



A Strategic Partnership to Strengthen Policies for Water and Food Security

Key messages and recommendations from the International Conference on Policies for Water and Food Security in Dry Areas - Cairo, Egypt, 24-26 June 2013

Recommendations (actionable options)

- Country food and water security strategies are needed.
- More investment should be directed at increasing rainwater productivity, yield gap reduction and managing risk.
- A regional/basin-level approach is needed for integrated watershed management for water and food security.
- Policy and institutional measures are needed for water valuation and costing.
- Policy and institutional options are strongly recommended to change cropping patterns in favor of less water consuming commodities and sustainable groundwater use.
- Countries' capacity for policy development, analysis, implementation and monitoring are needed.
- More effective approaches to enhance dissemination and adoption of improved production and water saving technologies should be developed.

The Way Forward

- Establish a strategic partnership for water and food security in dry areas.
- Develop a cooperative program that includes ICARDA, FAO, IFAD, IFPRI, IWMI, national agricultural research systems and other partners to enhance water and food security, and play an advocacy role for policy implementation.
- Set a follow-up meeting in 2017.

The Context

Recognizing that,

- The temperate and semi-tropical dry areas occupy about **40 percent of the earth's total land area** and are home to more than 2 billion people or 30 percent of world's population, the majority located in the developing world.
- **Characterized by natural resources limitation and degradation, particularly water scarcity**, the dry areas have less than eight percent of the world's renewable water resources and are challenged by frequent droughts, temperature extremes, land degradation and desertification. **Poverty is disproportionately concentrated in dry areas**; population growth rates are high; women and children are highly vulnerable and a large proportion of children are malnourished, and distress-migration is common.
- Climate change will have serious implications for further **degradation of natural resources, including the unique biodiversity of ecosystems**, and will **increase already existing food insecurity and poverty**.
- The current food production systems and food patterns are characterized by huge **inefficiencies in input use, food losses and food waste**. On the other hand, the use of scarce water resources is characterized by **very low on-farm water use efficiency and excessive use of irrigation water**.
- The challenge in enhancing water and food security is to **remove the inefficiencies in food production and water-use systems**. The other important thrust is to **increase current production levels to higher production frontiers** through innovative Research for Development (R4D) and increased investments in agriculture, water infrastructure and management.
- Achieving water and food security requires more than technologies. Enabling policies and institutions are critical factors needed to enhance the uptake and adoption of improved technologies and water saving practices, and thus removing the inefficiencies in resources use.
- The challenge remains, how to ensure reliable food supplies (in adequate quantity and variety of food) to meet the demand of growing populations in different agro-ecologies in the phase of climate change and depleting groundwater, in an environmentally friendly manner, at reasonable and affordable prices for consumers while making agricultural production an attractive business for farmers.

It is within this context and thrust, that the ***International Conference on Policies for Water and Food Security in Dry Areas*** was co-organized by the Egyptian Ministry of Agriculture and Land reclamation and its Agricultural Research Center, ICARDA, FAO, IFAD and IRDC. The conference was held in Cairo on 24-26 June, 2013 and attended by some 200 policy makers, donors, experts, developmental organizations, research-for- development organizations and scientists from 28 countries and eight international organizations and seven donor representatives from around the globe.

Key Messages (Issues and Lessons Learned)

- There is a need for incentives for sustainable, efficient and equitable water allocation and use. **Incentives alone are a necessary condition.** Together with conducive policy and institutional options, and involvement of local communities and other actors, incentives will optimize the use of scarce water resources and increase on-farm water use efficiency/water productivity in rainfed areas and reduce excessive irrigation water use and waste in dry areas.
- In developing countries, agriculture is the backbone of national economic growth. Beside its direct contribution to gross domestic production (GDP), it triggers many services - for example agro-industries and transport - , that generate income for important segments of society. Agriculture will continue as a major contributor to the employment market and job creation in the economies of developing countries in dry areas.
- There are close linkages and interactions between water management, food security and employment. This is particularly true within food value chains and value-added functions of agricultural commodities, inputs and services. Policy makers need to better value the social and environmental benefits of agriculture, beside its economic value.
- Despite the advancement of science and technology and successful case studies in many countries, these successes and improved technologies have not been widely disseminated and adopted due to the weaknesses in scaling up/out approaches, and lack of enabling policies and institutions. For example, weak extension institutions are a common constraint in many developing countries.
- There is a need to better understand of the main reasons for the small-scale impact regardless of several successful pilot experiences.
- Effective responses to water and food security challenges require explicit water and food security strategies which are absent in many developing countries in dry areas, despite the existing vision on the importance of water and food security
- There is a need for a more comprehensive approach to water scarcity to improve water management; and a scarcity of accountability at various scales (farm, district, irrigation scheme, national, river basin and global levels) is emerging as a principal constraint to better water sector performance.
- The urgent need for increased investments in agriculture, water and R4D needs to be emphasized, however, investments alone are not sufficient. Enabling policies and institutions are equally important to better target investments to achieve water and food security. This includes restructuring subsidies that distort production decisions and encourage the misuse of scarce water resources. The three dimensions of water costing/valuing, policy and water and land property rights need to be incorporated in an integrated manner.
- More attention should be paid to the importance of and the need for social protection measures, such as safety nets and incentive packages to protect small farmers from price volatility in the international markets and production risks (originated from rainfed farming, incidents of droughts and climate change). This requires adequate access and more updated information.

- The need to put in place effective, dynamic and responsive institutional and information sharing systems that ensure the delivery of quality services to all stakeholders, particularly farmers who are willing to pay for good services. Hence, there is a need for more investments to improve the service delivery and promote demand driven approaches for technology dissemination.
- Information and Communication Technologies (ICT) can play a key role in enhancing information flows, involve the private sector and improve risk management strategies. There is a need for better “knowledge transformation” of research and policy options to make them more useful to smallholder farmers.
- Although more agricultural research is needed, technologies are already available to enhance both water use efficiency and food production in a sustainable manner; but these technologies are not finding their way to end users or farmers.
- There is a need to emphasize nutritional security as an integral part of the food and water security.
- The importance of food distribution issues to reach needed populations needs more attention. Even if the food is available globally, the challenge lies in its distribution to reach the poor. This calls for a focus on household food security and nutrition options available to the poor. In the absence of effective food distribution systems, increasing food availability at the national level may not necessarily lead to enhanced household food security.
- In some developing countries, treated wastewater (and brackish water in general) is an important source to enhance water and food security.

Recommendations (actionable options)

- **There is need to develop country food and water security strategies** by applying needed investment, incentives and policy options to guide water investments following integrated system and eco-efficient approach.
- Given that rainfed farming is the major source for food security in dry areas of developing countries, it is imperative that **more investment is directed towards increasing rainwater productivity, reducing the yield gap, and managing risk**. This requires targeted policy options and more public investments and incentive packages for dry areas to increase the productivity and resilience of rainfed farming systems.
- **A regional (or basin-level) approach should be adopted for water and food security and integrated watershed management**, given the fact that most of the surface water resources are shared among neighboring countries, and that the natural resource base for individual countries is not sufficient to achieve self-sufficiency in food security. Regional integration and trade can substantially contribute to achieving self-reliance in water and food security.
- The excessive use of irrigation water from surface and groundwater requires **policy and institutional measures for water valuation and costing to rationalize water use**. This needs to be carefully developed and implemented to ensure needed efficiency targets at economic, environmental and social dimensions keeping in mind the interest of smallholder farmers, who produce nearly 80% of the food in some developing countries. One policy option would be to assign a specific quantity of water free of charge – depending on agro-ecology, cropping patterns and farm size – after which appropriate water charges may be imposed on water users.

- The depletion of groundwater in dry areas has reached alarming levels, leading to groundwater mining and desertification. **Policy and institutional options are strongly recommended to change cropping patterns in favor of less water-consuming commodities and to optimize the use of groundwater on sustainable basis.** This may suggest the use of alternative energy sources for pumping and lifting water to fields to optimize the use of expensive energy sources.
- **The capacities of countries in agricultural policy development, analysis, implementation and monitoring and evaluation should be enhanced.** This involves the analysis of trade-offs associated with alternative policy and technological options, ex-ante assessment of the potential impacts of different policies, and ex-post evaluation to the consequences of implemented policies. An important dimension here is the assessment of the effectiveness of existing agricultural policies and drawing on lessons learned to guide and better inform science and evidence-based policies and institutions.
- **More effective methodologies and approaches should be developed to enhance the dissemination and adoption of improved production and water-saving technologies.** Extension strengthening and support are critical to improve smallholder farmers' access to improved knowledge. In this regard, it is strongly recommended to enhance capacity development of extension institutions and help them to synthesize production packages and share successful case studies and other experiences for their scaling-up/out to achieve sizeable impact on water and food security.

The Way Forward

- **Establish a “Strategic Partnership Framework for Enhancing Water and Food Security in Dry Areas”** to better coordinate and complement the efforts of national, regional and international organizations to promote existing knowledge, and technical, enabling institutional and policy options to achieve sustainable productivity growth, increase on-farm water use efficiency, and improve access of small farmers to water and improved knowledge. This partnership framework would be established by ICARDA, FAO, IFAD and IDRC who will jointly sign a foundation agreement. It is open to countries and other organizations and initiatives, such as the World Water Forum and Arab Water Council. It is suggested that ICARDA coordinates this partnership framework and activates it, particularly through its leadership of the CGIAR global Research Program on Dryland Systems, which target enhancing food security and improving livelihoods in five targeted regions globally.
- **Develop a cooperative program** –including ICARDA, FAO, IFAD, IFPRI and IWMI – among NARS and other partners to develop, analyze and promote agricultural policies and institutional options to enhance water and food security, play the policy advocacy role for policy implementation, and help countries to develop and implement water and food security strategies.
- **Set a follow up meeting in 2017.** The organizers and other partners are to call for similar conference in 2017 to present the progress towards the implementation of the conference recommendations and to better respond to emerging challenges and constraints.

