

**REPUBLIC OF COTE D'IVOIRE**

*Union – Discipline – Travail*



**MINISTRY OF AGRICULTURE AND RURAL**

**DEVELOPMENT**



National Office for Rice Development

**GOOD PRACTICE IN MECHANIZATION OF RICE  
FARMING IN COTE D'IVOIRE:  
CASE OF MECHANIZATION SERVICE PROVISION**

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# OUTLINE

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1. GENERAL INTRODUCTION OF COTE D'IVOIRE
2. CURRENT SITUATION OF RICE MECHANIZATION
3. GOOD PRACTICE IN RICE MECHANIZATION
4. CONCLUSION



### ➤ Geographical Information

- Western part of Africa
- Borders:
  - Mali and Burkina Faso in the North;
  - Guinea and Liberia in the West;
  - Ghana in the East
  - Atlantic Ocean in the South

### ➤ Climate and vegetation:

located over two different climate zones:

- Equatorial to the South → Dense forest
- Tropical in the North → Savanna woodland

### ➤ Four (4) Seasons:

- Two (02) Rainny Seasons (Apr-July; Sept-Nov)
- Two (02) Dry Seasons (July-Sept; Dec-March)

### ➤ Agriculture

- Is a strategically-important sector in the economic development of Cote d'Ivoire since its independence;
- Provides employment to more than 2/3 of the economically active population;
- Contributes to 24% to the Gross Domestic Product (GDP);
- Accounts for nearly 70% of export earnings, making the country one of the leading producers of agricultural raw materials in the world (Coffee, cocoa, oil palm, rubber, cashew, yam, plantain, cola, etc.)

## ➤ Mechanization

Two major steps in the mechanization of the Cote d'Ivoire:

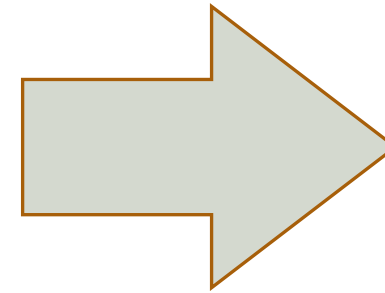
- Era of State Corporations(1960-1994)
- Era of Private Companies( 1994- ~)



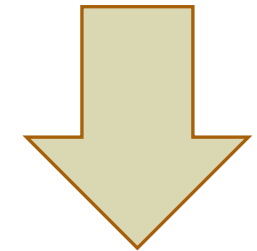
### CONSTRAINTS

The disappearance of/ privatization of State-owned Enterprises and the various economic crisis in the country have put an end to the government mechanization programs, and this resulted in the erosion of mechanization assets (machineries and facilities). Besides these problems, the country has critical constraints in agricultural mechanization such as :

- Costly farm equipment/machinery
- High interest/ Costly mechanization service
- Inexistence of financing mechanism for agricultural machineries
- Poorly performing production system
- Unfavorable production environment (institutional, economic, commercial)



**FAILURE**



Development of a new national strategy for agricultural mechanization

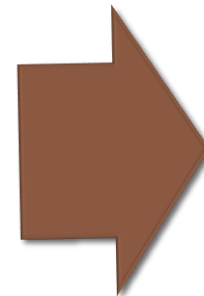
Two Strategic Pillars are proposed:

**Pillar 1**

Promote agricultural mechanization in Ivorian agriculture, particularly in National Development Program & agricultural projects

**Pillar 2**

Creating a conducive institutional environment for agricultural mechanization



Improve working conditions for farmers and increase their performance.

Implementation of this strategy through development projects led by stakeholders of agricultural production chains. These stakeholders will benefit from the technical support institutions/units specialized in mechanization that the government will have to rehabilitate or create and re-equip.

NRDS should lead to self-sufficiency in rice, and it covers the entire value chain from production to processing and value addition. In terms of production, support has been directed towards development of irrigation schemes, supply of inputs (seeds, fertilizers, chemical products), financing of agricultural advisory services and promotion of mechanization. This promotion involved the provision of agricultural machineries (not grant in most cases) to individual producers and agricultural professional organizations (90% of cases).

However, **the mechanization coverage remained low (less than 5% of total needs)**. In addition, the aspects of sustainability and sustainability of access to mechanized works were not guaranteed.



### Causes.

- Inadequate resources allocated to the acquisition of agricultural machineries. With sufficient resources, mechanization coverage should have increased from 10% in 2012 to 75% in 2016;
- Lack of resources for the training of users of acquired agricultural machineries;
- Insufficient human resources for training and monitoring of agricultural machineries;
- Poor quality of machineries available on the local market



### CONSEQUENCES

- Difficulties in developing farm lands in accordance with the target of NRDS;
- Low productivity;
- Significant post-harvest losses estimated at about 30% of produced amount;
- Poor quality of paddy and milled rice (post harvest operations).

Necessity for ONDR (National Rice Development Office) to improve its approach through efficient and quality mechanization services, optimization of mechanization operation, and professional management of agricultural machineries in accordance with the guidelines of the National Agricultural Mechanization Development Strategy (in the adoption process).

➔ Promotion of Small and Medium-sized Agricultural Enterprises (SMAEs) in Mechanized Services



- (i) Working meetings between the CFMAG (Training Center for Agricultural Mechanization), mechanization service providing companies and the ONDR as a restricted committee;
- (ii) Workshops for the development of the SMAE approach;
- (iii) Launching of a pilot phase

Increase the mechanization coverage from less than 10% to 30% in 2020, for all types of rice.

1. Establishing a regulatory framework (definition of the company, determining benefits and supports, criteria for selection and approval, signing of a contract);
2. Implementation of accompanying measures for SMAEs (equipment, training, financing) and;
3. Supervision of services to ensure cost-effectiveness (costs, quality, follow-up).

## PROCEDURE

**The pilot phase will start for the 2nd half of the 2017**







The SMAEs are agricultural enterprises whose main mission is to provide mechanization services ranging from land preparation to the collection and transport of the products to the processing sites.

## □ Accreditation of SMAEs (Contracting)

- Approval issued through the signing of an agreement specifying the area of intervention and the obligations of the parties in order to enable them to exercise business operation, with the support from ONDR.
- Four criteria taken into account for the selection of SMAEs to be accredited :
  - ✓ **Administrative and technical capacity of organization:** Quality of business plan; Existence of a minimum staff having the required expertise, existence of maintenance and repair service for machineries, business and operation reports, stable fiscal and social status, ...)
  - ✓ **Legal Status:** (SMAEs formally incorporated, **LLC highly recommended** considering the simplified implementation procedures, the managerial autonomy granted to the manager and no need of minimum capital required for start-up.)
  - ✓ **Human resources:** 1 manager (BA+ 3yrs or proven experience in the field) and 1 accountant (BA+ 2yrs or proven experience in the field); 1 workshop manager (Diploma agricultural technician or proven experience in the field) and 1 mechanic (Diploma mechanical/electromechanical engineering or proven experience in the field)
  - ✓ **Existence of service contracts (bi-lateral or tri-rateral):** If it is in line with the business plans, and this can guarantee market (thus, economic profitability of enterprises and farm productivity).



## ❑ Complementary measures for SMAEs

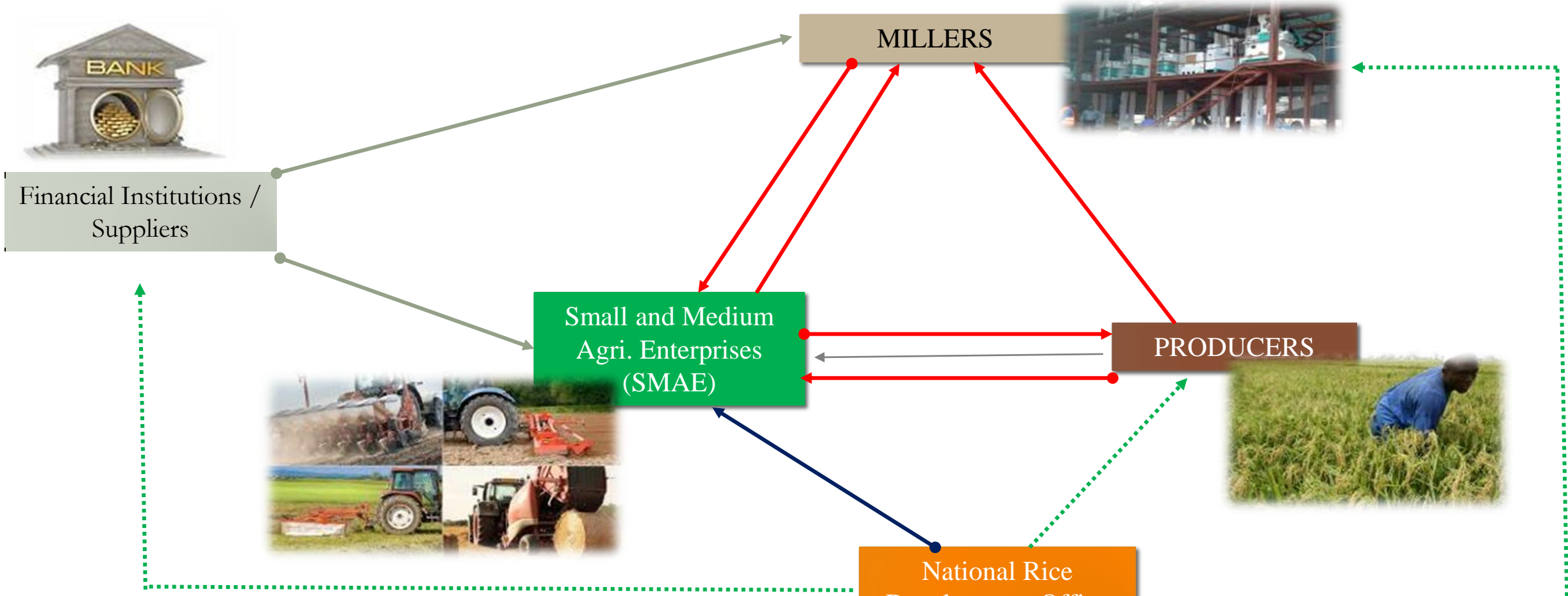
- **Support in acquisition of agricultural machineries for approved SMAEs** This is done in accordance with the signed agreement, and mostly machineries are not granted.
  - ✓ 70% of machineries procured by ONDR goes to SMAEs and 30% to individual cooperatives or producers with the capacity to manage them and make them profitable.
- **Capacity Building for SMAEs**
  - ✓ Training programs on the use and maintenance of agricultural machinery as well as the administrative and financial management of agricultural enterprises in producing compliant financial statements.
- **Linking SMAEs with Financial Institutions/ Machinery Suppliers**
  - ✓ “Campaign Credit” to pre-finance part of the pending service costs, which is not recovered from rice farmers.
  - ✓ Administrative support for tax exemption in acquisitions of agricultural machinery





## ❑ Supervision of mechanization service business

For the sustainability of services, it is essential to ensure the profitability of the mechanization service while ensuring the accessibility of services by rice farmers

- **Setting of Service Fee** based on total operation cost for service and margin which varies between 10 and 30% of the cost (There is a standard reference for the calculation of costs).
- **Establishment of a monitoring system** to ensure the compliance of the terms of the contract and to guarantee the effectiveness of services to the beneficiaries. Follow-up will be made on :
  - Implementation of monitoring and evaluation system ;
  - Verification of quality of operation and maintenance of machineries;
  - Verification of record keeping and payment for services by producers ;
  - Identification of problems encountered by SMAEs.

**CHART : STAKEHOLDERS AND THEIR ROLES IN THE SMAE APPROACH**



-  Convention: Accreditation and Accompaniment
-  **Contracting:** mechanization service provision, delivery of paddy for processing, reimbursement to PMEA by the mill, delivery of paddy collected by PMEA
-  Financial flows
-  Facilitator of agreement, linkage building, follow-up of contracts and support in equipment





## EXPECTED IMPACTS

### Increase of mechanization coverage (30% in 2020)

- Increase in areas under mechanized farming
- Increased access of producers to quality mechanization services in a sustainable manner

### Improved production and productivity

- Increase in cultivated area (with more effective and timely crop production following agricultural calendar)
- **Reduction of time spent for harvest and post-harvest by 50%.**

### Improving the competitiveness of Ivorian rice

- Reduced labor cost (economies of scale) **(at least by 20%)**
- Improvement in rice quality (good operation practices in cropping)

### Increased income of stakeholders

- Improved income of the direct actors (producers, SMAE, ...)
- Improvement of the earnings of indirect actors (Mechanics, workshop, blacksmith...)

## KEY FACTORS FOR SUCCESS

- Acquisition of quality materials
- Quality after-sales service
- Quality maintenance service available in production areas



- Qualified staff of SMAE
- Continuous training for stakeholders
- Evaluation and awarding the best SMAE and Producers
- Compliance with the commitments of each Party through contract
- Sharing experiences



- Establishment of a guarantee fund for the financing scheme
- Adoption of effective depreciation calculation system that can guarantee the renewal of machinery
- Use of rice millers as payment recovery points.



Factors



# NEXT STEPS

Development of a mechanization approach



Validation of the document in the Management Committee



June 17

Identification of Service Providers



July 17

Selection of SMAE and signing an agreement



July 17

Training of SMAE



July-Aug 17

Notification for producers



July-Dec 17

Monitoring the implementation of the SMAE approach



July-Dec 17

Preparation and validation of the evaluation report



Starting from 2018

Scaling Up/ Deployment of SMAEs in the target areas

**Pilot phase**





- Significant financial resources dedicated by the Government to the introduction of mechanization in the Ivorian agriculture during the first three decades since our independence.
  - ✓ Creation of institutional structure, implementation of development programs
  - ✓ Acquisition and provision of agricultural equipment and machinery
- Unfortunately, these interventions were not accompanied by a mechanism that ensure the sustainability.
  - ➔ Elaboration of new mechanization strategy to promote mechanization for competitive and profitable agriculture, with the contribution form private sector. (actually, awaiting approval by the Government)
- In the context of NRDS implementation, remaining challenges, and in line with the main orientations of the national mechanization strategy, the basic principle underlying SMAE approach is the private sector-led machinery operation and management in order to meet the needs of rice farmers on a sustainable basis.



- This approach is based on three main steps: (i) establishment of regulatory framework, (ii) provision of accompanying supports for SMAE and (iii) supervision of services to ensure profitability.
- Key factors for success in this approach are: high-capacity and well-trained human resources, the acquisition and use of quality machinery and a well-defined funding framework.
- SAME approach will be implemented in two main phases: the pilot phase which will start at the second half of the 2017 and the dissemination phase from 2018 onwards. Good implementation and supervision of the approach are expected to result in achieving the set objectives such as to increase in mechanization coverage **from less than 10% to 30% in 2020** for all types of rice combined, and a sustainable impact on the supply of quality milled rice.



THANK  
YOU