



Editorial

Dear readers,

Issues relating to the development of post-modern farming have been at the heart of development policies since the 2008 food crisis, and public authorities have given them special attention ever since. In most countries, mainly in developing countries, they receive considerable support in terms of resource allocation. This is going to be the main topic of this ninth edition of “DABA”, a quarterly newsletter on farming and biotechnology of the **Enda Diapol’s Agripol** section.

During the African Union (Au) Summit held in 2003 in Maputo, African countries made a commitment to allocate 10% of their national budget to the farming sector. Under the heading, “*Behind the Scene*”, an article takes stock of those commitments and the role of farming towards reaching the first Millennium Development Goal (Mdg) which is devoted to the reduction of dire poverty and hunger in the whole world by the year 2015. To achieve that goal, some actors advocate the use of Gmo while others question such a stance. In order to enlighten our readers, “*Cross Perspectives*”, poses the debate on the issue of adoption or rejection, to solve problems related to hunger in the world. Moreover, a biotechnology and bio-security development plan in West Africa (Pdbbao) that aims at facilitating the adoption and promotion of biotechnology in African farming was set up by the West and Central Africa Counsel for Agricultural Research (Coraf). For further details, Daba has called on Pr. Abdourahmane Sangaré, Manager of the Biotechnology and Bio-security programme of Coraf. Under the heading “*Testimony*”, Pr. Sangaré tells our readers how he sees biotechnology’s role in relation to the achievement of food security in Africa.

As far as climate change is concerned, new challenges are emerging. They are, among other things, issues relating to productivity improvement, profitability and modernisation. According to some experts, research must play a major role in supporting producers so that they can tackle environmental changes. Under the heading “*Alternatives*”, research on varieties is seen as one of the main solutions to the various difficulties producers are facing. Moreover, after the Copenhagen conference on climate change and the mixed results registered, the one held in Mexico resulted in negotiations intended to put forward strategies and financing mechanisms to deal with climate change in developing countries. “*Focus on*” deals at length with the major results of that meeting.

By the same token, the debate on the fight against hunger around the world has been well received by supporters of small family farming. They consider it an alternative that is capable of solving the thorny issue of food self-sufficiency. To ponder over this issue, an international forum was organised in December 2010 thanks to the initiative of the Cadre National de Concertation des Ruraux du Senegal (Cncr) and the Federation of Senegalese NGOs (Fongs Action Paysanne). Its theme was: How can family farms feed Senegal? These two platforms, strong supporters of family farming, attempted to call on the rural areas’ main actors to support family farms which are the basis of African farming. “*Breaking News*” gives a detailed account of this meeting.

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Pr ABDOURAHMANE SANGARE,
MANAGER OF THE
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AGRICULTURAL INVESTMENT

Fighting poverty

Meeting in 2003 in Maputo, the Mozambican capital, African Heads of State made commitment to allocate, by the year 2008, 10% of their budgetary resources to the development of farming, the engine for economic growth and a tool for the reduction of poverty. This commitment should allow the different countries to achieve the first Millennium Development Goal (Mdg), « to reduce dire poverty and hunger by the year 2015».



Allocating 10% of their national budget to the farming sector has proven to be very restrictive for many countries. But, according to some experts, this is the least that should be done if farming is to become a factor of poverty reduction. Unfortunately, eight years after the Maputo declaration, very few countries have fulfilled their commitment.

In fact, according to a report published in 2007 by the New Partnership for Africa's Development (Nepad), out of the 53 signatory countries only seven (7) had reached the targeted goal. Those countries are: Burkina Faso, Cape-Verde, Chad, Ethiopia, Mali, Malawi and Niger. As far as the other thirteen countries are concerned, they had allocated between 5 and less than 10% of their resources to farming. A really poor achievement rate, repeated in 2008, which illustrates the difficulties facing the agricultural sector in Africa.

However, many reasons like the scarcity of resources, food crises

and the late application of the directive, among other things, account for this situation. But it is important to note that, generally, agricultural investments have gradually improved in most African countries, going from 4 to 7%. Nevertheless, African farming's lack of competitiveness is very often blamed for that. This is due to the low level of investments and of modernisation of family farming. That is why, for instance in West Africa, only 24% of arable land, that is to say 55 million hectares, are under cultivation.

In addition to that, only 4% of arable land are irrigated in Africa, against 38% in Asia. To reverse this trend, African countries, in partnership with the United Nations Food and Agricultural Organization (FAO), have agreed to finance, as a priority, water control initiatives. That is why Mr. Jacques Diouf, FAO's Director General, declared in October 2010 that « *Agriculture in Africa needs 44 billion USD* » in order to efficiently deal with hunger which still affects nearly one billion people around the world.

Beyond these structural shortcomings, it is African agricultural policy which is being questioned. Accused of wanting to remove obstacles to



« pro-market » markets, African states should rather develop a « pro-business » approach for an agricultural sector which is based on the profitability of the existing industrial and commercial companies; this, through the setting-up of protection systems for a more competitive local agriculture.

Therefore, it is important to remind African States, beyond the noticeable increase in agricultural investments, to abide by the Maputo directive, for it will promote the emergence of an agriculture which is capable of contributing efficiently to poverty reduction. ■

DABA
A Quarterly newsletter
on agriculture and biotechnology.

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INTERNATIONAL FORUM ON AGRICULTURE

States' contribution towards food sovereignty

From November 29 to December 01, 2010 Dakar hosted an international forum on the theme: «How can family farms feed Senegal? ». The forum was organised by rural actors and the Federation of Senegalese NGOs. More than one thousand people from twenty countries took part in the deliberations.

«How can family farms feed Senegal» is the question rural actors, especially farmers' associations gathered within the Conseil National de Concertation des Ruraux (Cncr) and the Federation of Senegalese NGOs (Fongs-Action Paysanne) platforms, tried to answer. To do that, they met from November 29 to December 01, 2010 at the International Centre for Senegalese External Trade, (Cices: International Centre for Senegalese External Trade). It occurred during an international forum.

The participation of more than one thousand guests coming from twenty countries, as well as actors belonging to civil society, the private sector, donor agencies and regional farmers' associations among others, was noted. Several objectives were raised during the meeting. First of all, they talked about the importance, the role and contribution of family farms (Eaf) in reaching food sovereignty; secondly they analyzed the major constraints that prevent these Eafs from fully playing their role; finally, they called on decision makers about the need to stress the specificity of Eafs in developing agricultural policies.



During the deliberations, three themes led to heated debates: How can Senegalese people be better fed? How to better manage land and natural resources? How to better direct the development of economies and rural societies? Important outcomes resulting from the plenary sessions were written down in a memorandum revolving around seven (7) axes. They give priority to the position and pre-eminence of Eafs to reach food sovereignty in Senegal. In addition, they identify concrete proposals that can be shared and discussed with public authorities, donor agencies and other actors involved in agricultural development; this, for a greater inclusion of Eafs into agricultural policies.

As a means of promoting employment and contributing to the creation of the Gross Domestic Product (Gdp), farming has always held a key position in the development of different public policies in Senegal since independence. And yet, it hardly plays its role of engine for the economy and development in rural areas through the creation of wealth and income. Consequently, some experts, especially the leaders of farmers' associations, are saying that Eafs should be modernized, while others are advocating coexistence between subsistence farming and export/industrial farming; hence heated debates arose between the advocates of these two schools for the achievement of food sovereignty. ■

● Cross-perspectives

DEBATE ON GMO

Between scientific autarchy and public involvement

The endless debate between advocates and detractors of the use of Gmo dies hard. As a result, there are two sides to the debates. Scientists think that the issue of biotechnology should not be the sole concern of experts, while those who oppose this thesis recommend the real involvement of the public and of civil society.



As a part of new technologies, biotechnology is the result of a combination of biology and other scientific fields, especially microbiology, biochemistry, biophysics and genetics, among others. It led to the emergence of Gmo whose adoption requires the creation of a new institutional mechanism. In the U.S.A, India and many Latin American countries, the resort to this device has often been controversial.

Gmo, a topic for scientists alone

The issue of Gmo must be dealt with only by experts. As far as the advocates of this thesis are concerned, public involvement in the management of this innovation will lead to the politicization of science. They think that, not only do citizens (consumers) have no capacity to understand the principles of a rational

management of the risks inherent to Gmo, but also that their participation in the debate could lead to more confusion or to the adoption of incoherent measures. Many reasons are mentioned in this respect, especially the existence of cognitive biases. In fact, an error in the decision making process explains why the public gives more attention to bad news. There is also the public's difficulty to think hypothetically, a



lack of understanding of technical topics, and an aversion to novelty and risk.

Generally, this thesis' supporters claim that scientists and experts have a more objective approach to risks, which is based on both a static apprehension of damage and a great consideration for the facts. Indeed, they argue that the risks perceived by lay people are highly subjective (fright, fears, even obscurantism). That is why they maintain that on the issue of biotechnology, it is wise to preserve the essence of expertise by avoiding mixing facts with value judgements.

In the U.S.A, India and China, this expertise is based on the mobilisation of reliable scientific knowledge. In these countries, total freedom of action has been given to the institutions which manage biotechnology. They have succeeded in circumscribing issues and avoiding spreading needless doubt and uncertainty, as well as possible disagreements between scientists; the aim is not to increase public fears.

The public, first

Contrary to this thesis, some other actors recommend the

involvement of civil society in the management of biotechnology. According to them, the introduction of Gmo is and remains a democratic process. By the way, this is the position defended by almost all European countries. They find legitimate the fact that the public (laymen) should ask more, far-reaching, questions about the risks. They consider that the man in the street is not faced with any abstract, theoretical threat, but rather with a real one to which he must adjust. They insist on the fact that the public regard the «risk for itself» while the experts regard it «in itself».

Furthermore, they claim that the layman's vision reflects legitimate concerns which are not necessarily taken into consideration by experts. In addition, many studies show that the controversies resulting from public debates represent informal processes required for risk evaluation. Such studies make revelations (implicit assumptions due to a lack of knowledge) which, perhaps, have been soon ignored under the pressure of commercial interests, economic or social choices. Thus, as part of the management of risks

associated with biotechnology, the public should be consulted.

Nevertheless, they must only intervene at the level of risk management, mainly in order to improve the social acceptability of the measure. In the U.S.A where Gmo product labelling is not accepted, an opinion poll ordered by the Federal Department of Agriculture (Fda) reveals that the announcement of Gmo presence in food products has provoked very negative reactions, not because of the fact that American consumers are especially concerned about their health, but simply because they find it scandalous that such a change in their food could occur without them being informed.

Some civil society groups have been specifically created around Gmo challenges. Others have redefined their identity by working on values on which are based their mobilization, like ethical reasons, consumers freedom of choice, farmers' independence and live licensing; this, while redefining their alliances with the actors who are directly concerned by the theme; especially researchers, industrialists and decision makers among others.

However, it is important to specify that, in practice, the involvement of the public in biotechnology management has led, more often, to debates, in so far as many players act as spokespersons for the common good. This situation finally polarized the debate, while discarding civil society's arguments on biotechnology management. Yet, is it legitimate to discard the role of civil society in Gmo management? It is important to consider the main issue under discussion, which is civil society's representativeness.■

● Alternatives

IMPROVING AGRICULTURAL VARIETIES

One way of solving food security

To tackle the constant food crisis, Africa must manage to reach a modern and productive farming system. The satisfaction of humanity's ever-increasing future needs requires the improvement of yields; thus making the improvement of agricultural varieties one of the main alternatives.



To increase the profitability of family farms remains one of the main concerns of the family farming system which is widely practised in Africa, in that it constitutes the population main source of food security, as well as a springboard for the fight against poverty. So, conscious of the importance of agricultural innovation through the improvement of agricultural varieties, Africa has committed to develop scientific research in the sector.

The improvement of varieties is a technique that combines traditional know-how and state of the art technology in order to create new varieties that are more resistant to local climate conditions and more environment-friendly. It represents indeed a real alternative when it comes to dealing with the main constraint facing family farming: low yields.

The process is made up of two

major steps. The first one consists in creating new genotypes (varieties) presenting the greatest useful diversity possible. The second one aims at reducing this diversity by selecting the most interesting varieties (cultivars) for purposes of improvement. Variety selection is based on two main criteria: the increasing of yields and the improvement of seed quality. The selection of traditional varieties and those hardly improved and less sensitive to climate change and diseases, makes it possible to have constant but very low yields; hence the need for genetic selection to boost productivity.

This process which is characterized by the supply of better quality seeds, a greater yields and resistance to parasites and diseases, beyond quality and productivity, leads to an increase in

the value and commercial potential of these crops, hence an increase in income in rural areas and, generally, global economic development.

Nevertheless, the increase in yields is due only partially to variety improvement to the extent that modern varieties are not adapted to present farming conditions referred to as traditional. For them to succeed, it is essential for new varieties to be adapted to local conditions and for agricultural conditions to be improved at the same time. Thus, the use of improved seeds should go along with the adoption of new farming techniques.

More common in the subsistence-crop sector in Africa (rice, maize, sorghum, etc...) the improvement of varieties is also applied to income-generating crops like genetically modified cotton for the sake of profitability. But its high cost, which sometimes necessitates several years of experimentation, requires that African States invest in research, which will guarantee a sustainable, environment-friendly agricultural system and natural resources. It is only then that a green revolution will take place. ■



Pr ABDOURAHMANE SANGARE,
MANAGER OF THE BIOTECHNOLOGY AND BIO-SECURITY PROGRAMME OF CORAF

«*Biotechnology is strategic and of the utmost importance but not a panacea*»

As a Research Director since 2008 and Officer of the National Order of the Ministry of Education of Ivory Coast since 2009, Pr. Abdourahmane Sangaré has specialized in the study of molecular and cellular biology at the University of Louis Pasteur in Strasbourg, France, where he received his Post Graduate Certificate (DEA) and obtained a unique Dissertation. Prior to that, he had done several Post-Doctoral trainings in the United States of America, mainly in Missouri (Washington University) and California (International Laboratory for Tropical Biotechnology of the Scripps Research Institute) where he took up civil genetics and worked on the development of cassava resistance to the mosaic virus. The Manager of the Biotechnology and Bio-security programme of Coraf, he talks here at length about the implementation of Padbbao and about the challenge of introducing Gmo into agriculture.



DABA: How does Coraf operate at the institutional level with member states for the implementation of Padbbao?

Pr. Sangare: In regards to the implementation of the Action plan on biotechnology and bio-security in West Africa (Padbbao), we first set up a Global Framework for Biotechnology and Bio-security. It is a dynamic and permanent consultation forum between partners of research in agricultural biotechnology and bio-security within the region. All national and regional research institutions intervening in the field of biotechnology have an official representative in this global Framework. Inside this Framework, four specialised groups (GTs) were set up (Animal Biotechnology, Plant Biotechnology, Bio-security and Communication) and assist the Manager of the Coraf/Wecard Biotechnology and Bio-security Programme with the writing of priority projects that are submitted for approval to the Scientific and Technical Council of Coraf/Wecard or potential donor agencies. The biotechnology and bio-security programme of Coraf/Wecard has managed several regional projects involving between three to seven countries, each one of them with the

backing of several development partners such as Usaid, Rockefeller Foundation, Syngenta Foundation, the French Ministry of Foreign and European Affairs, etc. All these projects participate in the achievement of goals defined by the Regional Economic Communities, namely, Cedeao, Ceeac, Uemoa and Cemac and with the assistance of regional technical institutions like the Sahel Institute (Insah).

DABA: What are the products which have been developed within Ecowas since the implementation of Padbbao?

Pr. Sangare: They are four. But so far the only product that has reached the dissemination and marketing phases is Bt-cotton. If you take for example, the transfer of this product to Burkina Faso was done along with the transfer of the technology. This was the result of a tripartite agreement between the owner of the technology (the Monsanto Group), the cotton sector (made up of organisations) and the State of Burkina Faso (including research and bio-security institutions). The negotiations gave the results we know today, pointing to some positive outcomes for the Burkinabe farmer. Socio-economic

studies are still going on for a better assessment of the situation, but the trends seem very encouraging. Besides, it must be stressed that all the prospective studies indicate that biotechnology can have a great impact on African farming if it is well controlled.

Some studies claim that Bt-cotton can result in an increase of about 30% in yields. What does Coraf think about that?

Pr. Sangare: Our study is being conducted. We have the same information as you. But as you must know, as people who work in the field of science, we want whatever we say to be proved by irrefutable analyses. And we also take into account factors other than mere productivity, like social impacts and influence on biodiversity. It is all the data resulting from this kind of studies that will allow us to give our position which should be objective. It is not our intention to engage in any battle for supremacy.

Do you think that the future of African agriculture lies in the adoption of biotechnology?

Pr. Sangare: It is by formulating the question this way that the debate on

biotechnology has been complicated. Where have we seen, on earth, a total, global, final solution exclusive to any given issue? One must be really pretentious or patently insincere to think that biotechnology is a panacea and that all the other Sciences which have until now fed people no longer offer any interest. No! They represent only new tools whose potential is huge. Adopting them will allow us to improve existing knowledge as well as to explore frontiers which are until now unknown. Today, it is no more a dream to say that we are going to create crops that will resist drought, salinity, viruses, bacteria and destructive mushrooms, varieties richer in nutrients (vitamins, amino acids, trace elements, etc) cows that resist more to trypanosomes, etc. Biotechnology can bring a significant added-value to the farming, medical and environmental world as computer science has impacted on the performance of other sectors. And mostly, this tool will be both strategic and crucial for us, because its mastery will enable us to better utilise our rich biodiversity.

Will the fight against poverty and hunger in Africa be achieved only by adopting biotechnology?

Pr. Sangare: This is the normal sequence to the preceding question. No approach is self-sufficient. The adoption of biotechnology can have an effect that can act as a catalyst on conventional approaches and offer solutions that are totally new which must be used. It cannot be said we could not do without it. The only thing I would like you to do, both you and your readers at the end of this interview, is to try to answer the following question: What is the risk of not adopting biotechnology in Africa? It is a question which is often reversed. ■

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FOCUS ON...

CANCUN WORLD CONFERENCE

A glimmer of hope

The sixteenth world conference on climate change ended on December 11, 2010 in Cancún, Mexico. This conference took place one year after the Copenhagen «failure». For two weeks, 194 member States of the United Nations' Framework Agreement on Climate Change met to agree on how to fight climate change at the end of the Kyoto Protocol in 2012.

After the mixed results of the Copenhagen conference which did not reach a global post-2012 agreement, even less on short and long-term global reduction objectives, the Cancun stage crystallised all the hopes for reaching a consensus on climate change which still divides the current world.



The main challenge at the Cancún conference was then to help adopt, by the Framework Agreement of the United Nations, the political agreement reached in extremis in Copenhagen (this political agreement was a repetition of the commitment by States to reduce emissions without setting any deadline or without working out any strategies to that effect), and to decide what kind of action to take in regards to the Kyoto Protocol whose first implementation phase ends in 2012.

At the end of the deliberations, the participants agreed on a final text that recognizes the necessity to reduce the rise in the mean world temperature to 2°C. The document advocates the setting up of new instruments of international solidarity. It also includes objectives relating to greenhouse gas (Ghg) emissions proposed by the developed countries by the year 2020, as well as the climate change policies initiated by developing nations.

Thus, some limited but valuable progress has been made, notably regarding certain issues. First of all, the insertion of the Copenhagen agreement into the United Nations' Framework Agreement on Climate Change is to be noted. Therefore, some national actions and objectives relating to gas emissions registered during the COP 15 are now recognized and followed as part of the multilateral process. In addition, the Kyoto Protocol proponents made a commitment to make further efforts in order to reach a new agreement.

The second important decision is the setting up of a green world fund for

climate change, whose aim is to support the policies, programmes and projects for the reduction of emissions and for adaptation in developing countries. This fund will act as a

single wicket that should allow the rationalization of deposits to the tune of 100 billion USD by the year 2020.

Still another important decision is the acknowledgement and setting up of the Reducing Emissions from Deforestation and Forest Degradation (Redd+) system, a clever mechanism to allow forest countries that have good policies for conservation and the fight against deforestation, to generate carbon credit transferable on the carbon market and to obtain compensations. However, the practical terms of these two institutions have not been defined yet.

The Cancún conference has also registered the setting up of a technology centre for climate change, whose objective is to develop the know-how on green new technology in developing countries, and to accelerate the transfer of technology towards Southern countries. Finally, the Committee on Climate Change Adaptation has been created and is responsible for the coordination of national adaptation policies. In addition, developing countries have committed to count and publish their emissions, as well as to conduct «appropriate actions» in order to reduce their emissions by the year 2020.

The positive outcome of the Cancún summit allowed the resumption of negotiations on climate change. It should be noted that no major legally binding agreement has been reached. The next important meeting, Durban 2011, is scheduled to take place in Durban, in South Africa, in 2011. The challenge will be to make operational all the machinery proposed in Cancún, and to convince countries to raise by themselves reduction levels. ■