



Rice in Ethiopia: Progress in Production Increase and Success Factors



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6th CARD General Meeting
November, 2015



Outline of the presentation

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- Potential for rice development
- Rice Production in Ethiopia
- Factors causing the Rapid Rice Production Increase in Ethiopia
- Key Challenges faced by Ethiopian Rice Sector
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Introduction

- Ethiopia is one of the oldest sites of human existence known to scientists.
- It is a country located in the Horn of Africa.
- Ethiopia is the 2nd most populous nation in African, with over 87,952, 000 inhabitant (CSA, 2014)
- It is also the tenth largest by area, occupying 1.14 km² (944,000 square miles).



Fig 1: Map of Ethiopia, Word Map, 2014



Importance of Agriculture

- Agriculture is the basis of the Ethiopian economy which accounting for nearly 46% of GDP, 83% of employment, and nearly 80% of foreign export earnings.
- Ethiopian agriculture is characterized by small-scale and 90-95% of agricultural output comes from 14.2 small-scale subsistence household each owning, on average, about 0.89 ha of land (CSA, 2014).
- Major crops include cereals, roots and tubers, pulses, oilseeds, vegetables, fruits and cash crops such as coffee, cotton, tea, sugarcane, and tobacco.
- Ethiopia is one of the few African countries that have consistently met both of the African Union's CAADP targets of:
 - 1) increasing public investment in agriculture by 10% by year 2008, and
 - 2) boosting agricultural production by an average annual growth rate of at least 6% by 2015 (ATA, 2014).

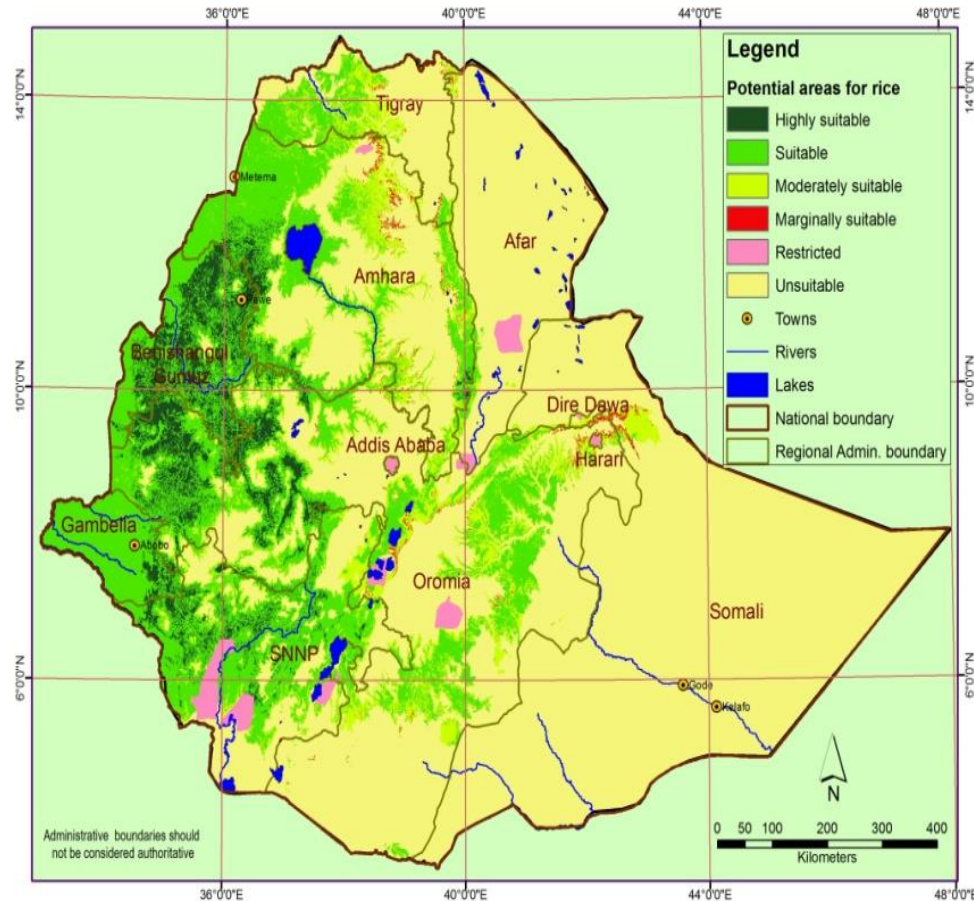




Potential for rice development: Upland and Irrigated

- Rice is considered as the “*Millennium Crop*” to ensure food security in Ethiopia.
- The estimated potential areas of rice production in Ethiopia
 - Upland= 30 million hectares of which a total 5.6 m ha highly suitable and 25 m ha suitable
 - Irrigated = 3.7 million hectares

Fig 2: Rice Suitability Map: Rain-fed



Source: MoA, 2010,



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Rice could suitably grow in many parts of the country. The predominant potential areas are:-

- West central highlands of Amhara Region (Fogera, Gonder Zuria, Dembia, Takusa and Achefer);
- North West lowland areas of Amhara and Benshangul Regions (Jawi, Pawi, Metema and Dangur);
- Gambella regional state (Abobo and Etang Woredas)
- South and South West Lowlands of SNNPR (Beralee, Weyito, Omorate, Gura Ferda and Menit);
- Somali Region (Gode);
- South Western Highlands of Oromia Region (Illuababora, East and West Wellega and Jimma Zones).



Rice Production in Ethiopia

- Rice remains as a minor crop in Ethiopian Agriculture

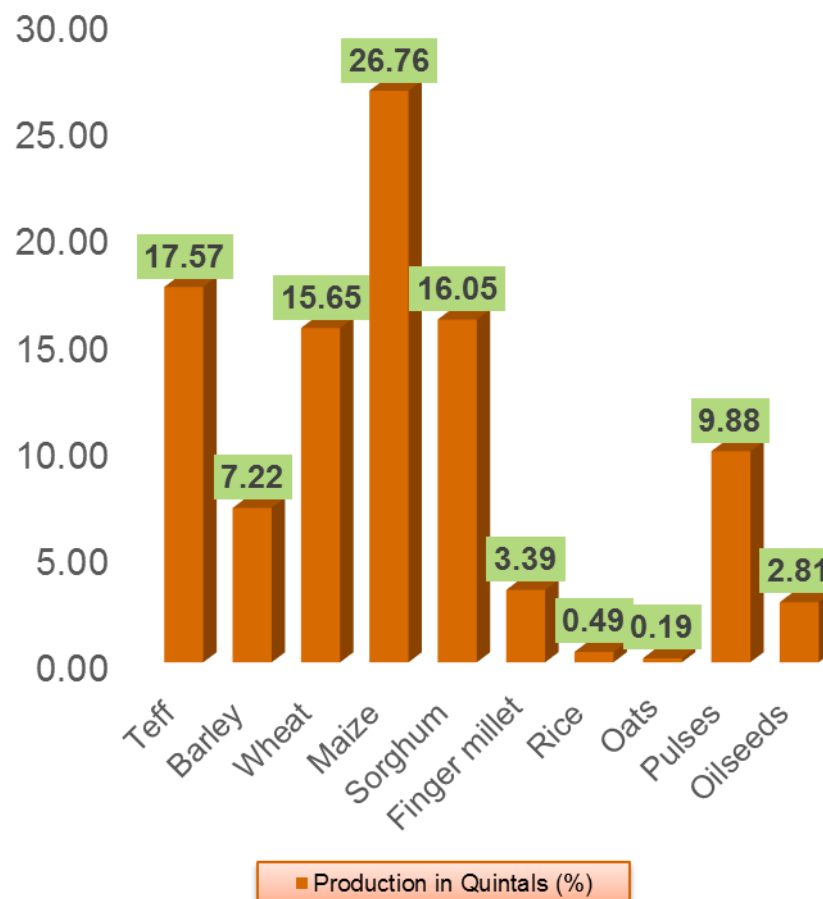
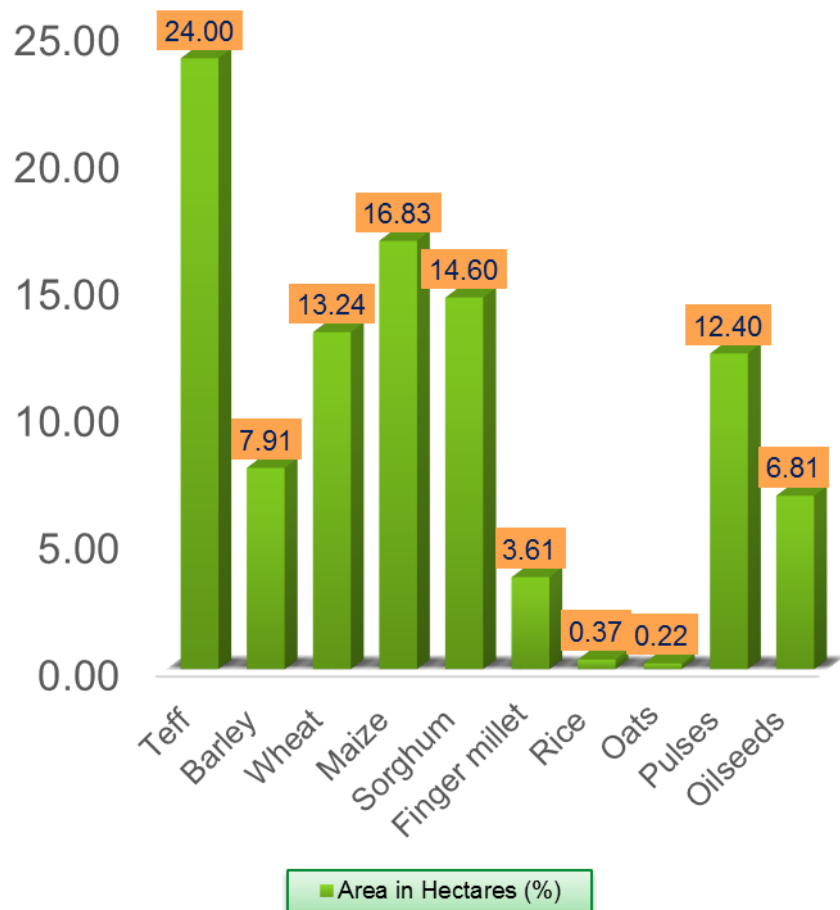
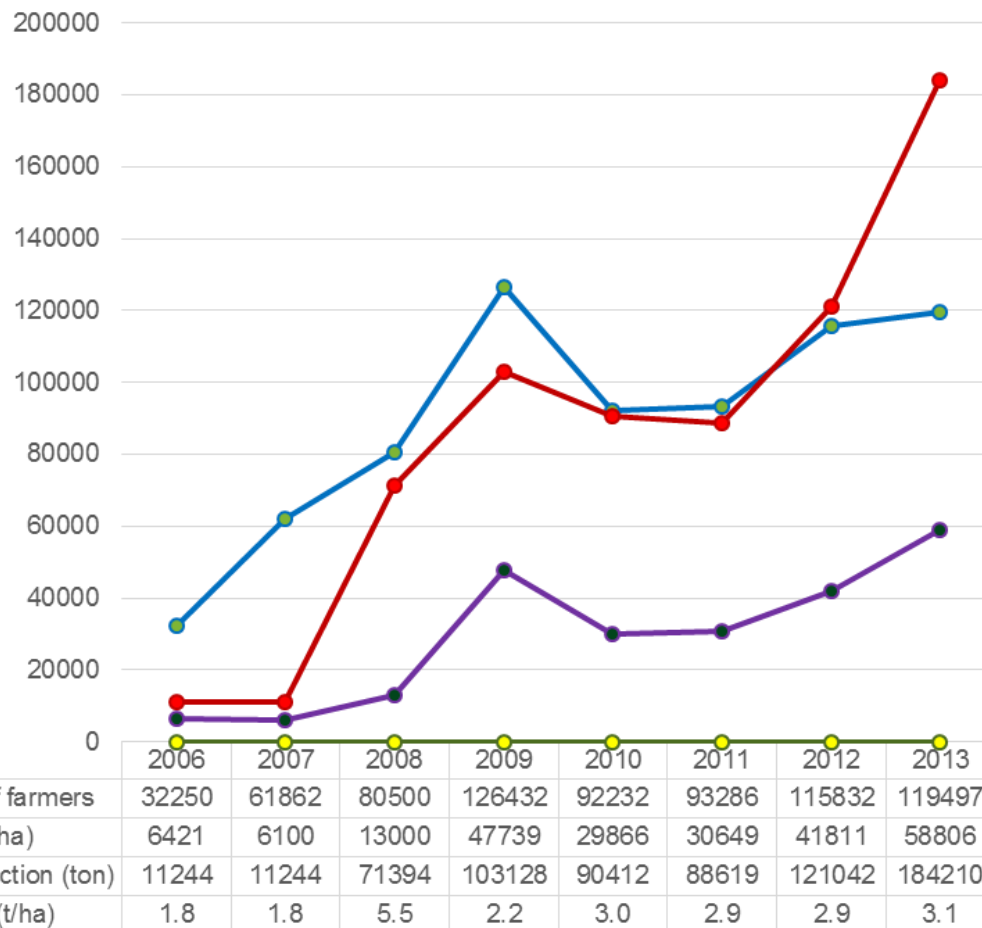


Fig 3: Percentage Distribution of Area and Production under Major Crops (2014/15 Main Season)



Rice Production Trend in Ethiopia



- The trend indicates high increasing rate especially since 2006.
- **Rice producing farmers:** increase from 32 thousands in 2006 to 119 thousands in 2013
- **Area allocated:** increase from 6 thousands ha in 2006 to 58 thousands ha in 2013
- **Production:** increase from 11 thousands tons in 2006 to 184 thousands tons in 2013

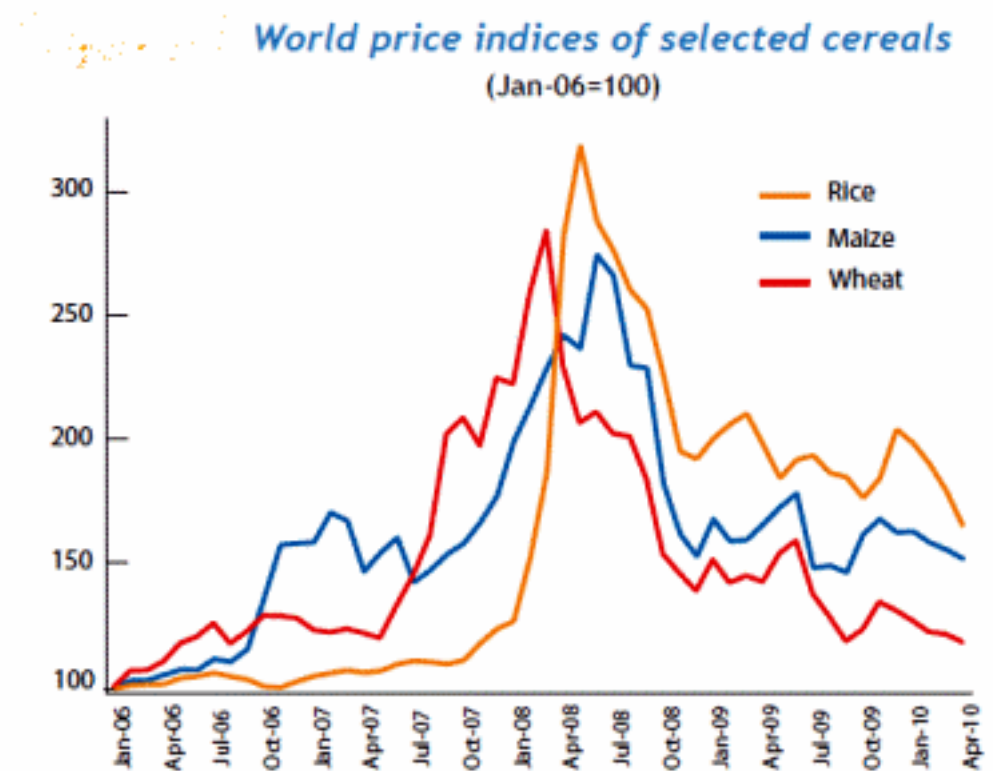
Fig 4: Rice production trend in Ethiopia



Factors Causing Rapid Rice Production Increase

1. Food Price Hike and Government Actions

- The food prices have been rising since the early 2000s, and spiked in the years 2007-2008.
- The food prices hike in 2007–2008 was the biggest spike on world food markets.
- The price hike was mainly for three of the world's major cereals (rice, wheat and maize)
- The price of a tone of wheat climbed from \$105 in January 2000, to \$167 in January 2006, to \$481 in March 2008 (Odi, 2008).
- Similar trends were observed for other major food commodities including maize, rice and palm oil.



Source: FAO 2010.



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- The crises was leading to substantial effects on the poor in countries where rice is the staple food for consumers.
- As FAO (2010) estimated that the poor people often spend as much as 40% of their incomes on staple foods.
- Governments of Ethiopia in collaboration with other actors responded to the crises by taking the following actions:
 - Recognize rice as one of the millennium crops,
 - Promotion of Private sector investment in rice production (e.g. Land allocation for private investors)
 - Promotion of improved rice technologies,
 - Irrigation Development
 - Increase area of rice production due to high rice price



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<Policy, Institution and Infrastructure-Related Factors>

- The Government implemented right policies to promote private based large scale modern farming
 - Involvement of private commercial farms in rice production (21% of the commercial investment land); and the area under rice is approaching about 58,000 hectares,
 - (e.g. A Saudi investor has leased 25,000 acres from the Ethiopian government to grow rice in Gambela region with a capital \$13.3 billion),
- To lead the policy and strategy to success, the Government has been **heavily investing** on infrastructure, rural finance, research, access to improved technology and information, market development, agricultural extension services, promotion of cooperatives, education and resettlement program (Kebede, 2011)
 - Emphasis to use irrigation and improved rice technologies.
 - The national rice R & D strategies of Ethiopia (NRRDSE)
 - Establishment of Rice Research and Training Center supported by JICA
 - With the World Bank finance for Irrigation Development in Amhara Region (Ethiopia Nile Irrigation and Drainage Project for 20,000 ha with USD100 million)



Factors Causing Rapid Rice Production Increase

2. Market Demand and Availability of Rural Labor

<Market-Related Factors>

- Higher price value of rice grains over other cereals;
- Increased rice consumption habit of consumers along with income increase and urbanization (Demand Increase);
- Integration of Rice value chain through improved processing (promotion of quality machineries) and integration of value chain actors (ensuring service provision by private sector)

The above demand factors have driven Ethiopian smallholder farmers to start rice production

This shift of cropping was enabled also by the abundant and low-cost rural labor, as the rice crop is labor intensive.



Factors Causing Rapid Rice Production Increase

3. Technology, Inputs and Research

<Factors Related to Technology, Inputs and Research>

- Availability and the use of high yielding and adaptable rice varieties;
- Introduction and utilization of improved farm mechanization technologies;
- Adoption of various promotion approaches, such as, community based seed multiplication, pre-scaling up of technologies, and on-farm demos

Relevant stakeholders have played their respective roles to realize the above points;



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For Technology Generation and Adaptation:

- African Rice, IRRI and others support through improved access to germplasm exchange, human capacity building, and sharing of experience in rice R and D;
- EIAR together with RARIs, and universities conduct adaptation and agronomic trials to supply improved rice technologies and practices;
- Multiply source rice seed and promote the technologies to the farmers through pre-extension demonstration and pre-scaling up programs;
- Universities and agricultural colleges: Jimma, Sodo, Woreta involved in research;



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For Technology Transfer:

- MoA with close collaboration of the different directorates within the ministry and other actors implement NRRDSE and develop Extension package.
- National Rice R and D Steering committee coordinates the over all rice research and development direction in the country in line with NRRDSE.
- ADPLAC at federal, regional and district levels facilitates the research and extension linkage to foster the information exchange feedback mechanism;
- SG2000 promotes the rice technology transfer in the major production areas of the country in collaboration with regional BoA.



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For Seed Multiplication and Supply:

- The research centers (Adet, Fogera, Werer) are responsible to produce and supply basic rice seed,
- Farmers-Based Seed Multiplication Cooperatives (FBSMC) multiply, produce and distribute rice seed to the farmers; SG200 has been involving in promoting FBSMC.
- ESE, and regional Seed Multiplication Enterprises (Amhara, Oromia, South seed enterprises) produce seed for popular rice varieties;

For Over All Research and Development:

- Supports from Partners and Donors (IRRI, Africa Rice, JICA, JIRCAS, CARD, AGRA, SG2000, MEDA , World Bank etc.)



Factors Causing Rapid Rice Production Increase

4. Other Factors

<*Suitability related factors*>

- Fogera plan suitable for rice production which was food aided area in 1980s
- Presence of land potential for rice production under irrigation (3.7 million ha) and rain fed (30 million ha)
- Existence of huge unexploited lands and diverse ecosystems such as the uplands, rain fed lands and flash flood prone areas (during the rainy seasons)
- Long shelf life and acceptance of rice amongst rural population due to the possibility of using rice to a range of traditional food recipes;

<*Factors related to rice attributes over other crops*>

- Relatively higher productivity as compared to other main staple crops
- Possibility of using in a range of traditional food recipes
- Provide by-products such as straws and husks that shall be fed to livestock and/or used as alternate source of fuel.



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<Partnership and linkage related factors>

- Available rice research partners and donors who support rice research and development in Ethiopia (Africa rice, IRRI, JICA, AGRA, SG2000, MEDA , World Bank etc)
- Effective partnership and collaboration with all national and international stakeholders;



Key Challenges faced by Ethiopian Rice Sector

1. Huge import competition of the local production,
2. Shortage of pre-harvest mechanization and post-harvest processing technologies;
3. Inadequate awareness on post-harvest management and utilization;
4. lack of skilled manpower and research facilities;
5. Poor infrastructure for commercialization of rice production; and
6. Poor marketing channel.



Conclusion

- Agriculture is the mainstay of the Ethiopian economy and the country has high potential for rice production.
- Given the high consumption increase and the food price hike, the government of Ethiopia has given greater attention to rice, considering it as a 'Millennium crop'.
- The government of Ethiopia placed a set of policies to attract private sectors, and resulted in some private investment
- The government of Ethiopia increased the investment on infrastructure, rural finance, access to improved technologies, and Research and Development for rice production.
- Demand increase and high price of rice converted farmers to rice production thus the number of rice farmers and area of rice cultivation increased to a great extent.



Conclusion

- Generation, adaptation and transfer of technologies are conducted in partnership with, and with supports from, donors and partner organizations.
- As a result of these interventions, Ethiopia achieved remarkable rice production growth in a short period of time (Nearly 4-fold production increase, attributed by 9-fold area expansion and 50 % yield increase)
- Nonetheless, the Ethiopian rice sector still faces remaining challenges such as high competition with imported rice, poor infrastructure, insufficient mechanization and post-harvest processing technologies, lack of skilled manpower and research facilities, poor marketing infrastructure and channels.
- Building the capacity of research community, experts, small holder farmers and the private sector is necessary not only to further increase production, but also to improve quality of rice products through better post-harvest handling and processing.



Thank you very much!