



## Agricultural Resilience in the face of Crises and Shocks

### Brussels Development Briefing no. 30

Brussels, 4th March 2013

On 4th March 2013, CTA organised the 30th Brussels Development Briefing – part of a series of Development Briefings on ACP-EU rural development issues. About 200 participants gathered in Brussels to discuss the importance of Agricultural Resilience in the Face of Crises and Shocks.

#### Partners in the Briefing:

- CTA
- European Commission, DG DEVCO
- ACP Secretariat
- European Economic and Social Committee (EESC)
- Concord
- International Food Policy Research Institute (IFPRI)

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Staffan Nilsson



Achille Bassilekin III



Rajul Pandya-Lorch

Mr. Staffan Nilsson, President of the European Economic and Social Committee (EESC), reminded the audience that one in six people in the planet do not have enough food and whilst we approach 2015, we are far from achieving MDGs. Resilience is a ‘new word’ in development thinking which implies self-sufficiency and some degree of autonomy. The EESC works on these issues building systems where governments can protect populations. In general many measures can be taken to increase resilience, including stimulating investment in smallholder agriculture, fighting food waste, raising agricultural sustainability, improving local and regional market access, and mapping food insecurities. A bottom-up approach is needed which includes all stakeholders – particularly farmers and farmers’ organisations – right from the start of research and policy-making.

Achille Bassilekin III, Assistant Secretary General in charge of Sustainable Economic Development and Trade, from the ACP Secretariat

explained that agriculture remains the most important sector for many ACP countries. Agriculture faces many challenges in the coming years, including climate change. Frequent crises and shocks have significant consequences for agricultural production in ACP countries, as well as increased risk of hunger and food insecurity, threatening the achievements of the MDGs. Preliminary estimates for the period up to 2080 suggest a decline of 15-30 per cent of agricultural productivity in most climate-change-exposed countries. It is projected that total agricultural productivity in ACP countries could decline by up to 50 per cent if the issue of resilience to crises and shocks are not urgently and comprehensively addressed. Total ACP agricultural productivity could fall by up to 50% in 2050 due to crises related to climate change vulnerability. Policies supporting resilience as a form of adaptation are necessary.

Rajul Pandya-Lorch, Head of 2020 Initiative, IFPRI, explained that shocks of economic (food volatility),



Denis Salord



Michael Hailu



Akinwumi Adesina

environmental (climate change) and social (conflict) nature are increasingly creating the necessity to build resilience for households to cope with and bounce back from those shocks. Building resilience means developing strategies that help individuals, households, communities, regions, and countries to cope with and recover from shocks. Resilience is a critical dimension of development. IFPRI's work focuses on building resilience to conflict and weather shocks. In fact, building resilience is one of the six priorities in its new strategy to be achieved by strengthening both economic and social systems against shocks, for instance using innovative food nets.

Denis Salord, Head of Unit, Regional Programmes Sub-Saharan Africa and ACP wide, European Commission, explained that recurrent food crises in the Horn of Africa and Sahel have pushed for longer term approaches to food insecurity and building resilience. Threats to food security have increased over recent years, for instance due to climate change and increased biodiversity loss. Resilience has thus become central to the European Commission's reflection on development, particularly in the context of reducing small producers' vulnerability to food crises. Food security should be achieved in an optic of sustainable agriculture and reducing dependence on unsustainable resources. More generally, effective policy making requires beneficiaries to be actively involved throughout processes.

Michael Hailu, Director of CTA stressed the importance of building resilience in smallholder agriculture – which constitutes over 80% of total agriculture in ACP countries – to ensure food security and meet ACP farmers' needs. Building resilience in agriculture requires improved agricultural techniques and practices such as pest, disease and drought-resistant seed varieties; reducing post-harvest losses and food waste; less dependence on non-renewable energy; improving risk sharing and insurance schemes for smallholders; and providing better access to technology and information. Whilst strategies, innovation and uptake of sustainable practices are necessary to achieve that goal, no resilience can be built without good governance systems and stakeholder dialogue. Building resilient agriculture will also require long term strategies and interventions that build on agro-ecological knowledge to enable smallholder farmers to counter environmental degradation and the negative impacts of climate. All these elements were stressed in the series of consultations that CTA carried out with ACP small island developing states to address their inherent vulnerabilities and building their resilience.

Dr Akinwumi Adesina, Honourable Minister of Agriculture, Nigeria, defined resilience as the level of susceptibility to the forces of nature. Dr Adesina highlighted the importance of increasing agricultural production to ensure food security, moving away from dependence from

agricultural exports. In this context, Nigeria embarked on a major transformation of its agricultural sector, with the launch of the Agricultural Transformation Agenda in 2012. Minister Adesina stressed the importance of seeing agriculture as a business rather than a development programme. He described six policies which are being implemented in Nigeria to strengthen resilience:

- (i) Increasing access to affordable agricultural inputs for farmers. This is to be achieved by: creating a database of farmers, and an electronic wallet system using e-vouchers for the delivery of subsidised inputs (seeds and fertiliser) to farmers.
- (ii) Expanding farmers' access to financial facilities through establishing a risk sharing facility which reduces the risk of lending for banks whilst reducing interest rates for farmers from 18 to 8%.
- (iii) Building capacity to predict and improve responses to shocks through satellite imagery and remote sensing tools as part of 'evidence-based policy', for instance by using water imaging to improve flood responses.
- (iv) Designing policies to encourage the cultivation of drought-resistant crops, such as cassava and sorghum. In particular fiscal policies are to be used to replace imported wheat with sorghum and cassava, and to export cassava products to China.

# Agricultural Resilience in the face of Crises and Shocks

## | HIGHLIGHTS



Thijs Berman



Sir Gordon Conway



Thierry Kesteloot



Philippe Thomas

- (v) Improving water management, large scale water management, such as public-sector irrigation schemes and dams, should be replaced by smaller scale agricultural water management systems which reach more people and generate more income. To reduce the risk faced by farmers, weather index insurance schemes for farmers will be scaled up.
- (vi) Establishing social safety net policies to reduce vulnerabilities, e.g. through conditional cash transfers, price volatility management through establishment of local, national and regional food reserves.

To conclude, Minister Adesina underlined the importance of integrating policies, institutions, technologies, systems and tools for enhancing resilience to manage successfully agriculture in the face of shocks. Greater regional cooperation is also necessary to shift from crisis management to risk management.

**Panel 1: Approaches and instruments for building resilience in agriculture** provided an overview of the key concepts, challenges and opportunities in building a resilient agricultural system in ACP countries. It was moderated by Thijs Berman, Member of the Development Committee, European Parliament, who reminded the panel that agriculture and food security are major priorities in the EU budget over the next 7 years. Berman also mentioned that the impact of growing cities on

demand from farmers over the coming years will increasingly raise urban-rural linkages' issues.

## Agricultural resilience -- what is it about?

Sir Gordon Conway, Professor of International Development, Imperial College London defined resilience as the way in which (agricultural) systems positively react to stresses and shocks by recovering the initial state or a better one. In general both the average level and the frequency of stresses and shocks is expected to increase in the future. This situation of high stress and frequent extreme events is to become the norm globally, a situation which can only be addressed using innovative approaches, especially in developing countries. In particular, it will be necessary to produce more with the same land and resources whilst decreasing negative impacts on the environment. This can only be achieved through a 'save and grow' approach combining key sustainable intensification – the focus of the next Montpellier panel on agriculture– with initiatives which build up natural capital. Resilience will thus need to be addressed in the context of sustainable intensification. Ecological resilience can be increased using agroforestry, Integrated Pest Management and conservation farming. Genetic resilience can be achieved by intensifying plant breeding of locally adapted plants. Examples include orange fleshed sweet-potato in Mozambique and Ugandan government-funded wilt-

resistant bananas. Socio-economic resilience requires an enabling environment targeting smallholders at regional and national level. Finally, resilient people and livelihoods, achieved through livelihood diversification in rural areas, are also key to resilience.

## Promoting Resilient Livelihoods

Thierry Kesteloot, Policy Advisor at Oxfam explained that radical change at regional and international level is needed to achieve resilient livelihoods. Current food systems are unable to respond to the needs of agriculture and farmers. These failures can be understood as a result of the large inequalities existing in the face of risk. Kesteloot showed how three different measures of vulnerability to shocks appeared correlated to high inequality. Part of the explanation is that poorer and more vulnerable people are less able to influence policies and to manage risks. To build resilience, there is a need for policies which address inequalities on both short and long term together with approaches realising vulnerable people's rights in the context of shocks and crises. Thus discussions on resilience should link technical discussions with right-based policy ones.

## The EU approach to resilience

Philippe Thomas, Head of sector, Food Crisis, DG DEVCO, European



Dominique Burgeon



Samuel Otsile Outlule



Jean-François Maystadt

Commission, introduced the new joint approach to development by the ECHO and DEVCO directorates-general of the European Commission aiming at shifting from crisis response to crisis prevention. The main challenge today is increasing food production in a sustainable way. In the long term, a triple green revolution should be achieved supporting the necessary transition to 'sustainable intensification of agriculture'. This transition is central to ensuring future resilience. The European Commission's pilot initiatives SHARE and AGIR should trigger such revolution through multi-scale cooperation. For instance, 56 million Euros were earmarked in the EDF to develop regional food reserves. In 2013, the EC will use three tools to trigger its triple revolution: an Action Plan centred on the resilience communication, a new nutrition policy, complemented by a transversal food, nutrition and security implementation plan.

## Building resilience in countries in protracted crises

Dominique Burgeon, Director of Emergency Operations and Rehabilitation Division, FAO, highlighted that increasing resilience to shocks is one of the five objectives of FAO's new strategic framework. Its approach to resilience consists of four pillars aiming at increased resilience

to stress and shocks at global, regional, national and local levels. The first pillar 'Govern risks and crises' will build up institutional capacity by improving legal, policy and institutional governance. An example is the multi-year resilience programmes in the Horn and Sahel (e.g. AGIR). The second pillar aims at improving information management through building countries' capacity to deliver information in a timely manner. The third pillar aims at applying prevention and mitigation measures as to avoid disaster situations, e.g. through improved access to water and land. The last pillar 'Prepare and Respond' is humanitarian. Burgeon stressed that there is now a strong momentum for strengthening resilience in agriculture and building an overarching shared common resilience agenda.

Following the panel, the debate with the audience considered the role to be played by public-private partnerships and why, despite the knowledge UN organizations possess on how to improve resilience, the number of people suffering from hunger is increasing. Adesina replied that strong national and regional association of private sector should work with finance and agriculture ministers on accelerating investment in agriculture. He then considered 'political will' as the missing tool for eradicating hunger, as positively demonstrated by Lula's Bolsa Familia and 'Zero tolerance for hunger' programme, Malawi food security policies and Nigeria's

transformation agenda. A question touched the balance between rural and urban populations' influence on policy. Minister Adesina said that rural voices need to be better organised through strong farmers and community groups which can work with policy-makers and identify problems. A member of the audience noted that 'smallholder farmers' are not a homogeneous group as about 25% of them are marginalized and more susceptible to stresses.

**Panel 2: Proven successes on building resilience** presented proven actions in building resilience along with lessons learned and best practices to decrease the vulnerability of agricultural systems and improve their resilience to both predictable and unexpected stresses and shocks. It was moderated by H.E. Samuel Otsile Outlule, Chair of the ACP Committee of Ambassadors.

## Enhancing resilience in the Horn of Africa

Jean-François Maystadt, Researcher at IFPRI, stressed the importance of evidence in supporting policy. Maystadt illustrated how traditional coping strategies are currently breaking down in the Horn of Africa due to increased severity and frequency of traditional stresses coupled with situations such as restricted mobility. The results of econometric analysis demonstrate that in Somalia weather shocks and conflict are significantly



Chris Reij



Girma Kassie

correlated. Increase in droughts frequency resulted in decreased income from livestock leading to greater conflict. This situation can be avoided through greater investment in pastoralist activities, income diversification supported by investment in innovation and education especially targeted to mobile populations. In addition Maystadt presented IFPRI's Productive Safety Net Programme in Ethiopia, an approach for situations where relief efforts are insufficient to ensure resilience. Starting in 2005, the programme provided transfers to food insecure populations in food insecure areas to prevent asset depletion at household level whilst building assets at community level. The transfers are made conditional on the involvement of beneficiaries in public work. PSNPs are complemented by Household Asset Development Programmes (HABP) linking beneficiaries to agricultural extension workers who provide knowledge and access to agricultural technologies. IFPRI's econometric analyses demonstrate that PSNP led to a one month increase in food security in drought-prone areas, or 1.5 months increase with HABP. In addition, PSNP resulted in a 0.5 change in livestock, or 1 (a difference of one animal) when used in conjunction with HABPs. In addition, community-level results were also obtained through public work participation and improved natural resource management.

## Resilience-building through regreening the Sahel

Chris Reij, SLM specialist, Senior Fellow, World Resources Institute, presented the farmer-managed re-greening in the Sahel, focusing on Niger. The number of on-farm trees increased significantly over an area of 5 million ha from 1975 to 2003. This means an increase of 20 million trees in 20 years with impacts on soil fertility and cereal production increases benefitting 2.5 million people. In drought-prone areas of Niger, re-greening resulted in consistent food surpluses during droughts. In Mali, 450,000 ha of forest were developed by farmers on Seno Plains. In 2011 this resulted in a grain surplus of 50,000 tons. Locally re-greening is achieved by preserving naturally-regenerated trees at high density to improve soil fertility. Whilst resulting tree density is high, there is no competition with crops. Farmers prune trees in June and the litter improves soil fertility and increase manure's impact whilst shading the crops. Impacts of this agricultural system include greater food security, adaptation and mitigation to climate change, poverty reduction, increased firewood and fodder and conflict reduction. Reij considers agroforestry as the pillar for sustainable agriculture in the future of drylands. Farmers invest in on-farm trees only when they have exclusive rights and governments lower barriers to investment in trees. Together with the 'more

people, more trees' phenomenon, human management appears more important than physical factors to explain forest trends. Drought-resilient crops and resilience systems

Girma Kassie, Researcher Socioeconomics Programme, CIMMYT, Zimbabwe, discussed drought tolerant maize and coping with agricultural risk in SSA. The most important risk faced by SSA farmers is production risk manifested through unpredictability of weather, rainfall and drought. In particular, for every degree above 30 degrees, maize yield is reduced by 1.7%. To reduce this specific risk, CIMMYT developed 54 drought-tolerant maize varieties, starting in 2007 and working with 13 countries. It also worked to facilitate farmers' access to drought tolerant seed varieties. Developing drought tolerant maize is expected to deliver large monetary benefits, particularly for Zimbabwe, Malawi and Nigeria. Most benefits would be achieved by reducing yield variability. In addition, assistance is given to facilitate land risk allocation and improve risk management. In conclusion, drought is the biggest challenge to maize production in SSA. As drought is unavoidable in Africa, the focus needs to be on adapting farming systems and livelihoods to changing moisture levels. In order to become resilient to this challenge, close work with farmers' communities is necessary, keeping in mind that farmers are a heterogeneous community and that efforts need to build on indigenous knowledge.



Federico Fadiga



Kalilou Sylla



Rajul Pandya-Lorch, Isolina Boto, Minister Akinwumi Adesina, Michael Hailu

## Building community resilience in Namibia

Federico Fadiga, EU Red Cross, described the experience of the Namibian Red Cross in building resilient communities. Namibia is one of the silent disasters in Southern Africa with over 50% unemployment, high HIV/TB rates, 25% of children stunted and generally a population highly vulnerable to droughts and floods. In its DRR strategy in Namibia, the Red Cross increased and diversified soil production in three regions, leading activities at the community-level and working with the most vulnerable categories. Projects built on local knowledge and provided tools, start-up material and training to increase local capacity. Insights from the Namibia experience include the importance of building projects on local knowledge and capacities to make them more sustainable and

cheaper; the necessity to approach investments in agriculture with a business perspective to increase farmers' market access; and the need to integrate community needs in agricultural investments and generally to empower people and communities.

**Following the panel**, exchanges with the audience considered how the resilience discourse could be translated into action to which Maystadt answered that it is important to work on the field and effectively involving the government from the start. One question regarded the existence of livestock insurance systems but it seemed difficult to implement solutions similar to weather-based insurance in highly dispersed pastoralist populations. Finally, Rajul answered a question on the extent to which the 'resilience' buzzword is different from 'development' by using the word to refer specifically to people.

In concluding the Briefing, Kalilou Sylla, from the Pan-African Farmers' Organisation (PAFO), highlighted that improving communities' resilience represents a paradigm change and stressed the importance of greater dialogue among parts and the involvement of different actors, such as farmers. Three questions were seen as central to achieve resilience in the face of crises and shocks. First, always checking the sustainability of projects and programmes. Secondly only the best organized groups are able to push policy. Finally, for resilience to be achieved bottom and top problems need to be linked, through improved governance.

The Briefing ended by a small celebration of the 5 years of success of the Brussels Briefings which led to this 30<sup>th</sup> issue on resilience.

## Further information on the web

- Brussels Briefings: <http://brusselsbriefings.net>
- Agricultural resilience: <http://tiny.cc/wcq6gw>
- Reader: <http://tiny.cc/leq6gw>
- Next Briefing: Geography of food: reconnecting with origin in the food system

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