



Symposium: Crop Breeding and Genomics II

Food and nutrition security in the drylands of West Africa: challenges and opportunities

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Abstract

West Africa's dryland is one of the regions with the highest proportion of people living without adequate quantity and quality of food to reach their individual and collective potential. Approximately, six million people require food assistance, and about 27% of children are malnourished. To tackle this problem and respond to increasing future food demand there is a need to develop and promote improved agricultural technologies for enhanced water and nutrient use efficiency, economic stability, and equitable outcomes for male and female smallholder farmers. Despite past efforts towards this direction there is little impact on the livelihoods of the people. A new conceptual framework of Inclusive Market Oriented Development (IMOD) provides pathways for poverty escape by better linking farmers to markets to increase their land productivity and incomes. It projects that Research-for-Development (R4D) generates technologies and innovations that increase the productivity and value of dryland farming, and provides surplus value that is re-invested in additional innovations, further increasing gains in a self-reinforcing cycle and in building resilience. R4D activities conducted by the International Crops Research Institute for the Semi-Arid Tropics (ICRISAT) and its partners underlying the IMOD concept are reviewed and presented through six case studies including: 1) Genetic improvement of dryland crops including sorghum, millet and groundnut in order to produce more and better food at lower cost with focus on nutrition, resilience and efficiency; 2) Strengthening livelihoods resilience through increased access to quality seed, food safety through aflatoxin awareness and inclusive development; 3) Identifying and implementing integrated crop, soil, water, nutrient, pest and disease management strategies; 4) Using Innovative ICT-based extension system through public-private partnership; 5) Building agri-business through post-harvest handling and improvement for access to markets; and 6) Developing Smart Food concept based on products from dryland crops including drought tolerant, resilient and nutri-cereals such as millet and sorghum through biofortification for enhanced nutritional quality.
