Report of the Second Africa Rice Congress *Innovations and Partnerships to Realize Africa's Rice Potential* Bamako, Mali, 22–26 March 2010

22 March 2010

1. Opening Ceremony

1.1. Introduction and opening speeches

The Second Africa Rice Congress (ARC), organized in Bamako, Mali, by the Africa Rice Center (AfricaRice) and the Institut d'Economie Rural (IER), Mali, was inaugurated by the Prime Minister of the Republic of Mali, His Excellency Modibo Sidibé on behalf of the President, His Excellency M. Amadou Toumani Touré.

The Congress, the theme of which was *Innovations and Partnerships to Realize Africa's Rice Potential*, attracted 505 participants from across the world and follows the First Congress held in Dar es Salaam, Tanzania, in 2006. The participants included rice farmers, seed producers, rice processors, input dealers, agricultural machinery manufacturers, and representatives from agricultural ministries, national and international rice research and extension communities, non-governmental organizations, the donor community and other development partners.

The Minister of Environment and Sanitation, Mali, the Honorable Agatham Ag Alassane, welcomed the participants to Mali for the Congress, on behalf of the Minister of Agriculture. He said that the presence of participants from across the world was a testimony to the global interest in promoting rice production in Africa and added that "agricultural development is the only way to take Africa out of poverty". He pointed out that the demand for rice has been increasing while production has not been able to keep pace, and the gap for sub-Saharan Africa was of the order of 10 million tonnes of milled rice annually. He informed participants that the Malian government had launched a Presidential Rice Initiative in 2008, which has led to a 50% increase in rice production.

The Chairman of the AfricaRice Board of Trustees, Mr Getachew Engida, said that the presence of the Prime Minister of Mali at the ARC reflected the great importance that the Government of Mali gives to agricultural research and to increasing rice production. He added that Africa was not shielded from another food crisis of the kind that was seen in 2008. He said that AfricaRice is set on a new path of growth, in which the number of member countries had increased to 24. There has been a greater contribution of membership fees, and a higher level of partnership with the national agricultural research systems (NARS). The Board Chair thanked donors to AfricaRice and the sponsors whose support made the ARC possible.

Mr Takashima Izumi, the Vice President of the Japan International Cooperation Agency (JICA), commended AfricaRice and the Government of Mali for the successful organization of the ARC. Increasing rice production is critical for Africa's development, achieving a green revolution, and meeting the Millennium Development Goals. Mr Izumi said that Japan gives high priority to the increase of rice production in Africa. JICA, which is one of the largest donors in the world, will continue to support the development of technologies that will address the specific needs of African countries to produce rice: "There is an urgent need to achieve self-sufficiency, since it is unacceptable that African countries import rice at high prices".

1.2. Presentation of Awards

The Prime Minister of Mali presented the Distinguished Service Award to three former AfricaRice directors general for their role in leading the Center to great heights. The recipients were Dr Jacques Diouf, Executive Secretary from 1971 to 1977 and currently the Director General of the Food and Agriculture Organization of the United Nations (FAO); Dr Eugene Terry, Director General (DG) from 1986 to 1996; and Dr Kanayo F. Nwanze, DG from 1996 to 2006 and currently the President of the International Fund for Agricultural Development (IFAD).

Accepting his Award, Dr Nwanze said that the more than 80 million small-holder farmers of sub-Saharan Africa (SSA) should be encouraged to see rice farming as an enterprise and agri-business. To tap the potential for growth in SSA, rice farming should become a viable and profitable enterprise for small-holder farmers, women and youth. He then called on African governments to encourage the development of sustainable agriculture in Africa by promoting innovation and partnerships with a defined role for the private sector.

Dr Nwanze said that he was proud to have been associated with AfricaRice for 10 years between 1996 and 2006. AfricaRice promoted African agriculture to the world stage, championed the NERICA revolution in Africa and promoted scientific research and development as the engine driving rural development in the continent.

Dr Terry said that Africa is not investing enough human and financial resources to meet the challenge of increasing agricultural production. It is unacceptable that a substantial portion of the 1.5 billion poor and hungry people are living in sub-Saharan Africa.

He said that he was happy that during his tenure as DG he was able to turn AfricaRice (then the West Africa Rice Development Association) into a center of scientific excellence. This initiative was continued by the leadership that followed him. AfricaRice has been involved in creating, molding and mentoring numerous young African researchers. "Africa needs thousands of young scientists. We have just started to scratch the surface of the African agricultural challenge."

Dr Diouf could not attend the Congress and the Award was received on his behalf by Dr Geoffrey Mrema. In his video-recorded acceptance message, Dr Diouf congratulated AfricaRice for its effective role as the key center for rice research in Africa, and for helping the continent meet the Millennium Development Goals of reducing poverty and hunger. "When I started with the Center as its first executive secretary, I did not know that I had sowed the seeds of a world-class organization."

He commended AfricaRice for strengthening scientific partnership by organizing the Africa Rice Congress at a time when Africa was facing challenges on the food front. He said that although Africa accounts for 13% of the world population, it also accounts for 9.3 million tonnes of rice imports, which is one-third of the international trade. Africa can become self-sufficient in rice production only through the promotion of technologies and the development of the seed sector.

AfricaRice Board Chair, Mr Engida, presented a plaque to the President of Mali, His Excellency Amadou Toumani Touré, for the country's support to increasing rice production. Prime Minister Sidibé accepted the Award on behalf of the President.

Prime Minister Sidibé reiterated the vision of the Malian government to make agriculture the driving force of economic growth, with more than 10% of the country's budget being allocated to agricultural research and development. Through the Office du Niger project, Mali is working to bring thousands of hectares under irrigated rice cultivation. "Africa spends billions of dollars annually to import rice. This resource should stay in Africa and we should be able to produce enough to export", Prime Minister Sidibé said.

The Prime Minister declared the Second Africa Rice Congress officially open.

2. Keynotes and Panel Discussions

2.1. Introductory remarks

The Congress had three main objectives: (i) to review the state of the art in rice science in Africa, especially by African scientists; (ii) to develop and maintain improved networking among African actors; and (iii) to connect research with innovation.

Dr Bino Teme, DG of IER, set the tone for the Congress by stating that in order to increase rice production there is need for strengthening the partnerships among scientists, policy-makers and stakeholders. He outlined the four areas of focus required to achieve this:

- Strengthen R&D to develop relevant scientific innovations;
- Integrate linkages between upstream and downstream stakeholders;
- Develop human resources and financial investments; and
- Improve communication between all players in the sector.

Dr Papa A. Seck, DG of AfricaRice, welcomed the participants and said that the large number of participants at the Congress was a testimony to the fact that Africa has a strong desire to become self-sufficient in food production. He said that the year 2010 coincided with the 50th anniversary of independence of many countries in sub-Saharan Africa. The strong presence at the Africa Rice Congress was an indication of the strong conviction that Africa can feed itself with rice and export the grain too.

Dr Seck asked the Congress participants to make concrete recommendations that can improve rice production. The potential in Africa is immense, with rice yields of 10 tonnes per hectare, highest in the world, being achieved in Egypt, one of AfricaRice's member states. The yields achieved in the Office du Niger region of Mali are comparable with those achieved in China and Vietnam. Africa has all the ecosystems in which rice can be grown. The continent uses only 4% of its water resources and only 3.9 Mha of its 130 Mha of lowlands have been cultivated. If the current area under rice was to be increased by 15% while avoiding harmful deforestation, then Africa could be self-sufficient and be able to export rice.

For this to happen, the capacity of NARS has to be strengthened with support from regional and international organizations, Dr Seck added. There also have to be increased technological innovations supported by an appropriate policy environment. There is a need to develop innovation systems with participation from the private and public sectors. "Technology innovation should be co-managed by all stakeholders in the value chain," he said.

Dr Seck emphasized the need for a conducive policy environment to increase rice production. This included subsidy to farmers to produce and market rice, availability of credit, appropriate land legislations and access to certified seeds.

On his part, Dr Robert Zeigler, DG of the International Rice Research Institute (IRRI), said that investment in rice research has very high returns. The three main areas where the African farmers require support are:

- Technology: Ensuring that farmers have access to economically viable and accessible technology on time. Such technology should take into account the needs of women and should ensure that it can result in surplus rice that can be sold.
- Infrastructure: Rural infrastructure has to be in place, which will help subsistence farmers to transform into agri-business entrepreneurs. There is a need for mechanization of rice production in Africa.
- Policy and institutions: The institutions have to be strengthened with thousands of technical experts at the field level to augment the capacity of the national systems.

Mr Shey Tata, Lead Financial Officer at the Secretariat of the Consultative Group on International Agricultural Research (CGIAR), said that the change management process underway in the CGIAR will ensure that donor support to agricultural development in Africa will be strengthened and resources used optimally. The donors have agreed to increase funding support from the present US$ 500 million per year to $1 billion in 5 years.

2.2. Panel Discussion 1: Innovations in breeding and seed systems to increase rice productivity

Dr Oumar Niangado of the Syngenta Foundation led this discussion with his keynote presentation. He said that although significant yield increases have been achieved in some places, there is a serious shortage of breeders in many national systems. Many of the younger-generation scientists are moving toward biotechnology rather than conventional breeding. He added that there is also a strong need to establish a functional seed system. The seed market is either nonexistent or inadequate, and most seeds come from self-supply. There is a shortage of pre-foundation and foundation seeds. He noted, however, that the situation in east and southern Africa — where the private sector controls more than 20% of the market — is better than in west and central Africa.

The panelists for this theme stressed the importance of strengthening the seed system and having a clear overview of seed demand. Seeds are the bridge between breeders and farmers. The focus should be on getting the right varieties to the right people at the right time, while ensuring that there is appropriate storage and distribution. There is a need for strong public–private partnership in the seed sector.

2.3. Panel Discussion 2: Crop and natural-resource management innovations to increase rice productivity and deal with climate change

Prof. Folkard Asch, the keynote speaker for this discussion, said that the complexity of rice cultivation comes from the diversity of cropping systems. There are high- and low-input systems and an entire spectrum in between. The yield gap between Egypt and Côte d'Ivoire is due to the difference in the cropping systems. There is also the problem of post-harvest losses, which can be as high as 40%. He noted that increasing globalization will mean that more and more rice will be available only through the global market, making weaker countries more vulnerable. The good side of globalization, however, is that knowledge will be transferred more quickly. With diminishing oil reserves, there will be more pressure to use food grains for generating energy. Climate change will make the weather more erratic, adding to the vulnerability of farmers. The solution, according to Prof. Asch, is to continually maximize resilience in high-input systems (productivity increase), while maximizing adaptation in low-input systems. This can be achieved by increasing elasticity through breeding of plants that can handle multiple stresses. The elasticity of the systems to withstand variability has to be increased, so that they can still produce under changing circumstances. To deal with the future situation there is a need to strengthen networking among all stakeholders in the rice sector.

The panelists for this theme felt that the focus should be on bridging the yield gap by improving cropping systems; strengthening farmers' abilities to deal with weather variability so that they can deal with climate change; and establishing a risk protection system for farmers.

2.4. Panel Discussion 3: Developing competitive rice value chains

Dr Dirck Stryker from Associates of International Rural Development focused on the competitiveness and quality of African rice *vis-à-vis* imported rice. Price and quality are important in order to add value to African rice. There is a need to map out the value chains in different locations and to look at value addition in financial and economic terms at each stage. He said that the two major objectives of making African rice more competitive are to increase food security and to be able to export to the international market. To ensure this, the policy options need to be reviewed.

He gave the example of Rwanda, where concerted policy measures have encouraged rice cultivation in the lowlands and made it competitive with imported rice. According to Dr Stryker, having appropriately sized rice mills with technological innovations (such as using rubber rollers) will help increase the quality of local

production. Improved quality rice can be more competitive, making it an attractive option for farmers to grow as a cash crop.

The panel members spoke about the multiple stages in the value chain; the significance of strengthening all the links in the chain; and getting better economies of scale so that small-holder farmers can generate better value for their produce.

23 March 2010

3. Roundtable Discussions: Investing in Africa's Rice Sector: Opportunities and Challenges

3.1. Presentations

Prof. Eric Tollens, the Chair of the roundtable discussions, introduced the topic to the participants. He said that the issues that needed to be discussed were the ways in which investment in the rice sector in Africa can be increased; improving the area under irrigation; improving mechanization; improving public–private partnerships; and generating an investment-friendly climate.

Madam Pendant Gueye Cissé, President of the Fédération de Groupements et Association des Femmes Productrices du Sénégal (FEPRODES), said that the situation of rural infrastructure (especially irrigation and warehousing facilities) for rice is disastrous. The lack of infrastructure has made seed production expensive and what is produced does not get sold. There is lack of capacity at all levels. Credit for farmers comes at very high interest rate of 12–15%, making it inaccessible. Madam Cissé painted a bleak picture when she said, "With the current state of preparedness, we expect the disaster of 2008 to happen again".

According to Mr David Wallace from agricultural equipment manufacturer Briggs and Stratton Corporation, mechanization is the missing link in rice cultivation in Africa. Filling this gap requires the introduction of affordable, sustainable and appropriate mechanization.

Dr Teme, DG of IER, said that since Mali is a landlocked country the availability of fertilizer is low and it is very expensive for farmers, leading to under-fertilization of lands. Transportation facilities are inadequate and expensive. There are small dehulling units for rice, but these reduce grain quality. The state can help improve the situation by improving infrastructure and can facilitate building vertical and horizontal linkages among stakeholders.

Dr Robert Gueye of FAO said that developing an effective seed sector requires combining the strengths of a strong state and a strong private sector. The seed producers for rice operate with a small financial margin, so they require support. An effective seed policy can provide this support. In addition, there is a need for the creation of seed storage facilities.

Dr Dougou Keita of the African Development Bank (AfDB) said that the food crisis of 2008 had brought agriculture back onto the agenda of the governments and people of Africa. He spoke about AfDB's support to agricultural development in the continent.

3.2. Discussions

The President of the farmers' organization ROPPA, M. Cissokho Mamadou, reminded the participants that farmers were the leading investors in the agricultural sector, financing 90% of the total investment. Farmer organizations across west and central Africa are linking with their counterparts in east and southern Africa to reach a stronger negotiating position. Researchers and farmers should commit to attaining food security.

The other recommendations from the discussions were to:

- Develop harmonized agricultural policies at the regional level to boost the rice sector.
- Develop a network of appropriately sized milling units.
- Strengthen partnerships and equitable resource-sharing between international and national agricultural research systems.
- Make large quantities of good-quality seeds available commercially.
- Move to hybrid-rice cultivation wherever appropriate.
- Strengthen the capacity of farmers to produce good-quality seed.

3.3. Wrap-up comments by Dr Papa A. Seck, DG of AfricaRice

Dr Seck said that partnership has to be a permanent process, since impact can be generated only when international and national research centers work together. Research at international centers is always strategic in nature. It is only strong NARS partners who can lead the impact process. He said that NARS partners have varying research strengths. While there is only one breeder in some national systems, Egypt has 12 rice breeders.

AfricaRice has been continually strengthening collaboration through research publications with NARS scientists. In 2008, AfricaRice got an award from the CGIAR for its partnership research through the rice network ROCARIZ. In 2009, 70% of AfricaRice publications were in collaboration with NARS, compared to 43% in 2008. In 2009, 35 technical workshops were held in collaboration with NARS and 65 students were trained. The 'Post-Masters' program being implemented by AfricaRice enables young, talented researchers to

work on rice on a 2-year contract, thereby helping to strengthen the human-resource capital across the continent. These activities help build scientific capacity in the member states and strengthen partnership.

Dr Seck said that in addition to the 24 AfricaRice member states, the Center also works in 11 other African countries. Together, AfricaRice and the NARS partners are working on increasing rice production.

23 and 24 March 2010

4. Technical Discussion in Themes

4.1. Theme 1: Rice genetic diversity and improvement

Several lead scientific papers were presented by scientists from both AfricaRice and their collaborators. There were 20 presentations in three sessions over 1½ days. In summary, the issues discussed pointed out ways for:

- Greatly enhanced technological capacity in gene discovery, facilitating exploitation of rice genetic diversity, and building resistance to Africa's abiotic and biotic stresses into rice varieties.
- Development of new interspecific varieties containing up to 50% of the *Oryza glaberrima* genome, which are expected to perform well under rainfed conditions.
- The need to equip NARS laboratories to measure grain quality.

4.2. Theme 2: Ecological intensification and diversification of rice-based systems

This theme had 13 presentations. The main points that emerged from the presentations and the discussions were:

- Scientists tend to work on relatively narrow topics. They need to have a broader vision to achieve ecological intensification and diversification.
- Integrated soil-fertility management (ISFM) can be applied for rice cultivation. This allows enough flexibility for local adaptation. This is similar to site-specific nutrient management as applied by AfricaRice and IRRI in irrigated systems.
- It is very important that scientists working in Africa harmonize the concepts and terminology for ecological intensification and diversification of cropping systems.
- Improving agronomy is as important as genetic improvement.
- There is a need to have simple field diagnostic tools to guide farmers in decision-making.
- There is much to learn from long-term studies. There is a need for more long-term trials in upland and lowland ecologies.

4.3. Theme 3: Developing competitive rice value chains

Seven presentations — two each from Senegal and Ghana, and one each from Benin, Nigeria and the Central African Republic — were made and showed that many actions along the value chain are required to make local rice competitive with imported rice. From these presentations it was concluded that:

- Proper processing techniques are required. One of these techniques is parboiling of rice. The role of the private sector in rice processing cannot be over-emphasized.
- Proper packaging must be adopted.
- Considering the key roles that women play in rice production and processing, the importance of improving the capacity of women rice farmers was emphasized. Also noted was the need to increase women's access to land and other production resources.
- Adequate disease and pest control is necessary to improve the yield and quality of rice.
- It is not enough to invest in rice cropping alone, but in the entire rice sector (value chain) from the field, through harvesting, processing and marketing, to the consumers. Actors in each link of the value chain must gain from and also contribute to the process.

4.4. Theme 4: New methods and tools for rural learning and innovations and policy implications

The following points emerged from the seven presentations and the discussions that followed.

- The innovative rice video technique used for promoting knowledge on rice processing helped women in Benin to adopt improved parboiling techniques that resulted in good-quality rice (better nutrition, less broken rice and improved grain swelling when cooked). This helped improve women's income, created rural jobs and also attracted micro credit.
- For cultural reasons, communities have maintained *O. glaberrima* (red rice) in Ghana, Togo, Guinea and southern Guinea Bissau, while it has disappeared from Senegal, The Gambia and northern Guinea Bissau.
- Only 10% of farmers in Guinea have access to modern seed services. To improve the seed system the informal seed sector also has to be involved.
- There is a need to strengthen the seed sector in the Democratic Republic of Congo. The traditional seed system has to be preserved even while developing a modern seed industry.

- The capacity of women farmers who cultivate upland NERICA varieties has to be strengthened, so that they do not abandon their farms. Women undertake tedious activities during cultivation, such as weeding and scaring birds, which take up 60% of their time.
- With west African governments adopting agricultural trade liberalization, there has been a lack of support to small-holder rice farmers. This has resulted in a drop in the share of local rice *vis-à-vis* imported rice for meeting consumption needs. If the policy measures taken after the 2008 rice crisis are sustained, then the quantity and quality of local rice production can be improved.
- West African countries are at different levels in terms of the integration of domestic rice prices with the international markets. Within a year, rice prices in Senegal reflected the international market prices. For Benin and a few other countries, the integration has taken longer. In Mali, price integration has not happened smoothly.

4.5. Theme 5: Integrated management of insect pests, diseases and weeds in rice-based systems

The major rice diseases and insect pests in Africa are being studied and efficient control measures are being developed for farmers. The case studies presented showed the need to improve research capacities and anticipate future developments in the light of climate change. The following points emerged from the six presentations and discussions:

- Developing resistant varieties is the best way to deal with rice blast disease.
- Bacterial leaf blight does not affect rice yield much in the Office du Niger region of Mali; however, it adversely affects grain quality, making rice black and brittle. Development of varietal resistance is the best way to deal with this seed-borne disease.
- There is a need to understand *Rice yellow mottle virus* (RYMV, the most severe virus disease of rice in African) populations using multi-sequential genetic analysis, to be able to control it.
- The weed *Rhamphicarpa fistulosa* is causing major damage to rainfed lowland rice crops in southern Tanzania, decreasing yield by 30–100%. Current control methods used are hand-weeding and chemical control.
- The damage due to weeds will become more severe with climate change. To make matters worse, the efficiency of herbicides will decrease with increasing soil temperature. More research is needed to anticipate and control the appearance of weed species that would seriously lower both production and quality of local rice.
- There is a need to increase the number of weed scientists in Africa.
- In the Senegal River valley, losses due to bird damage range from 11% to 36%. New control techniques have to be developed since traditional methods are ineffective during periods of high bird pressure.
- There is a need to develop a new detailed physiological rice growth model which will help achieve a better understanding of the trade-offs between early vigor (important for weed competitiveness) and yield performance.

4.6. Theme 6: Rice physiology and modeling

This theme had six presentations. The important points that emerged from the presentations and the discussions were the following.

- Rice research is a complex interplay of disciplines. We have to constantly ask if we are going in the right direction.
- When the biological concepts are understood and incorporated then natural biological diversity can be modeled.
- Genotype × environment (G×E) interactions need to be supported with more research effort. We have to use different breeding strategies and genetic bases in different environments.
- There are many opportunities for using *O. glaberrima* genotypes with adapted agronomic practices.
- Though the decision-support tools and models developed for estimating the potential yield in the Sahelian system have shortfalls, they have been working well.
- Models are complex tools and have to be handled appropriately by those skilled to do so.
- Many of the problems in rice cultivation can be tackled through the use of the correct methods and tools.
- The potential environmental impacts of breeding for tolerance must be taken into account and research must consider these aspects for sustainability of results.

25 March 2010

5. Rice Research Strategy for Africa in a Global Context

5.1. Setting the stage

Dr Marco Wopereis, Deputy Director General and Director for Research for Development at AfricaRice, introduced the participants to AfricaRice's mode of working, centered around partnerships with NARS.

Virtually all projects are implemented as a collaboration between AfricaRice and NARS. He introduced the changes that are taking place within the CGIAR with the emergence of a Global Rice Science Partnership (GRISP) with AfricaRice, IRRI and the International Center for Tropical Agriculture (CIAT) as the key players. GRISP will be led by IRRI, which will also handle the responsibilities in Asia, while AfricaRice and CIAT will cover Africa and Latin America, respectively. Dr Wopereis stressed the need to revive the Task Force mechanism, which was highly successful in the past, with a lighter management structure and a different funding formula.

5.2. Participants' views on the new rice research strategy for Africa

The following points were raised by the participants:

- Revamp the task forces — they produced many results in the past.
- Develop a broad vision that encompasses multiple disciplines.
- Make the task forces sustainable by ensuring that their ownership rests with NARS.
- Strengthen capacities of national partners — some have weak research and breeding capacities.
- Strengthen partnerships at regional and national levels.
- Strengthen capacities of farmers to drive research.
- Build synergies with the strategies developed by the regional and sub-regional organizations and the Comprehensive Africa Agricultural Development Program (CAADP).
- Work with universities and national research institutes, which have large trained workforces.
- Targets should be set and achieved within 10 years.
- Review the lessons learned from the previous task forces and incorporate them into the new ones.
- Document the achievements of the task forces in the past to demonstrate long-term impacts, so as to obtain sustainable funding from donors.
- Involve government policy-makers in future discussions.
- China, which has a strong breeding capacity, will collaborate with AfricaRice to strengthen the partnership of the revamped task forces.
- The Technical Centre for Agricultural and Rural Cooperation (CTA) will support the task-force partnership with information and communication strategies. FAO and the farmers' organization FEPRODES committed support to the partnership.

5.3. Intervention by Dr Papa A. Seck, DG of AfricaRice

For the partnership of the task forces to be successful there is a need to distribute tasks according to the comparative advantages of the institutions. He added that AfricaRice will continue to advocate for increasing attention to the rice sector through the Council of Agricultural Ministers.

5.4. Summary of discussions by Dr Wopereis

- The Congress agreed on re-establishing the task-force mechanism.
- The task forces should be sustainable and their ownership should be with the NARS.
- The Congress endorses the emerging GRISP.

5.5. The Congress Declaration

Dr Maouhamadou El Habib Ly, General Rapporteur for the Congress, read out the draft Congress Declaration, which was commented upon and subsequently approved by the participants.

6. Closing Ceremony

The Closing Ceremony was presided over by the Honorable Abu Sow, Secretary of State to the Prime Minister and In Charge of the Integrated Development of the Office du Niger Zone. The function began with the Secretary of State presenting awards for the best presentation and best poster. The winners were:

- Best Presentation in Theme 1 (Genetic diversity and improvement): Mandè Semon
- Best Presentation in Theme 2 (Ecological intensification and diversification of rice-based systems): Guillaume K.S. Ezui
- Best Presentation in Theme 3 (Developing competitive rice value chains): Pieter Rutsaert
- Best Presentation in Theme 4 (New alliances and tools for rural learning and innovation and policy implications): Espérance Zossou
- Best Presentation in Theme 5 (Integrated management of insect pests, diseases and weeds in rice-based systems): Yann de Mey
- Best Presentation in Theme 6 (Rice physiology and modeling): Michael Dingkuhn
- Best Poster Presenter: Sabine Sturz
- Most Promising Young Scientist: Espérance Zossou

On behalf of the participants, Ms Erika Styger thanked the President, Government and the people of Mali for their warm welcome and hospitality.

Ms Penda Gueye Cissé, President of FEPRODES, thanked the Government of Mali and the DG of AfricaRice for their support to the farmers.

Dr Papa Seck thanked the participants, Government of Mali and IER for making the Congress a success. He said that the national governments had the primary responsibility of creating the right environment for development and strengthening the capacity of the human resources in the entire value chain. "Nobody can replace the State. We strongly rely on the State to move the process ahead."

The Africa Rice Center, he said, was fully aware that it has to work with much more strength and humility. Being humble is the absolute necessity for moving forward.

Dr Seck urged the participants to positively discriminate in favor of women in this development process, since they play a significant role in increasing rice production in Africa.

In his closing remarks, the Honorable Abu Sow said that the process that began at the Africa Rice Congress must continue, so that the money that Africa spends on importing rice every year can be spent on development. Mali intends to develop 150 000 ha for rice cultivation. There will also be an investment of 25 billion CFA for the cultivation of rice along with other crops. The Congress, he said, tackled the most important part of the development process by asking the right questions and proposing options for improvement.
He declared the Congress closed.

26 March 2010
Field Visit

In spite of the summer heat of the Sahel and the four days of discussions that had gone before the field visit, more than 70% of the Congress participants traveled to the Office du Niger region on 26 March. The first stop was at Markala Dam, from which a network of canals has been carrying water to the farmers of the Office du Niger region for decades. The Markala Dam raises the head of the Niger river by 5.5 m, thereby enabling the distribution of water through the canals. Senior officials responsible for the dam management described the dam and the irrigation system to the participants.

The second stop was in N'debougou zone, one of the six production zones in the Office du Niger. Here, scientists from the Regional Agronomic Research Center (CRRA) of IER have been conducting experiments including cold-tolerance tests, and evaluation of hybrid rice and sowing equipment.

At CRRA at Niono, scientists showed the participants IER prototypes of agricultural equipment, biological control experiments and screening plots for varieties resistant to RYMV.

Acronyms:

AfDB	: African Development Bank
AfricaRice	: Africa Rice Center
ARC	: Africa Rice Congress
CGIAR	:Consultative Group on International Agricultural Research
CIAT	: International Center for Tropical Agriculture
CTA	: Technical Center for Agricultural and Rural Cooperation
DG	:Director General
FAO	: Food and Agriculture Organization of the United Nations
FEPRODES	:Fédération de Groupements et Association des Femmes Productrices du Sénégal
GRISP	: Global Rice Science Partnership
IER	:Institut d'Economie Rural
IFAD	: International Fund for Agricultural Development
IRRI	: International Rice Research Institute
ISFM	: integrated soil-fertility management
JICA	: Japan International Cooperation Agency
NARS	: National agricultural research system(s)
R&D	: Research and development
ROPPA :	Réseau des Organisations Paysannes et des Producteurs
SSA	: sub-Saharan Africa

Second Africa Rice Congress
Bamako, Mali, 22–26 March 2010
Declaration

The Second Africa Rice Congress (the first was held in Dar es Salaam, Tanzania in 2006) was organized by the Africa Rice Center (AfricaRice) under the aegis of the Malian government and in collaboration with the Malian national research institute Institut d'Economie Rurale from 22 to 26 March 2010 in Bamako. The Congress was opened by the Prime Minister of the Republic of Mali, Dr Modibo Sidibé, on behalf of the President, His Excellency M. Amadou Toumani Touré and had as the theme 'Innovation and Partnerships to Realize Africa's Rice Potential'. The more than 500 participants included rice farmers, seed producers, rice processors, input dealers, agricultural machinery manufacturers and representatives from agricultural ministries, national and international rice research and extension communities, non-governmental organizations, the donor community and other development partners.

During the opening ceremony, His Excellency Dr Modibo Sidibé, Prime Minister of the Republic of Mali presented distinguished service awards to Dr Jacques Diouf, Dr Eugene Terry and Dr Kanayo Nwanze for their outstanding contributions to rice research and development in Africa during their terms as Executive Secretary and Directors General, respectively, of the Africa Rice Center. In turn, the chair of the Board of Trustees of AfricaRice, Dr Getachew Engida presented a plaque of appreciation to the President of Mali, His Excellency M. Amadou Toumani Touré for the tremendous efforts of the Malian government to raise rice productivity through the Presidential Initiative on Rice in Mali.

The Congress in its deliberations noted:

- The global food crisis that impacted negatively on the African continent in 2008, predicted in 2007 by AfricaRice, leading to soaring and highly volatile rice prices, declining rice stocks and closing of borders to rice export;
- That rice prices are predicted to remain high because of declining production capacity in major rice-producing countries in Asia and growing demand;
- The fact that rice consumption in Africa is growing at 6–7% per year and that the African continent is already importing close to 10 Mt of rice annually, equivalent to one-third of rice traded on the world market and costing US$ 4 billion in foreign exchange in 2009;
- The large gap between yields obtained by African farmers and what would be possible under better management;
- That the African continent has sufficient land and water resources and favorable growth environments to close the gap between Africa's rice consumption and production, and that local rice production is competitive *vis-à-vis* imported rice;
- The Maputo declaration where African countries committed to investing 10% of their national budgets in agriculture by 2010 and congratulating the nine African countries that have so far achieved this target while urging others to follow suit;
- That the CAADP framework as re-enforced by the 2008 World Development Report emphasized that the largest impact on poverty reduction in Africa comes from investments in agriculture;
- That rice has become a strategic commodity to fuel economic growth and to contribute toward hunger and poverty reduction across the continent;
- The desperate lack of capacity at all levels in the rice value chain, which puts in jeopardy progress toward developing Africa's rice sector, and especially the neglect of Africa's rice research capacity as already noted during the First Africa Rice Congress;
- The lack of appropriate technology-delivery mechanisms;
- The need for a holistic investment approach and public–private partnerships to develop Africa's rice sector across the entire value chain, creating trust and benefits for all stakeholders, from seed to plate;
- That relying on the world market to supply rice to African consumers is becoming a very risky, expensive and unsustainable strategy and that it may lead to severe food insecurity and civil instability;
- That Africa's agriculture is predicted to be the hardest hit by climate change;
- That Africa's rice sector depends primarily on the efforts of small-scale resource-poor farmers, particularly women;

and formulated recommendations related to investment in the following key areas pertaining to Africa's rice sector.

Investments in Africa's rice sector

1. Africa's rice farmers need to be involved in the definition and implementation of policies that modernize rice farming, lessen the burden on women, and turn it into a viable agri-business, attractive to young people.

2. National and foreign investments are needed to unlock Africa's tremendous rice potential, while ensuring that this leads to win–win situations for all of Africa's rice farmers and consumers.
3. Sustainable intensification and diversification of rice-based production systems are necessary to meet the demand of Africa's population.
4. National seed regulatory bodies need to be established and/or strengthened to map and meet rice seed demand for target ecosystems and consumer preferences. They should ensure efficient varietal release mechanisms, link public and private sector seed producers, and establish functional and decentralized seed control systems.
5. Small-scale enterprises will need support to help them create and sustain a viable seed business. Private medium-sized and large seed companies should play an increasingly important role in high-input systems, especially for hybrid rice seed.
6. Regional economic communities should be strengthened to contribute in areas such as harmonizing seed legislation, import tariffs and regulating rice imports, in line with the CAADP framework.
7. National governments need to take the lead in promoting public–private partnerships across the rice value chain for adequate production, storage, processing and distribution infrastructure to produce quality rice for the African market.
8. A global effort is needed to develop targeted technological options to help African farmers to adapt to and mitigate the effects of climate change.

Investments in capacity-building

9. A 'Marshall plan' by African governments and their development partners is needed to substantially strengthen the training and retention of new staff, while updating agricultural curricula in vocational training schools and universities, and ensuring efficient spill-over to actors in the rice value chain. Conducive working environments are needed to retain effective capacity in agriculture.
10. The Congress endorsed the Task Force concept, a collective research-for-development effort on critical thematic areas in the rice sector, based on the principles of sustainability, build-up of critical mass and ownership by the national systems, and asked AfricaRice to facilitate these Task Forces.
11. The Congress endorsed the emergence of a Global Rice Science Partnership — an initiative of AfricaRice, IRRI and CIAT as part of the revamped CGIAR — to pool resources, build capacity and align national and international research agendas, enabling greater efficiency and efficacy of rice research.

Participants commended the Congress organizers for their efforts.