Dear readers,

For two years, the quarterly newsletter on agriculture and biotechnology « DABA » has been speaking to its readers about agricultural issues. In this eighth edition, the Agripol section of Enda Diapol has decided to move away from the beaten track to deal mainly with post-modern farming issues. As a matter of fact, agriculture has been going through deep changes.

True to its editorial line, the editorial committee has stressed one more time topics related to rural actors by taking part in the debate relating to family-based farming as a production system. Although criticized by some observers, this farming system is today at the heart of the debates concerning the structuring of African farming. This, in order to reach food security as advocated under different farming policies. This issue which comes under the « Behind the scene » heading underlines the assets of this production system and the challenges confronting it.

« Breaking news » highlights the Briefing on Rural Development in West Africa held from 01st to 03rd November 2010 in Ouagadougou, Burkina Faso. This important meeting was attended by many actors from varied backgrounds. Its objective was to raise awareness among policy makers on topics as important as climate change and land acquisitions; this in order to achieve food security in West African countries.

The development of farming in Africa could not take place if unifying frameworks involving the different stakeholders did not exist. Stakeholders must be capable of ensuring that local expertise is well developed as well as information relating to biotechnologies is properly disseminated. This issue, referred to as institutional efficiency in biotechnologies management, is the focus of « Cross perspectives ».

In respect with its ambition for technological evolution, Africa tried a new cotton production mode which has been promoted lately in West Africa. It is known as the “Better Cotton Initiative” (Bci). Based mainly on six criteria, commonly called « Minimum Production Criteria », Bci has started to arouse a great interest among cotton producers. After its introduction in Mali, Senegal has decided to follow suit in 2011. « Alternatives » focuses on this subject.

In this last issue for the year 2010, « DABA » has interviewed Pr. Boly Hamidou, former Director of Inera (Institute for Environment and Agricultural Research) and President of the Université Polytechnique of Bobo Dioulasso (Upb). Pr. Boly is deeply involved in the adoption process of genetically modified cotton in Burkina Faso; he talks at length in « Testimony » about the history of this totally new experience in West Africa.

We could not finish without putting the « Focus » on the Rotterdam Convention which is a protection instrument against chemicals and harmful pesticides. It represents a strong legislative framework whose aim is to protect the environment and citizens against threats created by the use of pesticides and harmful chemicals.

The editorial committee of « DABA » would like to wish to all its readers a happy new year for 2011 and is looking forward to submitting to them its ninth edition very soon.

Enjoy your newsletter!
Fighting food insecurity

Indeed, farming plays a key role in West-African economies. It accounts for 30 to 50% of GDP and remains the main source of income and livelihood for 70 to 80% of the population. In spite of all these positive indicators, promoting an operating system is still a major concern. Regarded as archaic and unproductive by people who favour agribusiness, although little known family farming is a production system that can help solve the difficult issue of food security.

Often seen as an archaic family farming system, which is unproductive and non competitive, family farming is usually synonymous with ignorance and conservatism. Such criticism is unjustified if we bear in mind that most agricultural produce comes from a family-based agricultural system.

Defined by Oxfam-solidarity as being «a production system characterised by a particular structural link between economic activities and a family structure», this production system has a great capacity for adaptation in times of crisis. It has been able to meet the challenge connected to population growth in Africa with a population which has more than doubled in 25 years. Playing a key role in securing a right to food consumption for the populations, family farming is responsible for the supply of basic food product.

Thus, those are more and more numerous who remain convinced that reaching the first Millennium Development Goal (Omd) in Africa, namely that « the reduction of dire poverty and hunger by 2015 » will be done inevitably thanks to the promotion of small family farms. That is the case of the International Institute of Research on Food Policies (Ifpri) which claims that « only small farmers can help put an end to hunger in Africa ». That is why the institute argues that « increased production by small family farms would not only boost their income and perpetuate food security, but also lower the price of foodstuff, at the national level and thus stimulate the rest of the economy while reducing poverty ».

Despite many obstacles, family farming presents several advantages. These include diversification through the association of agricultural and non agricultural activities less dependent on climate factors. This is the case of the combination of cattle breeding with cereal production. There is also a great flexibility and easy adaptation thanks to the ability to combine production factors in response to the market. There is also a strong community base that provides a major security net in times of crisis to households. Besides, there is the integration into several objectives through a classification of needs, in particular with the slogan: « to consume first and then store in before selling ». In the same vein, capacity for innovation and the need to preserve local natural resources which are required for the survival of local populations should be stressed. Finally, the size of the population remains a major asset in so far as family farms depend mainly on family and local labour.

Nevertheless, the future of family farming is related to its capacity to meet certain challenges. First of all, it will have to meet the technological challenge, consequently to be able to reduce production costs and increase productivity for more competitiveness. Secondly, the organizational challenge will contribute to the emergence of a strong and organized farming community with a capacity for negotiation. Furthermore, making the system sustainable will allow youths to take over even if they are more and more pessimistic about the future of the sector. Finally, the challenge of commercial integration that deals with the consolidation of the local and regional market built on a complementary basis will be addressed.

Family farming plays a key role as far as food security and sustainable development are concerned. Therefore, public authorities must develop and reinforce their agricultural policy by increasing technical and financial support by reinforcing farmers’ organizations. For the slogan « let’s consume what we produce and produce what we consume », born by the rural actors, is a necessity to eradicate hunger.
To sensitize stakeholders and policy makers on the impact of climate change and land acquisition on food security in West Africa. These were the objectives of the fourth briefing on rural development held in Ouagadougou, Burkina Faso, from 1st to 3rd November, 2010.

During the first day, the debates dealt with climate change and its impact on farming. According to experts, Africa is the continent which pollutes the least, with less than 3% of green gas emissions, but has remained the continent most affected by climate change over the last few years. That is why it is urgent to look into the major factors in order to get at the best strategies whose implementation will mitigate the vulnerability of Africa as far as this problem is concerned.

As part of their search for solutions, the participants to the meeting were able to get a good grasp of innovative experiences initiated at the local level by indigenous populations. These experiences, being mainly based on the capitalisation of endogenous knowledge, amply demonstrate that there is a body of knowledge which researchers could rely in order to create smooth models, thus facilitating the adaptation and mitigation of the impact of climate change.

The debates of the second day focused on questions relating to land acquisition, agricultural investment and food security. In fact, since the 2008 food crisis which was marked by a sharp increase in the prices of agricultural products, it has been noticed a massive influx, mostly in Africa and Latin America, of new investors in the agricultural sector. Thanks to the help of their native countries, these new investors have been granted vast areas of arable lands by local political leaders so that they may grow their own crops. This at the expense of local populations who, very often, are subjected to massive displacement or are confronted with conflicts resulting from the cohabitation between farmers and cattle breeders and which sometimes end tragically.

Jointly organised by several organisations like the Technical Centre for Agricultural and Rural Cooperation (CTA), the DG Development and Europe Aid of the European Commission, the ACP Secretariat, Concord and the Farmers’ Association and West-African Producers Network (Roppa), this briefing was attended by many actors. These include researchers, representatives of bilateral and international organisations, elected members and technicians of agricultural professional organisations, people working on the ground, civil society representatives and communicators. All these actors should encourage political leaders to integrate into their development strategies the issue of climate change and land acquisition; if not conflicts with uncertain consequences and potentially disastrous could arise.
Despite the good yields which are recorded here and there, the issue of producers’ access to new technologies does raise some concerns among actors. That is why there is the necessity of setting up efficient institutions capable of regulating the biotechnology sector in a way that can satisfy the various parties concerned.

Admittedly, a lot of research has been conducted to assess the performance of new technologies in the field of agriculture. Unfortunately, most of the research has been focused only on a study of yields or production costs, thus disregarding the interactions between institutions which manage producers’ access to new technologies. However, only the efficiency of these institutions could determine really the agronomical and economic successes of the introduction of new technologies.

Yet, in order to be useable, transgenic technology must be integrated into vegetal varieties well adapted to local conditions. That is why it is necessary to put at the disposal of the public/private sector a vegetal reproduction capacity. Furthermore,
countries that do not have any local seed processing industry will benefit less from the use of technology unlike the others. African countries are taking an increasing interest in transgenic cotton, while disregarding the related prerequisites. First of all, they must ensure the reinforcement of their vegetal reproduction capacities, secondly put in place a real and appropriate communication service or an efficient consulting service remains necessary. In fact, such a service would guarantee the access of the producers to reliable information related to biotechnologies which are indispensable for impacts’ analysis and lastly, the creation of an independent research committee which would ensure the successful use of biotechnologies in agriculture.

Since companies that hold technology property rights make it necessary for industrialists to have a license in order to get transgenic that are integrated into local varieties, therefore it is up to the State to set up an efficient system for the issuance of acquisition licenses. This could be done by a protection mechanism for Intellectual Property Rights (Ipr) whose payment would constitute a scientific acknowledgement and a regulatory device preceding the use of the technology.

As far as the seeds’ market is concerned, public authorities must ensure that competition is encouraged thanks to the prevention of any monopoly situation of the supplier that can result in unfair competition. That is why it is necessary to have flexibility as far as regulations are concerned. This would help create greater entitlement concerning the acquisition of licenses. This is the case in India in particular where dozen of industries are competing much to the delight of producers. But it is the opposite of what is happening in Burkina Faso where despite the liberalization of the cotton sector, a single company supplies seeds. Such a scenario is not viable insofar as the sale’s price, kept at high level, would have a negative impact on producers’ profitability.

As far as management and supply of inputs are concerned, the best case is the one in which the market is organized by public authorities, private sector and producers.

After all is said and done, when it comes to biotechnologies, the setting up of institutions capable of governing at best issues like regulations and competition is vital.

The lack of such institutions would undoubtedly result in a heavy dependence of the small producers towards foreign suppliers.
To put an end to nuisances resulting from cotton production is the objective of the sector’s actors through the introduction of a new mode of production known as the Better Cotton Initiative (Bci). The launching of its pilot phase took place in Mali in the region of Koutiala.

Already adopted in India, Pakistan and Brazil, the Bci system seems to be a credible alternative in the fight against nuisances inherent to cotton growing. That is why measures have been taken since 2007 to facilitate its implementation in West and Central Africa. After the launching of its pilot phase in Mali, other countries like Senegal, Burkina Faso, Togo and Cameroon are expected to adopt it by the year 2011. Its objective consists in doing whatever possible in three years so that 10% of national productions of countries mentioned above are certified “Better Cotton”.

Bci’s main advantage is the fact that it helps improve significantly cotton production, for farmers, the environment and the future of the sector as well. As a matter of fact, on economic level, the Bci will increase producers’ profits. On the environmental level, it will contribute to reduce the impact of water and pesticide use on human health and to improve soil’s quality. At the social level, the Bci helps to promote decent labour for cotton growers.

However, to grow Better Cotton, producers must respect « the Minimum Production Criteria ». As a matter of fact, Better Cotton is grown by producers who minimise the noxious impact of crops’ protection practices that use water efficiently and take care of the availability of water as well as soil’s quality; preserve natural habitats, take care of the quality of the cotton fibre and look for its preservation while at the same time promoting decent labour. However, it should be pointed out that these principles and production criteria must be based on existing initiatives and respect national legal provisions.

Bci also provides for the creation of a support mechanism which is intended for the producers who wish to adopt this system. It promotes the sharing of knowledge on sustainable cotton production practices through the setting up of a consultation framework. The latter will help develop skills through capacity building sessions on each principle and production criteria.

The producer trial fields, the role of cotton in the integrated production system and issues related to literacy are also part of the support mechanisms of the Bci. Besides, Bci devotes an important part to the concept of a sector in order to create a 100% Bci bale. To achieve that, traceability of cotton from the field to the ginning factory is required.

While waiting for the generalisation of the Bci system, it must be hoped that this new mode of production will both help reduce producers’ vulnerability in relation to climate change and vagaries of the market and lead to an increase of their incomes while improving cotton growers’ health.
When you were the Director of Inera, you led the research which resulted in the adoption of transgenic cotton in Burkina Faso. How would you assess the progress made so far?

So far, we have done quite well. After three years of experimental studies and evaluation, the transfer and adoption of the technology by producers has been rather fast and positive. From 15,000 hectares in 2008, it reached 450,000 hectares of cotton in 2009-2010, involving almost 80% of producers. Technical (1 or 2 sprayings instead of 6 to 8), economic (with almost 100 dollars of additional earnings) and environmental (surface area reduction in favour of yields) results speak for themselves. The political debate has been open and anyone can express his opinion regarding the challenges of this Biotechnology.

The fact that conventional cotton can be possibly contaminated by the second pest is at the heart of the debates. What can be done to avoid a possible transfer of the Bt gene.

It is not regarded as a major concern by the experts for our trials have shown that the dispersal of the pollen is very limited. On average, it ranges from 3 to 5 m and 10 to 15 m at most due to the texture of the pollen. The influence of vectors such as insects or wind is vicious enough because these gametes are very sensitive to the factors of the external environment and lose quickly their reproductive capacity. In terms of solutions, it is to be noted that there are several techniques, particularly field separation. There should be a distance of 15 to 100 m depending on the types of soils and winds. Besides, there is the creation of refugee areas for some insects. This will enable them to carry out some important biological activity.

What should be done to put an end to the resistance developed by secondary pests such as Jassid, mirids, white flies, aphids and bugs in relation to the Bollgard cotton?

In fact, there are several Bollgard genes (I, II) from different sources. As with all insecticides, one must always pay attention to the effectiveness of the molecules and constantly improve them. First of all, one must choose seeds which have a good certified gene. Secondly, apply farming practices adapted to Bt with the required spacing out. Finally, to make sure of refugee areas around fields so that secondary pests can fulfill their biological cycle. In fact, our trials conducted in stations have enabled us to apply one or two treatments instead of six to eight pyréthrinoïdes insecticide applications. Technical itineraries proposed by agricultural technicians must always be respected.

There is no such thing as a perfect technology. What could be the potential risks to be associated with the use of biotechnologies, particularly in the field of agriculture?

The risks are connected to the lack of close monitoring which would allow to assess the techniques used, and to propose solutions to existing constraints. One must absolutely pay a close attention to the quality of the seeds, particularly the varieties and genes and avoid counterfeits that may proliferate in our markets. Besides, the setting up of bio-safety rules and a good management of the sector are necessary.
Like India, does Burkina Faso plan to develop its own transgenic cotton?
Yes, Burkina Faso does plan to do so. By the way, from the outset regarding our agreements with the American, Monsanto, or European, Syngenta, firms, Burkina experts have been associated with the various technical transfer stages relating to our Burkina varieties (Fk or Stamp A).

For some time now, Ecowas has been leading, with the support of Coraf, initiatives in order to facilitate the adoption of Gmo in West Africa. What role do West-African researchers play in this initiative?
There is a biotechnological coordinator at Coraf and relay teams in different countries that meet periodically. There is also a Nepad initiative on Bio-safety which is based in Ouagadougou. It is the Africa Bio-safety Network Expertise (Abne) for a support in terms of expertise on bio-safety in Africa.

Do you think that the future of African cotton sectors lies in the adoption of transgenic cotton?
Transgenic cotton is a new technique that solves problems related to the use of insecticides such as cost, toxicity and resistance. Researchers must continuously work in order to find solutions to the constraints relating to cotton production. The Usa have a long experience concerning cotton growing on this continent. It goes back to the days of slavery. The forthcoming creation of a Cotton University in Burkina Faso will facilitate the training of high level technicians who can deal with cotton issue in Africa in sustainable terms. This includes agronomical, economic, environmental, political and organisational aspects. In fact, the cotton sector acts as an engine for other crops such as maize and beans, just to name a few.

The current issue of the newsletter has been achieved with the support of:

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The Rotterdam Convention

A protection tool against chemicals and harmful pesticides

The signature of the Rotterdam Convention in 1968 is the result of a long process. It is consecutive to the threats incurred in terms of health and the environment by countries, mostly developing countries, because of the ever-increasing growth of production and marketing of chemicals that are sometimes harmful. Its aim is to promote cooperation and the sharing of responsibilities between concerned parties in the field of international trade involving certain chemicals and harmful pesticides.

The sharp increase in the marketing of chemicals which are sometimes harmful led to the creation in 1980 respectively by United Nations Food and Agriculture Organization (Fao) and the United Nations’ Program for the Environment (Pnue) of an optional mechanism for information sharing on chemicals that are traded inter-nationally. A few years later, the Rio Declaration, which was adopted during the 1992 United Nations’ summit recalled in article 19 the principle of « Ecologically rational management of toxic chemical substances (...) » and advocated the urgent adoption of a restrictive legal tool. The Rotterdam Convention related to the prior consent procedure with full knowledge of the facts applicable to some chemicals and harmful pesticides that are traded internationally helped bridged the legal gap which has been noted.

According to this convention, no chemical product shall be exported with the prior consent of the importing country. The prior consent procedure with full knowledge of the facts consists in getting the formal agreement of importing countries for the future deliveries of some chemicals, to publish the decisions of importing countries and see to it that such decisions are respected by exporting countries. Thus, for each chemical product submitted to the Convention, each party should send to the Convention Secretariat an answer regarding any future importation of the product no later than the date when the Convention came into force.

In terms of the protection of the environment and of citizens against threats connected to pesticides and harmful chemicals, the Rotterdam Convention represents a significant progress. It goes a long way to promote sustainable agriculture in a healthier environment in order to increase yields and support the fight against hunger, disease and poverty. Also aware of the fact that the demand for pesticides will keep increasing in response to an increasing demand for foodstuffs, the Convention has created a regulatory mechanism concerning the possibility of access to pesticides that are known for their serious effects on health and environment.

Thus, countries can decide with the full knowledge of all the fact the potentially harmful chemicals they are willing to accept or ban those they cannot safely manage. In case the marketing of a chemical product is authorized, its safe use will be facilitated by the requirements of the Convention in terms of labelling and information relating to potential threats to health and environment.

The chemicals coming under Annex III of the Rotterdam Convention include pesticides and industrial chemicals that the parties to the Convention have banned or drastically restrained for health and environmental purposes. They include 29 pesticides and 11 industrial chemicals. For efficient implementation of the Rotterdam Convention, the latter has provided that governments allocate to appointed national authorities resources which should allow them to discharge their watch and control duties.

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