

# ***Inventing a competitive, diversified and sustainable Agriculture***



***Improvement of Rice productivity***

***The experience of Senegal***





# Presentation Outline

1. Background

2. PROGRESS

3. ANALYSES

4. TESTIMONIES OF STAKEHOLDERS

5. CONCLUSION



# Background

1

- Senegal is one of the largest rice consuming countries in western Africa with per capita consumption of 90 kg, with an annual demand growth at approximately 9 % per year (Seck and al., on 2013).

2

- Senegalese rice is produced mainly by smallholder farmers. Between 200,000 and 300,000 households, or at least 1.5 million people are directly engaged.

3

- Rice demand is nearly 1 million MT, while the supply of domestically produced rice is estimated at 125 000 MT resulting in a strong dependence on rice importation

4

- This dependence leads to deterioration of the trade balance and drain of scarce foreign exchange

5

- The Government of Senegal has set up a program (NRDS/PNAR National Program for Rice Self-sufficiency), aiming at achieving self-sufficiency in rice in 2017

# Background (2)

achieve rice self-sufficiency by 2017  
by producing



**1,600,000 MT  
of Paddy**

**or**

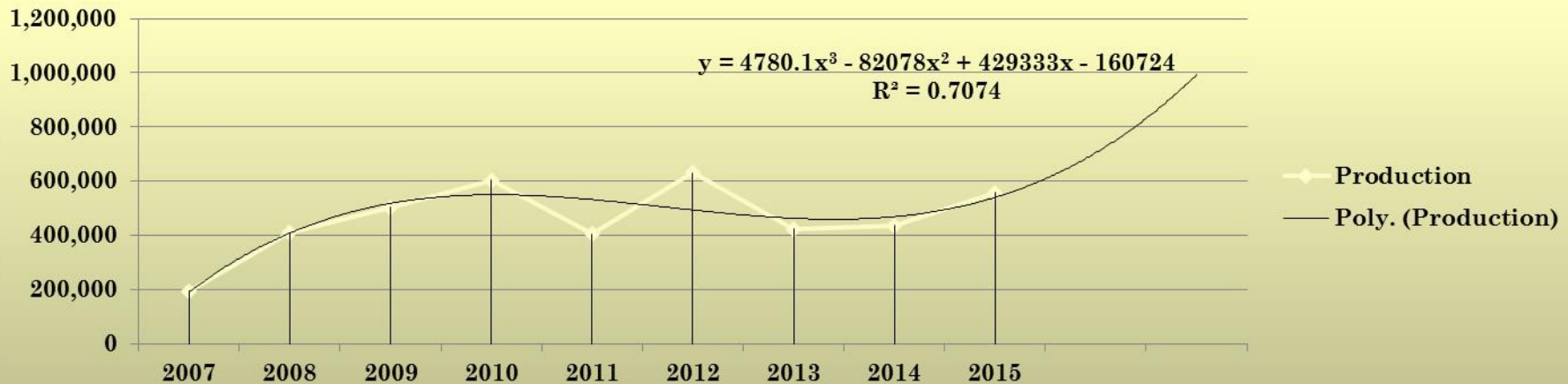


**1,080,000 MT  
quality white rice**

**Are we achieving the objective?**

# Progress

Trend of paddy's production from 2007 to 2014



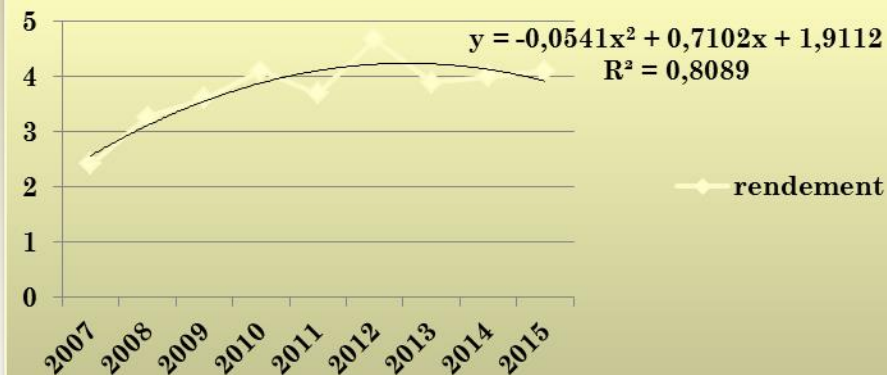
Paddy production has fluctuated so much with peaks in 2010 and 2012, while it shows the upward trend (increase by 119%) between 2007 and 2014.

This fluctuation mostly corresponds to the changes in the total area for rice cultivation.

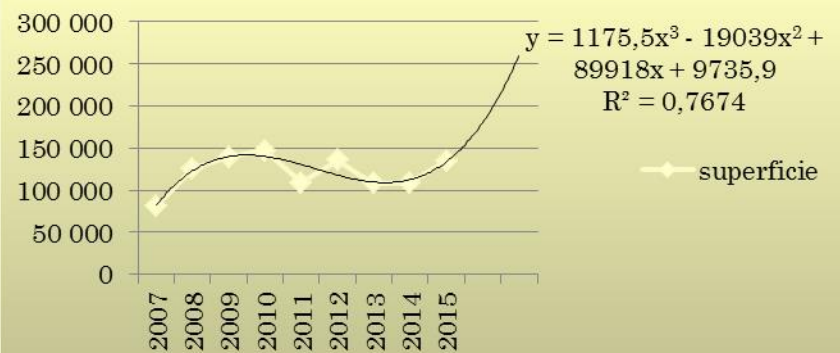
# Progress

70% this progress is attributed to by the improvement in productivity (*K.Saito et al., 2014*), while also attribute to by expansion of cultivated areas

Evolution of Rice productivity from 2007 to 2014



Evolution of rice cultivation areas from 2007 to 2014



Yield has increased during this period by 62% from 2.4 t / ha to 4 t / ha,

In 2014 the average yield was 3989 kg / ha, which is the 7% increase compared to 2013 and the 17% increase compared to the average of last 5 years

The total area for rice cultivation has increased by 35% during the same period.

In 2014, the area was 134,973 ha, the 24% increase compared to 2013



# Analyses

**Rice productivity was improved mainly due to the following factors:**

**key factors**



- **Intensification and modernization of production systems**
  - **Mecanization**
  - **Dissemination of double cropping (Yield is generally higher in dry seasons – In Senegalese River Valley, the yield in rainy seasons and dry seasons are on average 5.4t/ ha and 6.8t/ha respectively)**
  - **Use of certified seeds,**
  - **Use of fertilizers**
  - **Adaptation of other technologies and better cropping methods**
- **Better water control and irrigation management (both in low-land, rain-fed and irrigation areas)**



# Analyses

Measures taken by the Government and other stakeholders to realize high productivities include:

## Measures



- Production Supports (e.g. improving access to credit by the Government and banks through setting up the guarantee fund, better management of plots and irrigation, capacity building on better cropping practice by the Government and Development Partners);
- Improving business and investment environment (e.g. tax exemptions, subsidies on inputs, farm machinery and equipment)





# Analyses

Measures taken by the Government and other stakeholders to realize high productivities include:

## Measures



- Supports on research including that for new high-yielding varieties
- Improving farmers' access to high-yielding varieties
- Promotion of crop intensification (double cropping) by the Government.
- Technical supports on proper farming practices. Double cropping could lead to lower productivity caused by reduction in soil fertility, if it is not accompanied by proper crop and soil management.



# Analyses

Measures taken by the Government and other stakeholders to realize high productivities include:

## Measures



- Supports for processing and marketing (e.g. Establishment of support funds, Projects to improve efficiency in rice processing);
- Better communication and information exchange (Establishment of a platform for all stakeholders under the lead of the Government)

These measures are of particular importance since the sustainable production increase requires strong linkages between production and markets



# Analyses

**These measures have been implemented by several actors:**

<b>Measures</b>	<b>Actors involved</b>
Production supports	Government (guarantee fund, training, Counterpart fund and monitoring), Banks (provision of credit), Donors (credit and financing facilities), umbrella organizations (supervision and monitoring)
Intensification and modernization of the production	Government (guarantee fund, counterpart fund and monitoring), Banks (financing), Donors (credit and financing facilities), Producers (financial contribution), umbrella organizations (management and monitoring) Dealers (supply of equipment and spare parts), mechanics, research (seeds and mechanization test)
Processing and trade	Government (guarantee fund, counterpart fund and monitoring), Banks (financing), Donors (credit and financing facilities), Producers (financial contribution), umbrella organizations (management and monitoring) Dealers (supply of equipment and spare parts), mechanics, importers and traders
Improving the dialogue	Government, Private sector, Donors, umbrella organizations ,
Improving the business environment	Government, Private sector, Donors

# Analyses

The government took the following measures to accelerate rice production. They can be summarized into 8 categories:

Mesures	Actions taken/ Status
1. Supports in the production and the reduction of the cost of the electricity Abolition( of the fixed tax during the period of non production and to see how reducing it during the periods of production	Credit campaign, acquisition of 6,000 tons of certified seeds, ongoing measures to reduce the cost of electricity,  Done
2. Utilization of domestically produced rice for the use at public institutions	100 tons of rice per month is supplied to the National Army from a local rice mill (CNT); Two (2) local rice providers (Baba and Babacar Drame Diakhoumpa) supply the police with 50 tons of rice per month
3. Control of whole grain rice imports	A memorandum of understanding was signed between the Ministry of Commerce, SAED, ARN, the CIRIZ, UNACOIS and BNDE in which importers are to purchase all the non-aromatic broken rice stock and 30,000 tons of whole grain rice which was locally produced
4. Authorizing rice import with condition to purchase local rice at given quota, based on contracts with millers approved by SAED SODAGRI in their intervention area	
5. Establishment of a guarantee fund (approximately 3 billion CFA) for rice millers to alleviate their conditions to be eligible for bank financing (CNCAS)	Ministry works to find the financial resources on the National budget
6. Setting up 5 billion CFA trading fund to strengthen the financing capacity of Agricultural Bank (CNCAS), for better access to finance by traders involved in rice value chain	Fund establish in 2015
7. Subsidy on farm machinery and equipment at 50%	Done
8. Tax exemption for equipment and inputs used in the rice value chain	Done in the new tax code

# TESTIMONIES OF STAKEHOLDERS



*« We have a lot of hope in the future of domestic rice production because, year after year, our production has improved both in terms of quality and quantity. »*

**Ibrahima Sall Coumba Nor Thiam**



*« We increased the rice processing capacity from 8 000 in 2011 to 10 000 tons in 2012 ».*

**Mbodj & Frères, transformation et commercialisation du riz**



*« We hope to maintain this momentum with seeds with improved quality, good fertilizers application, and capacity building in rice farming which we benefit from SAED ».*

**Madame Ndèye Gaye, représentante Union Gie Femmes productrices de Ross Béthio**



# Conclusion

Despite this achievement backed up with strong political will, **only 47% of rice demand is covered by domestically produced rice.**

Achieving the goal of rice self-sufficiency calls for continued increase in productivity. As Tanaka showed (*et al.*, 2015), in SRV, rice productivity can be further improved (additional 2.2 to 3t/ha), mainly through the following efforts:

- ✓ Adoption of better crop management techniques (timely sowing, proper land preparation, pest control, fertilization, etc.)
- ✓ Modernization of harvesting and processing



# Conclusion

- ✓ **Agricultural intensification (the key to improve productivity)**
- ✓ **Technical supports (e.g. training, coaching), proper pricing policy (e.g. subsidy, tax exemptions) and provision of credit service**
- ✓ **Strengthening linkages between production and markets to ensure sustainable intensification of production.**
- ✓ **Value chain integration through strengthening linkages among stakeholders in the rice value chain, specially private sector**



***Thank You for Your Attention***

