Global Consultation on Cassava as a Potential Bioenergy Crop

18-19 October 2010

Golden Tulip Hotel    Liberation Road    Accra, Ghana    Telephone +233 30 2213161
Agenda

The Consultation is supported by the Governments of Italy and Finland, FAO, UN Foundation and Novozymes. Its objective is to guide future research that IFAD and its partners in the Programme for the Development of Alternative Biofuel Crops may finance to develop appropriate technologies to intensify biofuel feedstock production, study the economics of rural energy provision and assess its impact on poverty. The ultimate goal of the research is to mainstream a pro-poor biofuel component in IFAD’s lending programme. The idea is to improve the productivity of many alternative crops on which research has not been conducted along the whole chain from production to post harvest and marketing in a coordinated way to develop a market ready product with proven packages of technology that can be introduced to smallholders in the shortest possible time and with the lowest possible risks. The crops selected are those that can be grown in environments in which intensive food production is difficult and, by and large, not economically viable. They include, among others, Jatropha curcas and Pongamia pinnata (for biodiesel production), or multiple use crops such as sweet sorghum and cassava (for bioethanol production). In order to identify issues and develop a suitable research agenda, IFAD, along with other sister UN agencies and other partners, has organized a series of global consultations on the most promising alternative biofuel crops. The first consultation on sweet sorghum was held in November 2007 and followed in 2008 by a consultation on Jatropha.

This consultation on cassava is expected to:

• identify the risks and rewards associated with the development of cassava as a biofuel/bioenergy crop without compromising food security;
• identify promising high sugar varieties that can be competitive with other crops such as sugar cane and tropical sugar beet, and develop a suitable research programme for them, from production to marketing;
• identify promising varieties that can be used as a filler feedstock in processing, when other feedstocks are not available to fully utilize processing plant capacity, and recommend measures to expedite research on improving feedstock productivity, improve agronomy and address other issues from production to processing to develop an efficient bioethanol chain;
• suggest measures to improve small scale cassava processing for local bioenergy provision;
• provide a platform for promoting sustainable cassava production, including aspects such as marketing and policy issues; and,
• facilitate responsible public-private partnerships that would benefit the poor.

The target audience for this meeting includes IFAD staff (particularly Country Programme Managers, who actually manage the lending programme at the country level), international and multilateral development organizations (including UN agencies), research institutions, donors, policy makers, NGOs, the private sector, foundations, academia, and the media.
9:00-10:00 Welcome and Introduction
This introductory session, chaired by Eric Kueneman, Former Deputy Director of Plant Production and Protection Division of FAO, will initiate the Consultation, outlining its goals and objectives and will set the ground rules for speakers and participants. Speakers in this opening session include:

Kwesi Ahwoi, Minister for Food and Agriculture of the Republic of Ghana
Mohamed Beavogui, Director, West and Central Africa Division, IFAD
Dr. Rodney Cooke, Director, Policy & Technical Advisory Division, IFAD
Vineet Raswant, Senior Technical Adviser, IFAD

10:00-10:20 Coffee Break

10:20-12:00 1. Overview of the potential of cassava as a food crop and as a feedstock for biofuels
The session, chaired by Mohamed Beavogui, Director, Policy and Technical Advisory Division, IFAD, will comprise four sub-sessions, which will end with a 40 minute discussion.

Session 1.1 Importance of cassava: food vs. fuel or food and fuel (15 min.)
In light of the need to feed more people by the year 2050 given the forecasted population growth, biofuel development is often seen as a threat to food security. This session will explore whether production of biofuels compromises food security, or on the contrary, whether food and fuel can complement each other.
Speaker: FARA/GFAR/Monty P.Jones/Alain Ange

Session 1.2 Bioenergy and food security: BEFS analysis in Tanzania
Speaker: Vineet Raswant: on behalf of FAO

Session 1.3 Cassava as a biofuel/bioenergy crop (15 min.)
This session will provide a comparative assessment, in terms of cost effectiveness, between the production of biofuel and bioenergy from cassava.
Speaker: Sirooth Klanarong, Associate Professor, Kasetsart University, Thailand

Session 1.4 Comparative assessment of cassava varieties: sweet varieties and high wax varieties (15 min)
The presentation will focus on identifying the most suitable cassava variety for bioethanol production.
Speaker: Luis Augusto Becerra, Cassava Geneticist, CIAT
Discussion: Opportunities and challenges in developing cassava as a biofuel crop
Rapporteur: Vernon Gracen, Adjunct Professor, Cornell University, USA

12:00-13:00 Lunch

13:00-15:00 2. Country experiences in processing of cassava for bioethanol production
The session, chaired by Dr. Farooq Zaidi, Associate Vice President, PBAG Praj Industries Ltd., will be structured around 4 sub-sessions. The objective is to draw on lessons learnt and identify good practices in both small and large scale processing for bioethanol production.

Session 2.1 Experiences of small-scale processing in Latin America (20 min)
What are the best practices, lessons learnt and cost implications of small-scale processing? Experiences from Latin America.
Speaker: Bernardo Ospina, Executive Director, CLAYUCA, CIAT

Session 2.2 Experiences in Brazil and West Africa: Cassava for alcohol, feed, and food (20 min.)
Production and processing challenges: what is working and what constraints need attention for win/win situations involving smallholder producers.
Speaker: Dr. Hilton Gomes, Director, IDAN - Brazil

Session 2.3 Development of cost-effective enzymes to reduce cassava processing costs (20 min.)
The development of enzymes for converting starch into sugar in cassava and other high starch crops such as sweet potato in local level bioethanol production.
Speaker: Anders Lau Tuxen, Energy Strategist, Novozymes

Session 2.4 Potential of cassava as a rotational crop with tropical sugar beet
Since most bioethanol processing plants could be multi-feed, this session will explore the possibility of processing cassava and tropical sugar beet for bioethanol production using the same technology.
Speaker: Dilip Gokhale, Former Head of biofuels, Syngenta Corporation
Discussion: What are the key elements in producing bioethanol from cassava competitively?
Rapporteur: Rod Lefroy, Regional Research Leader, CIAT

15:00-15:20 Coffee Break

15:20-17:05 3. Cassava Improvement – Breeding, biotechnology and quality planting material
This session will be chaired by Henk Joos, Director - D1Oil. Relevant aspects pertaining to the breeding of cassava varieties suitable to biofuels / bioenergy production will be covered.

Session 3.1 Review of genetic tools and knowledge that could contribute to cassava productivity and to special uses: fuel (alcohol), feed, industrial starches, and food (15 min.)
Innovations in cassava genetics and breeding and implications for bioenergy production.
Speaker: Dr. Clair Hershey, Plant Breeder, FAO

Session 3.2 The cassava genome for biofuels from high sugar varieties (15 min.)
How far has research progressed in identifying/developing varieties/markers of either sweet cassava or those with other characteristics that will improve the competitiveness of cassava as a biofuel crop?
Speaker: Dr. Peter Kulakow, Cassava Breeder/Geneticist, IITA

Session 3.3 Enhancing cassava productivity and production sustainability in Brazil through varietal and management improvements with implications for special uses: Fuel, Food, and Feed (15 min.)
Speaker: Alvaro Bueno, Senior Cassava Breeder, Embrapa Cassava Programme - Brazil.

Session 3.4 Recent progress in cassava research in China (15 min.)
Speaker: Dr Chen Songbi, Deputy Director CATAS, China
Discussion: Research agenda to define a breeding programme for identifying traits that would ensure that cassava emerges as a competitive crop. How long will it take to develop such a programme (improving varieties and reaching farmers with planting materials and better management practices)?
Rapporteur: Vernon Gracen, Adjunct Professor, Cornell University, USA
Dinner will be hosted (by invitation only) (19:30)
9:00-9:20
Overview of Day 1

Summary by Eric Kueneman, Former Deputy Director, FAO.

9:20-11:00
4. Agronomy (Crop, Soil, Water, and Pest Management)

This session will be chaired by Nebambi Lutaladio, Senior Agricultural Officer and Team Leader, Crop Diversification for Livelihood, Plan Production and Protection Division, FAO. It will cover the agronomic aspects of cassava for biofuels/bioenergy production. There will be three sessions: agronomy, disease control and issues in transferring new technologies to smallholder farmers (case of Africa).

Session 4.1 Technologies and issues in small-holder cassava cultivation – from planting to harvesting (20 min.)
What are the best agronomic practices to improve cassava production?
Speaker: Dr. Reinhardt Howeler, ex-Agronomist, CIAT

Session 4.2 Disease control and pest management in cassava production (20 min.)
Disease Management (planting materials, field and post-harvest management)
Speaker: Lava Kumar, Plant Pathologist, IITA

Session 4.3 Making cassava cultivation sustainable and competitive for ethanol production: how to scale-up better production practices (20 min.)
What are the major difficulties in improving the production/productivity of cassava in the farmers’ fields and what can be done to overcome them to improve production and maintain soil fertility in Africa?
Speaker: Nzola Mahungu, Coordinator, NEPAD Pan African Cassava Initiative and IITA

Discussion: Definition of the research and development agenda and proposal for the future course of action with respect to cassava as a bioenergy crop.
Rapporteur: Eric Kueneman, Former Deputy Director, FAO

11:00-11:20 Coffee Break

11:20-12:40
5. Cassava as a bioenergy crop

This session will be chaired by Alwesi Adjei Adjekum, Coordinator, Root and Tuber Improvement and Marketing Programme, National Programme Coordinator, and will specifically look at the use of cassava as a bioenergy crop in Africa.

Session 5.1 Potential uses of cassava wastes to produce energy: outcomes of a feasibility study in Ghana (20 min.)
This session will cover the technical and economic aspects of producing local energy from cassava peels and other waste.
Speaker: Andrea Serpagli, Coordinator, Regional Cassava Processing and Marketing Initiative, IFAD

Session 5.2 Using ethanol for domestic energy supply in Nigeria (20 min.)
The speaker will elaborate on domestic use of bioethanol for cooking and outline its benefits.
Speaker: Boma Simeon Anga, President, NEPAD Pan African Cassava Initiative, Nigeria

Discussion: Definition of the research agenda and proposal for the future course of action
Rapporteur: Jerome Weingart, Senior Associate, Energy and Security Group, LLC

12:40-13:40 Lunch

13:40-15:20
6. Post-harvest Handling and Market Optimization for Smallholders

This session will be chaired by Vera Weill Halle, United Nations Foundation. The three speakers will cover both the economics and post harvest issues in handling various varieties of cassava.

Session 6.1 Markets for Cassava Products: Issues in Marketing/Smallholder Produce (20 min.)
The speaker will cover issues related to marketing of biofuels from smallholder production.
Speaker: Rod Lefroy, Regional Research Leader, CIAT

Session 6.2 The economics of drying cassava chips for use of cassava as a filler crop in multi-feed plants (20 min.)
The speaker will cover the economics of cassava drying and suggest measures along with technologies that can be developed to reduce costs without sacrificing the desirable traits for bioethanol production.
Speaker: Andrew Westby, Director NRI, IJK

Session 6.3 Issues in developing regional markets for bioethanol (20 min.)
Speaker: Meghan Sapp, Secretary General, Pangea

Discussion: Post harvest handling of different varieties of cassava and marketing of smallholder cassava production
Rapporteur: Hilton Gomes, Director, IDAN, Brazil

15:20-15:40 Coffee Break

15:40-17:20
7. Policy issues in bioethanol/bioenergy production from cassava

This session will be chaired by Rodney Cooke, Director, West & Central Africa Division, IFAD. It will provide an overview of the issues that need to be taken into account in developing suitable policies using cassava as a biofuel/bio energy feedstock.

Session 7.1 Optimizing national strategies and policy frameworks towards effective business models with smallholder participants (20 min.)
Speaker: Eric Kueneman, Former Deputy Director, FAO

Session 7.2 Policy issues in the promotion of cassava as a bioenergy crop: experience in Nigeria (20 min.)
The session will cover the policy issues in developing cassava as a biofuel crop from the point of view of an investor/producer.
Speaker: Boma Simeon Anga, President, NEPAD Pan African Cassava Initiative, Nigeria

Round Table discussion: The discussion will be chaired by Kwesi Ahwoi, Minister for Food and Agriculture of the Republic of Ghana.
Rapporteur: Ulac Demirag, Country Portfolio Manager, Ghana, IFAD

17:40-18:30
Next steps and summary

This session will be chaired by Rodney Cooke, Director, Policy and Technical Advisory Division, IFAD. It will provide an overview of the issues raised and outline the next steps for cassava development as a biofuel/bioenergy crop in light of the lessons emerged over the two days of presentations and discussions.