung was used as fertilizer for the soil. Dairying contributed to one-third of the total income of milk producers in India. Today India was the largest milk producer in the world (which was definitely not the case four decades ago).

#### *How cooperatives work and the interventions by the NDDDB*

Operation Flood, a development programme in India, was implemented by the NDDDB during 1970–1996. This programme was designed to link smallholders with markets, through an extensive network of village milk producers and cooperatives. It was financed through community aids (such as the World Food Programme, whereby milk powder was converted to liquid milk and butter oil and then sold as commodities) and World Bank loans. These combined financial programmes had created a resource base of 17 billion rupees (or around US\$970 million). Funding was dispersed during three phases of Operation Flood. These funds had reached 18 districts in the first phase, around 100 districts in the second phase and some 250 districts in the third phase.

The objectives of Operation Flood were:

- To establish mechanisms to handle the milk business
- To collect small quantities of milk from smallholders in thousands of villages all over the country, twice a day, every day of the year
- Procurement and marketing
- Financing
- To link rural milk producers with markets

Farmers had been encouraged to increase their production through the enhancement of animal breeding, and through advances in feeding and health measures (e.g. through the establishment of semen banks and cattle-feed plants). Training was deemed to be very important for all involved.

An integrated structure was set in place, consisting of:

- Farmers in cooperatives
- District-level milk unions
- State-level milk federations

#### *Cooperatives*

Farmers produce the milk in village cooperatives. The quantity and quality of the milk was tested on the spot by computerized milk testing equipment. Bulk milk coolers were used to maintain the quality on larger farms. Milk was sold locally and the surplus was sent to milk unions.

#### *District milk unions*

Surplus milk was brought from cooperatives to district milk unions either by road, cycle-rickshaw or boat. Milk was processed by the milk unions and was sold to cities. Surplus milk was converted into milk powder and dry butter and could be used for reconstitution during the lean season. Milk was transported to cities by milk unions, sometimes over long distances. Milk unions also organized extension services and training for village farmers, and assisted with the health needs of animals (e.g. regular veterinary camps, emergency veterinary visits). They also maintained semen banks and coordinated the artificial insemination of animals. Milk unions also owned cattle-feed plants.

#### *State milk federations*

State milk federations marketed milk and milk products. They provided centralized facilities for cattle feed, semen stations and training. They represented the member unions at state government and financing institutions. Surplus funds from milk production were ploughed back into the system.

Currently 129 000 village cooperatives and 177 milk unions were operational in India. There were 30 million milk producers, of which 3.7 million were women. A total of 23 million litres of milk was produced on a daily basis (19 million litres of liquid milk and 4 million litres of other products).

The NDDB had conceptualized the operation of this structure, managed the finances and funding, and had provided direct services such as technical assistance and setting-up of the system. The NDDB had also provided research and government support, such as animal genetics, health and nutrition, and research on milk products – this was based on problems that had been highlighted from working in the field rather than through pure academic research.

The NDDDB had interfaced with national governments on policies to encourage and support cooperatives. It had also assisted in improving the governance and management of cooperatives. A nine-member management committee represented the cooperatives. Chairpersons of the cooperatives constituted the general body of the district-level union; the Board of Directors had been elected from this union. The NDDDB had appointed its officers of the unions and federations so that they could provide support and guidance.

### *Lessons learned*

Many lessons had been learned over the past 30–35 years.

- a) *Institutional structure* – this was the most crucial component of the success of the NDDDB. The structure had been created through an integrated network, linking small producers to the market. Profits were always fed back into the whole system.
- b) *Domestic infrastructure* was established to ensure a year-round market for milk producers. This was done through balancing supply and demand across regions and across seasons (India is highly seasonal). Seasonality has to be catered for. Milk had been conserved during peak production periods for use later in the lean season.
- c) Investment in milk.
- d) The structure has different levels but the responsibilities had been distributed in order to reduce the complexity of managing the network and to minimise duplication of effort.
- e) Development of human capital.
- f) Government policies had supported the growth of cooperatives and dairy development – and autonomy was given to cooperatives.

### *Future*

A study in India had shown that the demand for milk was expected to be around 180 million tonnes per year (the present demand is 105 million tonnes per year; production in 2009 was 100 million tonnes) in 15 years time. This would necessitate an increase in milk production.

Milk production had shown a consistent annual growth trend of 3 million tonnes per year over the last 15 years. An increase of 5 million tonnes per year in now needed in order to meet demand. Milk production strategies, therefore, needed to change in order to achieve this.

The NDDDB had been in the process of formulating a national dairy plan to achieve the two main aims:

- 1) To produce an average incremental 5 million tonnes per year of milk over the next 15 years, through productivity measures – a greater focus was needed on domestic production.
- 2) To strengthen and expand the infrastructure to procure, process and market milk and maintain quality, through either cooperatives only, or through new institutional ventures.

### *Discussion issues*

- A question was raised as to the success of the dairy sector in India. The speaker highlighted that currently 177 milk unions were operational in the country. Some of these had been profitable enterprises, while others were government controlled. Advances had been made with respect to improving the quality and hygiene of milk, through the introduction of innovations such as bulk coolers, insulated vehicles and milk booths. Training of stakeholders was, however, needed.

- On the issue of whether the NDDB took credit for the increases realised in dairy production in India, the speaker informed that the NDDB did not take credit for the increase in development; all of the credit had been accorded to the farmers and the cooperatives. The Government had also assisted by opening up dairy production to the private sector. This had resulted in the development of organized private dairies in India.
- On the issue of the coordination of competition within cooperatives under the NDDB, the speaker noted that common brand names had been used by milk unions in different regions, thus precluding competition. Monthly meetings were convened to plan the product mix for every dairy.
- On the issue of payment for business services, and mechanisms of payment, the speaker noted that in the case of the NDDB, farmers were required to pay for all of their business services. The mechanism of charging varied in accordance with the concerned cooperative. Private-sector providers had begun to specialize in breeding services in view of the fact that veterinarians were in short supply.
- The question was raised as to the use of male animals from cross-breeding programmes in India. The speaker informed that bull calves were not normally used for agricultural purposes. Slaughtering of cows had been banned in India, and the consumption of beef was not common. Male calves were reared to the age of 2–3 weeks, i.e. until the female began lactating, following which the calves died a natural death as they were not fed or attended to. In some areas, the calves were unofficially exported to Bangladesh.
- Regarding the management of the adulteration of products by traders, the speaker noted that FAO had guidelines for Good Agricultural Practice in place, including the training of farmers to produce good-quality products. Opportunities, however, existed for the adulteration of these products by traders. Efforts had been underway to integrate traders into training programmes in order to raise their awareness of the importance of assuring product quality.
- On the issue of traceability for dairy products in India, the speaker noted that systems were being put in place to facilitate traceability. Bulk coolers and automatic collection system for milk were being put in place, so that the quality could be maintained and that records could be kept.

#### **4. Competitiveness Roundtables**

Four “competitiveness roundtables” were convened in two concurrent sessions. The roundtables allowed a panel of invited experts and agro-industrial stakeholders to debate a proposition and responses suggested by panellists on each of four issues. This panel debate stimulated further discussion among participants and led to feedback on the strategies proposed to address the issues identified during the two plenary sessions.

##### **4.1 Roundtable 1: Support to food safety guarantee systems in agro-industries**

This roundtable was moderated by Mr. Jo Cadilhon, Marketing Officer (Quality Improvement) of FAO’s Regional Office for Asia and the Pacific. The proposition submitted to the roundtable was that “agribusinesses, including small and medium-sized enterprises, must implement

appropriate food quality and safety assurance systems that can reduce and manage food safety risks through the food chain from farm to table. This requires strong collaboration between governments and the private sector so as to develop technical resources as well as appropriate know-how within the agri-food industry.”

The round table panel members were Mr Peter Sousa Højskov, International Food Safety Consultant at NIRAS and WHO, Fiji, Mr Michael B. Commons, Rice Chain Coordinator at the Earth Net Foundation, Thailand, and Mrs Irmela Krug, Executive Director of Bio Bhutan, Thimphu, Bhutan.

Mr Peter Sousa Højskov supported the proposition by highlighting five key factors that would allow small- and medium-sized enterprises (SMEs) in Asia and the Pacific to succeed in the implementation of private standards and voluntary certification schemes for food quality and safety:

1. Geographic proximity of the food business to the market for private standard or certified products;
2. Capital and availability of financial resources to make necessary investments in new equipment, certification and implementation of quality and safety assurance systems;
3. Knowledge, pro-activity, entrepreneurship and flexibility of the owner or manager of the food business;
4. Availability of technical support services and independent certification companies;
5. Market demand and guaranteed sales channels.

Mr Commons added some elements for enterprise managers to ponder:

1. A sustained commitment from the SME managers is necessary for their economic survival in the short and medium terms;
2. Additional human resources should be available during the establishment of the quality and safety assurance systems until the results are appreciated by the managers;
3. Managers should have an expanded vision of the SMEs quality assurance system that covers its whole supply chain;
4. The technical support provided by external bodies or public institutions should place SMEs at the centre of the activities while not imposing ready-made systems onto them; this support should be available in the long run rather than on a short-term project basis.

Mrs Irmela Krug, highlighted the need for strong collaboration between public and private sector stakeholders to allow SMEs to implement strict quality assurance schemes. In the case of Bio Bhutan, these included:

1. Financial and technical support of overseas donor agencies that has made agro-industry feasible in Bhutan (Agro-industries Pvt. Ltd.; Bio Bhutan enterprise, Lotus Food, etc.);
2. Close collaboration between private sector players (in her case, the supplier in Bhutan and the customer in Europe) on commodities with export potential so that food and quality standards were met;
3. Willingness of the Royal Government of Bhutan to support the private sector in the country. For example, the National Organic Programme under the Ministry of Agriculture has strongly supported the efforts of Bio Bhutan enterprise to “go organic”;
4. Existence of markets that appreciate the high value of organic certified products;
5. Adequate volumes of supply to satisfy market requirements and ensure economic viability.

Several examples were given by participants in the audience to support the proposition that strong collaboration between governments and the private sector, with input from the scientific community was required for a modern, effective and efficient food control system.

Definitions of quality and safety and the differences between these two concepts were apparently not clear to all participants. The establishment of extension services involving the public and private sector, which target farmers and traders would therefore, be a useful contribution to raising the awareness of market stakeholders on the importance of quality and safety assurance schemes. Such extension services should also bring about a focus on supporting small and medium enterprises to improve the quality and safety of their products by modifying their short-term focus on profits toward a longer-term focus on quality improvement and value addition. It was, however, noted that incentives for improving food quality and complying with food safety standards were frequently lacking. Furthermore, there was a lack of food safety inspection services to ensure compliance with food safety standards.

The representative from the Secretariat of the Pacific Community described the multi-stakeholder process for the conception of their regional organic standard with a regional organic task force and high-level involvement from the presidents of these nations. Delegates from Cambodia, Bhutan and Lao People's Democratic Republic questioned the conventional idea that farmers in Asia and the Pacific predominantly use chemical inputs; they contended that a majority of farmers in some countries in the Asia-Pacific region were naturally organic. Were this hypothesis to be proven, the support systems from government and non-government organizations to market stakeholders in these countries would have to be rethought completely. The discussion following the roundtable focused mainly on the organic industry.

Finally, many arguments from participants supported the proposition of collaboration between governments and other actors such as the private sector, civil society, the media and even religious groups in the area of consumer awareness on quality and safety assurance schemes.

#### **4.2 Roundtable 2: Human resources development**

This roundtable was moderated by Ms Rosa Rolle, Senior Agro-industry and Post-harvest Officer at FAO's Regional Office for Asia and the Pacific. She presented the proposition that "in many countries of Asia and the Pacific region, there is a mismatch between the technical and managerial requirements of the agro-industrial sector and the quality and content of education, and the knowledge and skills base of stakeholders at all levels. This misalignment must be corrected if competitive agro-industries are to be developed."

The roundtable panel members were Dr Siree Chaiseri, Dean of the Faculty of Agro-Industry, Kasetsart University, Bangkok; Mr Kit Chan, Managing Director of K-Farm Sdn Bhd, Malaysia and Ms Nerlita Manalili, Regional Marketing Advisor to ASIADHRRRA and the International Potato Center's UPWARD programme

All panel members were of the view that a broad range of skills was required for the attainment of competitiveness in the agro-industrial sector. These skills needed development at all levels. While the important role of academic institutions was clearly recognised, the panel noted that academic institutions could provide only a part of the complete portfolio of education and training required for the development of competitive agro-industries. Well-planned programs such as the farmer field school programme, with clear objectives, grounded on concepts and in which participants were given practical exposure and assessed both in terms of progress and

adaptation, with follow ups to reinforce learning were highlighted as being critical. The importance of vocational training and an environment that nurtured entrepreneurial activity were also highlighted. Efforts were also required to tap the knowledge and experience of private sector practitioners in specialized training programmes in order to bring real benefit to such training programmes. Government commitments to improving the standard and quality of the outputs of countries as well as salaries, benefits and incentives for technocrats were highlighted as key requirements for the retention of trained capacity in the agro-industrial sector.

Participants from the audience provided many arguments and cited a number of scenarios in support of the proposition. The need for changes in current educational systems, improvements in extension systems, the use of ICT and apprenticeship training, as well as the need to motivate individuals involved in agricultural development were highlighted as key areas to be addressed. It was felt that complex issues such as climate change and post-harvest issues would be best addressed by development agencies such as FAO.

### **4.3 Roundtable 3: Financing small agro-industry**

This roundtable was moderated by Mr Patrick Kormawa, Special Assistant to the Director General, United Nations Industrial Development Organization (UNIDO), and Head of the International Financial Institutions Partnership (IFI) Unit. The proposition put forward at this roundtable was that “small-scale agro-industry is a critical subsector of the regional economy because it has the potential to be an important buyer and processor of smallholder farm produce as well as a source of value addition and employment in rural areas. As such, financing small agro-industry should receive increased attention in agro-industrial policy making in the region.”

The panel comprised three experts: Mr Ashok C. Khosla, Mentor, Small Farmers Agribusiness Consortium (SMAC), India; Mr Bruno Vindel, Food Policies Analyst, AFD, France; and Mr Veiverne Yuen, Deputy Manager, RaboBank, Singapore.

Mr Vindel noted that there was indeed a problem in providing finance to SMEs and the AFD pursued a three-prong strategy in facilitating their access to finance. The three approaches were: (a) provision of equity finance, for larger enterprises that require equity capital of USD 5.0 million or more; (b) loan guarantees that covers some 50% of the loan loss; and (c) financing of long-term loans.

Mr Khosla introduced the Small Farmers’ Agribusiness Consortium (SFAC) and its operating philosophy for providing finance to SMEs, especially those with capital requirements in the USD 400,000 to USD 4.0 million range, which - he noted - had particular difficulties in accessing finance. The SFAC’s approach had been to provide direct support to SMEs in rural areas that either build on or add value to local production. Its engagement was built on the premise that many of the promoters, lacking funds, obtain initial equity finance from relatives or friends, who provide the finance but often expected immediate returns. This had placed considerable strain on the limited cash resources as the business had faced cash outlays even before it had become profitable. In order to overcome this issue, SFAC had financed the equity to enlarge the capital base of the processor. In many cases, the availability of equity finance had reduced the collateral requirements of the commercial banks, many of which required as much as 150 % of the value financed. In a typical venture, the promoters financed about 5-10 % of the equity, SFAC about 35-40 %, and term loans from the banks about 50-60 %. The equity had been redeemed at par value. About 300 such ventures had been financed, of which 30 or so had been farmer-initiated. Since the equity was redeemable at par, the operating costs and the loss in purchasing power of

its revolving funds had been made up by member banks, which had found the modus operandi of SFAC very useful in financing ventures that had otherwise been sound, both from a business and a social perspective, but which failed to meet the collateral and equity norms of the commercial banks.

Mr Yuen initiated the discussion by introducing RaboBank, which had worked on cooperative principles. He emphasized that RaboBank had offered a range of financial services including retail and wholesale banking in the Netherlands and food and agri-business internationally. In terms of financing agribusiness, it had offered longer term loans to larger cooperatives.

The three institutions had handled the financing risks differently. AFD provides loan guarantees covering 50% of the loan loss. RaboBank undertakes risk pooling measures and diversifies its lending risk through its portfolio measures. It is also involved in exploring weather insurance coverage as a risk amelioration measure. Mr Yuen also noted that weather risk insurance, though desirable, was not yet a viable proposition. He suggested that there may be a need for initial support from the Government for such coverage, but emphasized that such subsidies needed to be phased out.

SFAC follows a strategy of understanding the risks faced by all parties in the chain, producers, manufacturers and the financiers and develops measures to minimize and share the risks of all the three parties involved in the business plan developed.

During the discussion session lack of financing on suitable terms was highlighted by many participants as a critical issue. Others opined that since the closure of the Agricultural Development banks, credit in rural areas had been provided primarily by microfinance institutions (MFIs), which led to high borrowing costs as they charged high interest rates. Many MFIs were also not too keen on providing longer-term finance, which made secure financing for longer-term investments difficult. Others noted that even when specifically marked lines of credit for financing SMEs were available, the commercial banks were not willing to relax their lending norms. To add to the problems of lack of access to credit, many Central Banks were not willing to intervene. Some participants were of the opinion that in addition to the issues of supply for credit, there was also a lack of entrepreneurial talent in rural areas, which also explained the reluctance of the banks to provide loans for SME development.

#### **4.4 Roundtable 4: The processed food market in Asia and the Pacific**

This roundtable was moderated by Ms Rosa Rolle, Senior Agro-industry and Post-harvest Officer at FAO's Regional Office for Asia and the Pacific. The proposition presented at this roundtable stated that "the processed food market in the Asia-Pacific region is currently undergoing a dramatic transformation in response to rapid urbanization, diet diversification, and the liberalization of foreign direct investment in the food sector. Variations in food habits and culinary traditions across the region provide a competitive advantage for small- and medium-sized local processors, given their familiarity with local food habits and markets. Strategies are required to ensure that small- and medium-sized local processors can continue to meet the demands of these growing market opportunities while staying competitive."

Panelists were: Mr Anil Rajpal, Vice-President of Technopak Advisors, India; Mr Pisit Rangsaritwutikul, Director of the Community Product Standards Bureau, Thai Industrial Standards Institute (TISI), Ministry of Industry, Thailand and Mr Johnathan Sutton, Produce Group Sourcing Manager for Asia and Oceania at Tesco, based in Bangkok, Thailand.

Mr Rangsaritwutikul noted that consumer retail pull was a major driver of the processed food market in the region. For the most part, consumers in the region were interested in foods that conform to local taste and cultural preference and that were considered “natural” or “additive free”. The majority of consumers in the mass market prioritized the consumption of traditional foods. These tastes and cultural preferences were well known to small and medium local food processors, and to cottage industries who produced these products to meet the demand of the local market.

He noted that a number of multinationals were entering the food manufacturing sector in the region. Many of these were involved in customizing products to meet local consumer tastes and preferences. He was of the view that these developments and current changes in the region’s retail sector necessitated that SMEs step up to the challenge to continue to maintain and even to increase their market share in the processed food market.

Mr Jonathon Sutton noted that growing consumer awareness in the region was driving the demand for food that is safe and produced under hygienic conditions. He indicated that a number of governmental bodies were being established across the region to focus on food safety issues. Regarding consumer preferences, he noted that ready-to-eat foods showed the largest growth trend as consumers become busier in their working lives. Ready-to-cook meals were also growing in popularity among middle class consumers where microwave cooking was prevalent and was socially acceptable. A key strategy for small producers would be to try to remain in a niche market. Given the increasing demand for specialist branding, he recommended that small producers consider a strategy that would align them with a retail partner, rather than entering into mainstream distribution.

Mr Anil Rajpal stressed that rising urbanization and income levels were contributing to the prosperity of the Indian food processing industry. The demand for ready-to-eat and ready-to-cook foods was increasing in urban areas across India. Consumption of packaged milk, snack foods, confectionery items, bakery products, alcoholic beverages and fruit juices was increasing. Demand patterns for foods in urban India, however, differed considerably from those in rural areas. Nevertheless the openness of consumers to experimenting with processed and convenience foods and the increased organization of food retailing was leading to changes in food consumption trends.

All three panelists recognised the importance of process, product and packaging innovation as immediate requirements of SMEs if they were to produce quality products that were competitive, and marketable. Packaging innovation was highlighted as being particularly critical in the Indian context. Panelists were also of the view that there was a need for Governments to play a key role in supporting market access for small processors and in reducing tariffs in order to enable smaller companies to be competitive.

Follow up discussions with the audience highlighted capacity development and technology exchange as key enablers for gaining entry into the processed food market. The critical and supportive role of governments in facilitating the entry of SMEs into the processed food market was highlighted through examples of food parks in India and the pilot food processing facility at Kasetsart University in Thailand that assisted small processors with product development and marketing. In Vietnam, the government has supported linkages between small producers and large food processing companies, and practical demonstrations were conducted to demonstrate improved technologies and quality standards to farmers. Government standards were not

sufficiently robust for the chain retailers, and barriers to entry for small processors were high owing to quality standards. Some major supermarkets had recognised this problem and had placed technical teams in countries where the products were produced to work with small producers, in order to provide training toward compliance with standards. This investment demanded a long-term relationship between supplier and buyer.

The need for innovative packaging in terms of materials, designs and reduction of environmental pollution was seen as a very pertinent issue. Solutions must also be identified in order to manage waste through the use of bi-products and through the better management of seasonal gluts. Other key issues discussed included the growing demand for nutritional information through informative labeling.

It was concluded that consumer demand for safety and quality was a major driver for improvements in traditional foods and for their entry into supermarkets. SMEs have a critical role to play given their knowledge of consumer tastes and local markets. An enabling environment is needed to support SMEs and to enhance their competitiveness.

## **5. Peer-assist Workshops**

Nine peer-assist workshops were concurrently held over two sessions. These workshops enabled participants with an identified problem and proposal for a corrective strategy or project to discuss the problem and gather insights and recommendations on possible solutions from the other participants and from representatives of donor agencies that were committed to supporting agro-industries development. Topics of the case studies were selected by the organizers to address the priority issues of the forum. This facilitated exercise enabled the proposal of solutions, processes and partnerships to tackle real problems faced by stakeholders in the development of competitive agro-industries.<sup>5</sup>

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<sup>5</sup> For more information on the peer-assist methodology, visit: <http://www.youtube.com/watch?v=ObmQyW3EiiE>

<b>Problem</b>	<b>Peer Assisatee</b>
1.Financing small agro-industry: food processing in Solomon Islands	Andrew Sale, Technology and Marketing Skills Training Specialist, Value Chain Enterprise Development, Community Sector Program, Honiara, Solomon Islands
2.Markets for innovative and value added food products in Asia and the Pacific – turmeric powder	Bhupal Neog, Manager, BDS/MRDS, India
3.Praedial larceny of spices in Sri Lanka and its impact on small farmers.	Christopher Fernando, Chairman, Spices and Allied Products Producers and Traders Association, Sri Lanka
4.Quality issues with fruits and vegetables for processing; labour cost and seasonality of production and their impact on fruit processing	Haridas Fernando, Deputy General Manager (Agribusiness), Cargills (Ceylon) PLC
5.Edible oil quality and safety	U Kyaw Myint, Myanmar
6.Including smallholder farmers in competitive agro industries	Shantu Garg, Manager BDS Group, SVCC-ULIPH, Uttarakhand, India
7.Deficiencies in the enabling environment and their impact on the Bengal Meat Processing Industry Ltd. (BMPIL) of Bangladesh	Dr. Sharif Ahmed Chowdhury, PKSF, Bangladesh
8.Supply chain deficiencies and the lack of technical skills	Ugyen Penjore, Chief Horticulture Officer, Department of Agriculture, Thimpu, Bhutan
9.Capacity Building	S.C. Patniak, ORISSA, India

## 6. Facilitated Side Events

Two facilitated discussions were convened, wherein forum participants discussed issues on a specific topic.

### 6.1 Facilitated discussion on agro-industries in Island Nations

Island nations face a number of unique challenges owing to their size and quite often to their remoteness. They also share similar environmental vulnerabilities and sustainable development challenges. This discussion session focused on critical issues that impact on the agro-industrial sector of island nations. Potential opportunities to be exploited were highlighted along with recommendations on follow up actions to be taken.

Key issues and trends that confront agro-industrial development in island nations were highlighted as:

- The cost, frequency and space availability of inter-island transport. There is, however, a need for greater exploration of the potential for inter-island collaboration in order develop economies of scale (Virgin coconut oil exports from Samoa to the Body Shop was cited as one good example) or to target niche markets such as the diaspora in Australia.
- Limited market access owing to transport issues, inability to comply with WTO requirements and the high cost of compliance with international standards. Opportunity,

however, exists for targeting high value niche markets, such as hotels and the tourism market within the region.

- Island states are highly vulnerable to natural disasters such as flooding, drought, tsunamis and to coastal erosion. Some island states were also threatened with disappearance owing to global warming.
- Declining major industries such as sugar, declining production of staples such as rice and a high and growing food import bill.
- Seasonality of agricultural production resulting in gluts and losses.
- High cost of credit and of processing inputs such packaging.
- High labour costs reduced the competitiveness of outputs.
- Need for farmer organizations and to develop farming as a business.

Discussions identified the need for increased collaboration among island nations in harmonizing standards and in developing economies of scale to facilitate increased trade opportunities. Exploration of high value niche markets such as local/regional tourism markets and the identification of strategies for import substitution and export growth were recommended areas for attention. Production planning and the need to generate and use market information, in order to reduce the high levels of losses sustained owing to seasonal gluts were highlighted as a key area requiring attention. In view of their unique challenges, participants recommended that a specific forum be convened to address agro-industrial development in island nations.

## **6.2 Facilitated discussion on market-oriented support services**

There is a shift towards market-oriented production with the increasing demand for high value products as a result of population growth and urbanization. The challenge facing farmers has been to adjust their farm-household systems to the changing market conditions and opportunities. Farmers were currently working in a more competitive environment where, in order to increase income, their farm operations needed to be profitable and adaptable to change. These trends have had a direct effect on both the demand for skills improvement and competencies to promote market-oriented farming. Given these changes there has also been a changing role of and focus on advisory services. Extension was now pluralistic with a refocus on marketing, value addition, and enterprise skills development. Technology transfer has been less relevant and farmers and other entrepreneurs have had to innovate and respond to the market. Public services were being decentralized and private sector service providers were more prevalent.

Discussions highlighted the fact that the provision of services to small farmers by the private sector were problematic owing to: the high cost of delivery of services in rural areas; the high start up costs of service provision; problems of market failure; the low demand for services by farmers; limited awareness among farmers that services were on offer; the inability of small farmers to pay for services; lack of intermediaries to organise farmers; problems of contract farming – side selling; lack of capacity of private service suppliers to provide advice; and market distorting practices of public/ donor agencies.

Such obstacles might be overcome through: the conduct of market analyses to better assess the demand for services; the conduct of appraisals of service markets; collaboration with NGOs and the public sector in organising farmers into producer groups as a means of reducing the unit cost of services provided to each member; identification of ways to develop the demand for services; and the promotion of embedded service provision (warehouse receipts, contract farming, etc.) as an effective means of cost recovery.

The importance of the public sector extension services was discussed as well as some of the challenges facing extension. The need to reform public sector extension to try to make it more cost effective and efficient by setting priorities, creating a strategic focus, making it demand responsive and introducing organizational (structural and functional) changes was highlighted. Participants were of the view that greater clarity was needed on the role of the public sector.

While public sector cooperation with the private sector has been rigorously promoted in the region the participants noted that more needed to be done to facilitate alliances between smallholders, SMEs and larger agri-businesses. Public policies and strategies for MOAS were not a matter for government alone. Multi-stakeholder dialogue was essential to develop global, regional, national and local agricultural markets. The current trend towards decentralization required that public-private sector cooperation occurred at the local level with the involvement of municipalities, local government and local actors.

There was consensus on the need for greater coherence in donor support so as not to distort markets. Moreover, it was noted that support services should have benefitted all stakeholders along the chain as another strategy against market distortion. Another way of providing assistance whilst limiting the negative effects of subsidies and market distortion would be to focus on capacity development support. Competition could furthermore be enhanced by broadening the range of competing service providers – public and private sector alike. Finally, the issue of subsidies was discussed and agreement was reached that if they were to be used there should be a clear exit strategy.

## **7. Closing Ceremony**

The closing ceremony was chaired by Ms Ayumi Fujino, Representative and Head of the Regional Office of UNIDO, Bangkok, Thailand. Ms Stepanka Gallatova, Agro-Industries Officer of the Rural Infrastructure and Agro-Industries Division at FAO Headquarters, summarized the written feedback received from forum delegates. This written feedback was collected in boxes situated in the vicinity of meeting rooms. Participants were then given the opportunity to provide further feedback on the forum in plenary, following which the event was officially closed with a farewell speech by Mr Zhang Hong, Deputy Director of the Yangling Demonstration Zone Administrative Committee.

### **7.1 Participant feedback**

The written and oral feedback of the participants raised many interesting issues. This feedback should not, however, be considered as being representative of the consensus of any group or roundtable meeting, and should not be considered to be “official feedback” on the forum. The main issues highlighted were as follows:

#### Cross-learning and technology transfer

Agro-industry and processing technology is much more advanced in some countries of the region than in others. There is a need to promote knowledge exchange on processing technologies between different parts of the Asian region, leading to improved infrastructure and innovative processing solutions.

### Training and capacity building

Extension support to farmers and SMEs in quality assurance systems and food safety is inadequate and requires strengthening. UN agencies should assist and encourage other donors, governments and the private sector to invest in providing support to this technical area.

Training of producers is inadequate. Training needs to be practical and vocational, such as the Farmer Field School approach.

Support to traders and middlemen is important as they are the critical link in the supply chain.

Service provision is needed in areas of credit, extension advice, and storage and market access. However, to avoid exploitation of producers, it is also important to provide them with independent market information and create competition amongst traders.

### Advocacy, cooperation and research

While regulation is necessary to assure food safety, many standards and quality systems pose a great technical challenge and cost to small producers and SMEs and also pose non-tariff barriers to trade. The UN agencies should assist in promoting harmonization, equivalence and simplification of standards and regulations and reduce the costs of certification to facilitate market access by small producers and processors and to enhance trade.

Niche markets for high-value products (organic, ethical trade) are important for small countries and small producers. A regional collective approach is needed that is fair and equitable, particularly for Pacific Island nations.

Research is needed into utilisation of gluts and by-products, product innovation and packaging.

### Organization of the forum

- The inclusion of implementers as well as academics in such forums is very critical in order to incorporate both theoretical and practical concepts and thinking.

- The peer-assist workshops were very stimulating and facilitate the exchange of knowledge and information. The Market-Oriented Support Services side event was also very useful.

- Farmers are an integral component in the supply chain but were insufficiently represented in the forum. (Response to this comment was that the forum had invited spokespersons on behalf of farmers but it was not practical to invite large numbers of individual farmers).

- Bilateral donors should be sensitised to the findings of this forum so as to allow them to provide follow-up.

- It was recommended that an e-mail discussion group be convened to share expertise as a follow up to the forum. For future forums, consideration should be given to the organization of an e-forum debate prior to the forum, as time was insufficient for networking and cross-learning.

- Indigenous knowledge should be better exploited during discussions

- Greater emphasis should have been placed on success stories from which lessons could be learnt, rather than focusing on problems.

-Documents should be made available during the forum while there is time to read them. There was also the school of thought that hard copies are too heavy, and thus the preference to receive CD ROMs or internet links to access documentation.

A summary of the results of participant evaluations is attached as Annex 2. Participants appreciated the overall quality of the programme, but would have preferred a three-to four day programme. They were particularly pleased with the organization of registration, hotel arrangements and the conference facility. While a great majority of participants thought the time allotted to questions and answers was about right as was the time allotted to lunch and tea or coffee breaks, one-third of participants expressed the view that the time for regional dialogue and opportunities to identify future partners for collaboration was inadequate.

**Mr Zhang Hong, Deputy Director of Yangling Demonstration Zone Administrative Committee**, closed the Regional Agro-industries Forum for Asia and the Pacific by summarizing the achievements of the various sessions of the forum. He also stated that all discussions and communications during the events would serve as a great reference for policy and strategy development in countries of Asia and the Pacific Region. He was hopeful that through the exchange of ideas and collaborative work, further development of agro-industries in the Asia-Pacific region would be possible.

**Annex 1****List of Participants****AUSTRALIA**

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## Annex 2

## RAIF-AP 2009 EVALUATION RESULTS

The 93 participants of the RAIF-AP who were not organizers can be classified as follows:

Senior <sup>6</sup> government officials: 27%	Other government officials: 3%	
Project field staff: 20%	Private sector: 28%	NGO: 4%
Farmers' org.: 3%	Int'l org.: 8%	Academia: 6%

67 completed questionnaires were gathered (72% response rate). Average figures have been truncated.

## Average Rankings of the Technical Programme

How would you rate the following?	Average Ranking on a scale of (1-4)*
Plenary Papers	
Relevance of topics covered	1.677
Usefulness of briefs provided	1.921
Quality of presentations	1.875
Roundtables	
Relevance of topics covered	1.711
<b>Usefulness of propositions provided</b>	1.938
<b>Dialogue / debate format of the roundtables</b>	2.015
<b>Composition and quality of panellists</b>	1.935
Peer Assist workshops	
Relevance of workshops	1.656
Usefulness of introductory presentations	1.825
Usefulness of peer feedback	1.762
Side events (mark for events you attended only)	
Agricultural Hi-Tech Fair	1.818
Discussion on agro-industries in island nations	1.85
Market oriented support services	1.529
Technical Visit	1.875
Overall quality of the programme	1.65

\*1 = excellent; 2 = very good; 3 = good; 4 = fair

## NETWORKING AND CONSULTATIONS – percentage of respondents finding that:

	Too much	About right	Too little
Time allowed for comments / questions	3.2%	87.3%	9.5%
Time for lunches and tea breaks	3%	95.5%	4.5%
Number of evening events	4.5%	75.8%	19.7%
<b>Time for regional dialogue</b>	3.2%	64.5%	<b>32.3%</b>
<b>Opportunities to identify partners for future collaboration</b>	1.5%	64.6%	<b>33.8%</b>
Overall time for networking and informal interaction	1.5%	75.8%	22.7%

## CONFERENCE ORGANIZATION – Average Ranking

How would you rate the following? (scale 1-4)	Excellent
Organization of registration	1.402
Hotel arrangements	1.409
Field trips	1.911
Conference facility	1.569
Quality of the food	1.984

<sup>6</sup> “Chief” or “Director” in position title

Transportation arrangements 1.661	1.661
<b>Duration of the forum</b>	<b>2.323</b>

\*1 = excellent; 2 = very good; 3 = good; 4 = fair

The overall quality of the programme was very well rated with an average of 1.65 on an inverted scale of 1 (excellent) to 4 (fair).

The favourite sessions listed by respondents were:

- Peer-assist workshops 14
- Side event on market-oriented support services 9
- Plenary sessions 9
- Roundtable on finance 6
- All sessions equally good 4
- Roundtables 3
- Roundtable on food safety 2
- Roundtable on human resources development 1
- Side event on island nations 1
- Questions and answers 1

Participants were particularly pleased with the organization of registration (1.402), hotel arrangements (1.409) and the conference facility (1.569).

A great majority of participants thought the time allotted to questions and answers was about right (87.3%), as was the time allotted to lunch and tea or coffee breaks (92.5%). On the other hand, one-third of participants expressed the view that the time for regional dialogue and opportunities to identify future partners for collaboration were not enough.

Because the rankings given were concentrated in the “Excellent” and “Very good” fields, spreading out the average result visually on the previous page allows a relative comparison of the rankings. Although the average rank is still high to very high, the participants were relatively disappointed by:

- The duration of the forum
- Roundtable discussion format, propositions provided and panellists.

The least liked sessions listed by the participants were:

- None 10
- Plenary sessions 3
- Roundtables 3
- Peer-assist workshops 2
- Welcome addresses 1

Reasons why the side event on market-oriented support services was the favourite session of 9 respondents:

- very applicable for my country
- it is important for the livelihood improvement of smallholder farmer
- the way the discussion was organized having the feedbacks from private sector
- meet my expectations

- nowadays, marketing and support services is major problem, most in the industries development
- it gives room for interaction
- useful
- very useful for public and private sector

Reasons why the peer-assist workshop was the favourite session of 14 respondents:

- it relates to a particular problem/challenge and peers gives suggestions based on their vast experiences
- it is an effective brainstorming that may be useful to solve the problems
- because practising discussion
- very practical
- issues were solved
- because more practical problem discussed
- very good atmosphere, great attention given by each participant, interacting exchange of ideas
- real case, real advice, real experience. Peers and all have time to help. (you would not get this help through emailing the persons)
- concrete, practical, small group on exchange rather than question and answer
- real cases/issues were discussed
- it provides real time for participants to share much knowledge and experience in a given issue
- very interesting and practical dialogue to look at problems and successful examples of resolution such problems

Reasons why roundtables were the least liked session: (3 responses)

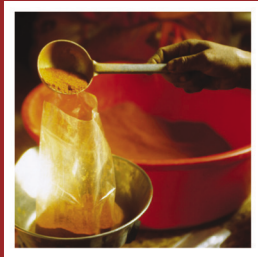
- irrelevant questions by audience participants who ask the same question all the time at every meeting without contributing to the discussion
- a bit generic (food safety roundtable)
- composition of panellists and moderator needs proper selection

## **Lessons learned**

Despite an overall very good rating, future agro-industries forums might benefit from the following:

- Increase the duration of the forum to three days;
- Include a poster session that would allow participants to see and discuss the work of their peers. The poster session formats allow more of the participants to gain from the experience of their peers than do the peer-assist settings;
- Allow more opportunities and appropriate space for regional dialogue and networking;
- Evaluate the appropriateness of the roundtable discussion format for the stated objective of the forums and the target audience of the forum. This last recommendation is of particular relevance for the organizers as the roundtable format was thought to be a particularly innovative and purposeful format to convey the organizers' position on a given technical topic and receive feedback from industry experts and policy makers on what actions should be taken by the United Nations agencies and their collaborators to foster further developments.





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