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Discover Natural Fibres Initiative

Minutes

Third Breakout Session: New Challenges to Cotton: The Perspective of Developing Countries

Chair: Dr. Abid Mehmood, Director General, Ayub Agricultural Research Institute, Faisalabad, Pakistan

Speakers:
Dr. Michel Fok, Deputy Head, Annual Crops Department, Agronomist, Economist, Centre de coopéeration internationale en recherche agronomique pour le déeveloppement (CIRAD), "Smallholding Production of Cotton: Challenges Ahead."
Dr. Khalid Abdullah, Cotton Commissioner, Government of Pakistan, "Paradigm Shift in Cotton Production Pattern of Developing Countries."

New Challenges to Cotton: The Perspective of Developing Countries

Dr. Abdullah observed that developing countries account for half of world cotton exports, three-quarters of world production, and nearly all of world cotton imports and consumption. Cotton and cotton textiles account for measurable shares of national GDP and large shares of national export earnings in many developing countries. For instance, in Pakistan, cotton production accounts for 0.7% of national GDP, and cotton textiles account for 60% of export earnings.

Factors affecting cotton production and trade include subsidies and support measures, technology adoption, intellectual property rights and biosafety protocols, mechanization, competing fibers, farm size and patterns of land ownership, and costs of production.

The national cotton reserve in China is the biggest source of distortion in the world cotton market today. Even though subsidies in the United States and Europe have been greatly reduced or restructured to be less distorting in the last decade, they still distort production and trade.

There are 16 separate trade agreements registered with the WTO that affect agriculture and textiles, ranging from the Agreement on Agriculture (AoA), negotiated during the Uruguay Round of GATT, to the Information Technology Agreement. Dr. Abdullah reported that cotton production and trade has increased in developing countries that observe these agreements, and he advocated increased compliance with international agreements and trade rules by Pakistan and other developing countries.

Adoption of biotechnology is a measureable indicator of overall technology adoption. Since commercial introduction in 1996, the use of biotechnology in all crops has increased by 3% per year. As of 2013, 18 million farmers in 27 countries planted crops with biotech traits on 175 million hectares. Over half of all area planted to crops with biotech traits is in developing countries. A lack of biosafety protocols, high technology fees, lack of incentives for public sector development of biotech events and inadequate public funding for research inhibit development of biotechnology in developing countries.

According to the ILO, there were about 140 million children aged 5-14 in paid employment around the world in 2013, and about 60% were working in agriculture.

Loss of market share to polyester is negatively affecting earnings potential in all cotton-producing countries. Since developing countries account for three-fourths of world cotton production, the growth of polyester production has a disproportionately negative impact on producers in developing countries.

Mechanization can increase yields by one-third. Mechanical implements appropriate to smallholder adoption are needed.

Small farm size, ranging from 0.25 hectares in Bangladesh to 10 hectares in Kazakhstan, inhibits technology adoption.

Dr. Abdullah urged developing countries to strengthen their negotiating efforts in the WTO to counter subsidized production. He urged developing countries to adopt biosafety protocols and to redesign intellectual property rights agreements to benefit researchers. He advocated increased funding for public sector research. He urged increased smallholder mechanization and changes in farm structures to increase farm size.

Michel Fok noted that there is great diversity among developing countries, that definitions of "developing" are imprecise, and that there are a wide range in cotton production practices among developing countries. Accordingly, he felt it more useful to focus on smallholders, rather than trying to describe cotton production practices in developing countries.

Smallholders are characterized by labor intensive production practices, subsistence farming, low levels of education, dependence on rain fed production and high exposure to changes in government policies and programs. Dr. Fok estimates that smallholders account for between two-thirds and three-quarters of world cotton production and area.

Efforts to increase cotton yields and production often ignore integrated cropping patterns common to smallholder production, and production recommendations should integrate cotton into a whole-farm approach. He noted that efforts to mechanize smallholder agriculture were constrained by lack of capital, poor knowledge, and inadequate support for spare parts and maintenance services. An alternative to motorized mechanization are small, hand-operated machines, such as a wheeled seed planting instrument.

Dr. Fok noted that small holders usually lack capital to purchase inputs. Accordingly, organic production practices might be helpful. Such techniques include buffer zones to break up weed, disease and insect populations, planting diversionary crops that attract insects, double cropping and intercropping, and intensive crop rotations to increase land productivity.

However, even smallholders face labor constraints, and there is a need to increase labor productivity. Herbicides can reduce labor requirements, but their efficacy is time-limited and they must be used judiciously timed with development of the plant canopy. Sowing at the correct plant density with certified seeds with high germination can reduce the labor associated with thinning.

Since most smallholders are dependent on rainfall, techniques to conserve and retain moisture should be encouraged. Mulching, diking, and contour planting help conserve/retain on-farm moisture. In contrast, large-scale infrastructure projects to capture rainwater in cisterns, underground storage or large reservoirs require community cooperation or government support. Farmers in the Indian state of Rajasthan are capturing water without political support through the revival of the traditional technique of building 'johads' to capture water. (Johads are earth dams to capture rainfall built along the contours of natural swales.)

Almost all farmers or their families own mobile phones, and these present obvious tools to provide more effective extension services.

Smallholders are vulnerable to unwise changes in government policies; recommendations to eliminate government support for cotton production in Francophone Africa were disastrous. The objective is to provide support that enhances producer productivity through research, education and training and appropriate mechanization and infrastructure support, not to eliminate support. Market forces alone cannot increase smallholder productivity and wellbeing; there is a necessary role for the public sector.

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