HIGHLIGHTS

The Water we eat: challenges for ACP countries in times of scarcity

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On 13th April 2011, CTA and other partners convened the 22nd Brussels Development Briefing - part of a series of bimonthly Development Briefings on ACP-EU rural development issues. More than 100 participants gathered in Brussels to discuss the issue of water scarcity and its implications for ACP countries.

The water we eat: Challenges for ACP countries in times of scarcity. This Briefing discussed the complex and dynamic relationship between water resources and agriculture in ACP countries, especially in the context of climate change and variability of agricultural systems. Many regions are experiencing a limited and unreliable access to water as well as water loss from poor irrigation systems and water management, limiting agricultural productivity and increasing the water crisis in many countries. Policy options that improve water governance and management are urgently needed to resolve or prevent water conflicts and improve the productivity of water usage.

This Briefing was a joint initiative of CTA, European Commission (DG DEVCO), the ACP Secretariat and ACP Group of Ambassadors, CONCORD and various media.

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H.E. Mr. Kembi-Gitura and David Molden

Michael Hailu, director of CTA

In introducing the 22nd Brussels Development Briefing, H.E. Mr. Kembi-Gitura, chair of the ACP Sub-committee on Sustainable Development and Ambassador of Kenya, underlined the objectives of the briefings: raise awareness amongst the development community on the key importance to be given to agriculture in ACP countries, and about existing and emerging key challenges in water management; promote exchange of information and expertise on water and agriculture issues; contribute to the debate by bringing together various perspectives.

Michael Hailu, director of CTA, underlined the critical issue of water for food security in the ACP countries, exacerbating with the impact of climate change, population growth, and increased competition from other resources. Mr. Hailu stressed that agriculture accounts for 70% of global fresh water use and in most of the ACP countries policies and investments are extremely needed to expand access to water especially for smallholders producers. In recognizing the importance of this issue, CTA in 2010 organized in Johannesburg a major international conference in partnership with NEPAD and IWMI, he added. The audience composed by representatives from different sectors (policy makers, practitioners, the farming community) came up with some important messages like the critical role of the investment, the highest potential for productivity in the rainfed systems, the water sector and water governance reform as a key for managing the resources and to manage the growth competition between different user groups and finally, the issue of equitable distribution and access a different users as a critical element in ensuring fair and equitable access to water resources.

Water, agriculture and food security

David Molden, Deputy Director for Research, at the International Water Management Institute (IWMI) presented to the audience the water-for-food equation. Because of the demographic boom in the next years (from 6 to 9 billion by 2050) more people will have more wealth and consume more calories in the form of meat, milk and fish. Estimates place the need for additional food


David Molden


Tony Allan


Shiney Varghese


Jean-Philippe Fontenelle

production at about 70 to 100% more than we produce now. And more food, as stressed by Dr. Molden, requires more water. So in adequation, If we don't change practices in water management this could mean the need to double the amount of water from rainfall or irrigation by year 2050. He explained that there are two types of water scarcity: 1.The physical water scarcity where the access to water is limited. Areas characterized by physical water scarcity are already over allocated to various uses, ecosystems are threatened and competition for limited water resource is high. 2. The economic water scarcity where in spite of abundant water available in nature, in rivers and groundwater, access to water for food production has not been exploited and lack of access is a critical problem. Dr. Molden underlined that the majority of the ACP countries and especially sub-Saharan African countries, fall in the category of economic water scarcity. He underlined also the importance to recognize that in SSA countries investment in water and irrigation was neglected for many years. Nevertheless, Dr. Molden argues that it is possible to double even triple yields in a relatively short time period in spite of climate change, if agriculture water management is improved. He continued his presentation explaining some key trends characterizing the SSA countries like the rapid urban growth, the role of China in investing in water in Africa, land and water grabs, the increasing role of the private sector, and the growth of informal water economies. According to him, there are four major pathways to meet the food and water demand: (i) improve water productivity, (ii) expand irrigated & rainfed agriculture in intensifying at the same time sustainable agriculture, (iii) promote trade from highly productive to less productive regions, (iiii) manage demand, consume and waste less Upgrade. Dr. Molden reminded to the audience that around 70% of the world's under-nourished live in rural areas where non-agricultural livelihood options are limited, therefore in these areas it is imperative to expand and safeguard access to water. He concluded by stressing that increase water storage, utilizing small and large reservoirs, groundwater, wetlands, and soil moisture, is critical to provide water access, and is a key climate change adaptation measure.

Virtual Water Trade

Tony Allan, Professor at the *School of Oriental and African Studies / King's College London* highlighted the importance of trade for all the countries in the world. Actually, most of the world's economies are food and water food insecure. This insecurity is evident from the fact that most of these countries are net virtual water "importers". Only France out of the 27 EU economies is a net food exporter. He added that for a country it's not unusual to be food importer, partly because the food available in the markets is affordable. The problem for Professor Allan is that the food in the market (mainly the staples) has been mainly subsidized by the European Union and the USA, creating a distortion for farmers in developing countries and society does not understand the true value of water where water resources are very limited. He explained to the audience that there are two sources of water: the green water which represents about 70% of water used for food production handled by the farmers, and the blue water which is the water which can be found in the lakes, rivers, wetlands and groundwater and it represents only 35% of the water we use in food production. According to him, the average of water foot print for an individual across the world is approximately 1,226 m3 per year per person. Professor Allan pointed out that ACP countries have a small water foot print for domestic use compared to other countries like the USA. And because the productivity is so low in ACP countries the amount of water needed to produce food is high. Professor Allan showed then the differences in terms of water foot print between a vegetarian and non vegetarian diet. A beef consumption is equivalent to 5 m3 per day compared to the 2.5 m3 per day for a vegetarian meal. He concluded underlying the potential that ACP countries have to address their water insecurity by helping their farmers to improve the productivity of water. According to Professor Allan, the improvement of green water management by and for the farmers is the key to achieve and increase global and local water and food insecurity. Indeed, by


Charlotte de Fraiture


Elijah Phiri


Ruth Mathews


Mr. André Liebaert

diversifying their economies farmers will also make water security more possible by enhancing their family and national incomes and engaging in fair international trade.

Water security and the right to food

Shiney Varghese, Senior Policy Analyst from IATP pointed out that several ACP countries, especially in Africa, are facing critical water scarcity challenging small farmers to meet food security and food production. She recalled the fact that unless appropriate interventions are made, agriculture productivity, especially in the ACP countries is suspected to decrease. She underlined the interconnection among climate change, water crisis and food production. The current crisis can be seen as an alternative call for the promotion of a multifunctional agriculture system with food production at the core but with multiply beneficiary in the periphery including solutions for water and climate challenges. For her, the concept of a multifunctional agriculture is a cropping system that can help fulfill multiple needs of the society related to health, leisure, spiritual needs or food, and is also helpful for sustaining the ecosystem. Mrs. Varghese stressed the vital role of women in securing water and food security and all solutions have to place women at the core and they must be part of the decision making process. To face the multiply crises, policy interventions have to be directed towards food and water security, strengthening local food systems and rebuilding the natural resource base. It is imperative to develop and practice an integrated approach to help solve climate water and food crises simultaneously. On the other hand the adoption of the alternative, agro-ecological approach to food and water security should provide to the agrarian communities in ACP countries a chance to access climate adaptation finance.

Social justice in water

Jean-Philippe Fontenelle, Director of Operations at GRET, focused his presentation on guaranteeing access to agricultural water for the mall-scale farming systems. According to him the small farmers of the southern countries are suffering social injustice on two counts: increasingly limited access to water and land and frequent denial of their historical water-access rights. They are politically weaker vis-à-vis other water users and are vulnerable in terms of economic and climatic level. For him, small farmers from southern countries possess traditional knowledge about the sustainable, efficient management system of water and other resources, which should be recognised and promoted as an alternative to the dominant, capital-intensive, production-focused, high water consumption agricultural model. Even in terms of losses, small farmers cannot be considered as waste water because we have to bear in mind that water is drawn off, distributed, drained and then returned in the water cycle. Actually, small farmers have a high potential for increased productivity and efficiency in water management. He recalled that small-scale farming systems of developing countries have a historical record of adaptation to climate by using simple water storage and collection techniques, improved drainage and retention of water in the soil, and by redefining the rules governing sharing and access to the resource, in irrigated or pastoral zones. Mr. Fontenelle presented to the audience several proposal to provide support to small farmers to have social justice in access to water like: guarantee the historical rights for the use of and fair access to water including guaranteeing their land-holding rights; incorporate the right to water to guarantee food security into national and international rights; support the implementation of observatories and instruments for the joint management of water by a variety of parties (including use monitoring); strengthen the powers of civil society and the small farmers of the South and involve them in decision-making on water management; increase, boost and re-direct investments from the states, international public aid and bilateral and multilateral finance .

In the debate participants discussed the role of irrigation, the need to increase water productivity, the potential of the rainfed agriculture in alleviating poverty and the best technologies that have positive

benefits for famers at community level. The issue of irrigation and rainfed agriculture to address water and food security, having a minimal environmental impact was lively debated. Dr. Molden suggested as a possible solution to have different types of irrigation focusing on the rainfed agriculture and then to the small scale solutions. Dr. Allan stressed the importance to irrigate in a way that maximizes the advantages to society and the farmers and avoids water losses. Mr. Fontenelle underlined the lack of know-how on irrigation systems and the lack of dialogue between small farmers and researchers. It was stressed the need to look at the farming system, at the capital and natural resources management and social and economic aspects.

What policy options to secure water for all?

Charlotte de Fraiture, from the International Water Management Institute (IWMI) presented to the audience the possible solutions to improve agricultural water management and to support smallholder irrigation. She recalled that 1 billion of people live in areas where water is physical scarce but 1.5 billion people live in areas where access to water is a problem. Only 4-6% of the cultivated area is equipped with irrigation and drainage facilities and 62% can be found in just three countries: South Africa, Madagascar and Sudan. She explained to the audience the instruments used by private small holder smallholder farmers to increase the access to water as :low cost water lifting devices (like pumps), low cost application technologies (drip), technologies to capture and store rainwater in reservoirs, groundwater or root zone - (water harvesting) , soil and water conservation technologies and watershed management. Due to the fact that smallholder private irrigation is initiated and financed by individual farmers or small informal groups of farmers, it is really a dynamic sector, market driven, not regulated and until recently they were very limited support and recognition support from government, donors or NGO's, she said. But at the same time she affirmed that smallholder private sector is vibrant and growing. In many African countries the smallholder private sector is more important than public irrigation in terms of number of farmers involved and the value of the production. Therefore, private smallholder increased access to water for additional income when farmers needed it most. Among the difficulties encountered by smallholder farmers there is the very limited recognition of their role, the fact that many national agricultural statistics do not include information on area irrigated using smallholder private irrigation, the lack of availability of this smallholder technology particularly in rural areas and also the lack of financing. Mrs. De Fraiture concluded affirming that the best strategy is to treat farmers as customers with information to make well-informed decisions and offer a wide range of alternatives (in terms of price, quality and financing), leaving the technology choice to farmers (and the market).

Policy and investment options for Africa

Elijah Phiri, Professor of Soil Science from the University of Zambia and NEPAD/CAADP illustrated the initiatives undertaking by the African Union in terms of addressing CAADP production on the African continent, especially how this programme is like for sustainable land and water management. Investments in agricultural water management can contribute in several ways to achieving the Millennium Development Goals of eradicating extreme poverty and hunger and ensuring environmental sustainability. Increased yield and cropping area and shifts to higher valued crops could help boost the income of rural households, generate more employment, and lower consumer food prices, he added. Among the factors constraining the agriculture productivity in Africa, he stated the scarcity and degradation of land and water resources, the poor governance and weak institutions. He then highlighted some of the major facts from CAADP. It is an African-owned and African-led initiative, where among the key principles we can find: employ agriculture-led growth to achieve MDG1 of halving poverty and hunger by 2015; pursuit of 6% average annual sector growth at national level; allocation of 10% of national budgets to agriculture Sector. Professor Phiri explained that there are 4 core areas in order to develop African agriculture: (i) extend the area under sustainable land management and water control systems through; (ii) improving market access through improved rural infrastructure; (iii) increasing food and nutrition security; (iv) Improving agricultural research. He also underlined that it is a quite comprehensive and supported process through a common framework which is reflected in a set of key principles and targets that have been defined and set by African heads of state and governments in order to guide country strategies and investment programs, allow regional peer learning and review and facilitate greater alignment and harmonization of development efforts. Mr. Phiri stressed particularly on the CAADP Pillar I which aim to extend the area under sustainable

land management and reliable water control systems. This first pillar, he explained operate through a framework intended to help African member states expand & consolidate sustainable actions on land and water management water management, land administration climate change.

Water footprint assessment

Ruth Mathews, Executive Director of the Water Footprint Network firstly presented to the audience the work of the Water Footprint Network. Formed about 20 years ago as a way to identify pressure on freshwater resources, the Water Foot print Network brings together expertise across all different stakeholders groups in order to develop the most useful tools and the knowledge to implementing water sustainable management. She also add that the global water foot print standard has just been released as a result of two years engagement to establish a single methodology for accounting the Water Foot print at any level. The Water Foot print is a geographically and temporally explicit indicator of water use that looks not only at both direct and indirect water use of a consumer or producer but also in terms of water volumes consumed or polluted per unit of time. A water footprint can be calculated for a process, a product, a consumer, group of consumers, she added. The water footprint contains three water aspects: the green water footprint (the volume of rainwater evaporated; blue water footprint (the volume of surface or groundwater evaporated and the grey water footprint (the volume of polluted water). Mrs. Mathews explained the difference between the traditional water statistics which is looking at the water withdrawal and the water footprint which is looking at water consumption including the return of water. To give as an idea of how much water is going into individual products Mrs. Mathews gave an example of a cotton tee-shirt. At a global average level to produce 1 kg of cotton we do need 11,000 liters of water but if we take the same cotton and turn it into a single cotton tee-shirt we do need 2,700 liters of water. She also recalled that a high water foot print is presented even in the least developed countries. She underlined the necessity to think at a global level in a more sustainable way, to use our water resources in the most efficient way even in water rich areas.

In the debate questions on the current EU policy reform in terms of the water scarcity, its water foot print and on the implications of the CAADP process in African countries were raised. Looking at the different aspects of water food print at different scales it is possible to gather a lot of information that can lead to influence more policy and investment decision. Dr. Molden remarked that in terms of agriculture management many efforts have been done for drinking water and hydropower, while efforts for improving agriculture water management have been insufficient. It was underlined that even if water problem is wide and complex, the solutions are very local so the ownership has to come from the ACP countries, the communities and farmers organizations.

The conclusions drawn by Mr. *André Liebaert*, Water Policy Advisor, from DG DEVCO, pointed on the high complexity of the water sector and its multidimensional character. Unfortunately he added that the responses so far have been fragmented both at national and international level, According to him one of the key priorities of the water policy is to promote cross-sectoral coordination, mainstreaming, adding value by integrating water resources management into the different water use, including the water for food security. Mr. Liebaert recalled that all MDG'S are related to water and to the fact that the current debate within the European Union is to develop a new policy framework focusing on inclusive growth as a driver for development. He concluded in highlighting the work done by the current Hungarian Presidency of the European Union in promoting the crucial role of water in particularly in relation with the productivity sector, food production, and energy but also in relation with climate change, human dimension, peace and security.

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