

CONCEPT NOTE

MECHANISATION INFRASTRUCTURE

A. Strategic context of the Project and the commitment of the government and development partners for rice sector value chains development:

The Ministry of Food and Agriculture has its policy, Food and Agriculture Sector Development Policy (FASDEP II) for the implementation of strategies to modernise agricultural sector through mechanisation to ensure food security and income diversification while targeting poor and risk prone and risk-averse producers.

FASDEP II ensures consistency with national development plan, Ghana Shared Growth and Development Agenda, as well as NEPAD's CAADP and the MDGs. Agriculture growth target under CAADP is at least 6%. This is to be achieved by raising allocation of government expenditure to agriculture to at least 10%.

The policy strategies in achieving food security and poverty reduction have rice as one of the selected commodities. The sector seeks to target 80 % small scale rice farmers and 20% emergent commercial rice farmers as stated in the Agricultural Investment Plan (METASIP).

The specific objective of the sector is to increase the capacity of the local rice industry to compete with imported rice in terms of quality and price by:

1. Improving the capacity of local rice industry to compete with imported rice in terms of price and quality.
2. Increasing the market share of local rice in the rice market and reducing rice imports.
3. Establish strategic stocks in rice.

Rice consumption per capita has increased by over 140% over the last ten years (from 15.4 to 37.5 kg per capita per year) growing at an annual rate of about 3%. This growth rate is mainly due to the rapid urbanization and changes in food consumption pattern among other factors.

B. Justification:

Ghana's agriculture is largely rain-fed. The cropping calendar and the unreliable and erratic nature of rainfall allows for less than sixty (60) days of land preparation for the two cropping seasons. This means that farmers must have access to agricultural machinery on time in order to prepare their field for early cropping. Unfortunately, in year 2000 tractor-farmer ratio stood at 1:1800 with an average age of tractors being over fifteen (15) years. Some farming districts and communities in the country do not have access to even a single agricultural mechanisation centre where farmers can access bullock ploughs or tractors/power tillers for land preparation. Farmer access to mechanized services in all the other stages of crop production (planting, crop maintenance, harvesting, processing, etc) is similar to that of land preparation.

The current high level of post-harvest losses in the country can be partly assigned to non-availability of agricultural machines for timely harvesting and primary processing of farm produce for storage. Ghana's current agricultural practices are characterized with so much drudgery and fatigue that the youth are no longer interested in agriculture leaving the farming industry to the aged.

Provision of well-organized and commercially viable mechanized services is lacking. This is because the initial capital investment is very high whilst the economic returns may take a long period. In a country of high cost borrowing it is highly unattractive for private sector to solely invest in Mechanisation Service Centre.

The low rice production yields are attributed to among others lack of agricultural machinery/equipment and established mechanisation centres for land preparation, harvesting and primary processing. The lack of these machinery and centres contribute to improper paddy field development, post harvest losses and reduce effective productivity of the rice value chain.

As part of the Ministry's Accelerated Agricultural Mechanisation policy 84 AMSEC centres have been established nationwide to provide services to all categories of farmers. However this number is inadequate to cater for the high demand of machinery services as well as having the full complement of machinery along the rice value chain.

Yield improvement can be realised through establishing mechanisation centres with full complement of machinery to render service to all actors along the value chain. The main concept of this programme is to ensure farmers have access to a wide range of farm machinery and equipment for on and off farm season activities.

C. Potential intervention zones and target groups

Mechanisation centres will be established at all rice growing areas (Rain-fed lowland, rain-fed upland, irrigated fields). However, the full complement of machinery at centres will vary from rice ecologies. Example, in some parts of Northern Ghana where its topography makes the use of tractors difficult, the centres will be equipped with animal traction to serve as intermediate technology.

Target or priority groups will be small – medium scale rice farmers and processors in these areas.

D. MAIN OBJECTIVES OF THE PROJECT

To make agricultural mechanization services readily available in a timely and affordable manner to farmers and processors to enhance food security.

Specific Objectives:

- Strengthen and expand existing mechanisation services centres
- Support the establishment of additional 100 mechanisation services centres in major rice growing districts.

1) Strengthen and expand existing mechanisation services centres

To ensure the long-term sustainability of the project, training will be provided in the management, operation and maintenance of agricultural machinery. To ensure all actors in the chain have access to machinery there will be promotion of diversified mechanisation services along the value chain.

Activities

- Identify existing mechanisation centres
- Identify and introduce appropriate and suitable machinery along the value chain (bulldozers, tractors, wheel and crawler combine harvesters, reapers, threshers, mills, weighing scales, moisture meters, etc)
- Conduct training needs assessment for personnel
- Train/Technical backstop (book keeping, proper handling/operation, etc)
- Rehabilitate existing AMSEC workshops with up to date tools/equipment
- Rehabilitate existing agricultural machinery/equipment
- Identify appropriate back up parts dealers
- Link parts dealers to centres
- Facilitate the set up of spare parts points at operation areas of centres
- Sensitise farmers of the importance of mechanisation

2) Support the establishment of additional 100 mechanisation services centres in major rice growing districts.

To ensure that all rice farmers and processors in rice growing areas have access to at least one (1) mechanised centre, 100 additional centres will be set up. Priority for the establishment of these centres will be given to deprived rice growing areas.

Activities

- Conduct feasibility for Identification and selection of suitable sites (environmental assessment)
- Identify and select suitable sites
- Identify and select private companies
- Negotiate for land use
- Construct mechanisation centres
- Stock centres with requisite machinery along rice chain (bulldozers, tractors, wheel and crawler combine harvesters, reapers, threshers, mills, weighing scales, moisture meters, etc)
- Identify appropriate back up parts dealers
- Link parts dealers to centres
- Facilitate the set up of spare parts points at operation areas of centres
- Recruit personnel (manager, engineer, technician, operators) to manage the centre
- Sensitise farmers of importance of mechanisation

E. Description of the Components, Outputs and Activities

In order to achieve our project main objective of making agricultural mechanization service centres readily available in a timely and affordable manner to farmers and processors to enhance food security, the project components are enumerated as below:

- Capacity building for commercial management of AMSECs
- Improving beneficiaries access to AMSEC services
- Machinery/equipment maintenance at AMSECs
- Coordination

COMPONENT 1: Capacity building for commercial management of AMSECs

Qualified personnel will be recruited to manage the centres. Training needs assessment will be conducted to ensure that managers, financial officers, engineers, technicians, mechanics and operators have the requisite skills and knowledge to manage the centres.

COMPONENT 2: Improving beneficiaries access to AMSECs services

Since the project seeks to establish 100 mechanisation centres, there will be the need to identify and select private companies with experience in mechanisation services delivery to operate centres. The project will conduct feasibility studies to identify strategic sites for the establishment of 100 centres. This will include land negotiation where the centres will be established. Farmers and processors will be sensitised on the importance of the use of mechanisation services. This will include field days and demonstration.

COMPONENT 3: Machinery/equipment maintenance at AMSECs

Existing centres will be rehabilitated and equipped with requisite agricultural machinery along the value chain. The centres will be designed to have a well equipped workshop with qualified technicians/mechanics to carry out daily and routine maintenance and repair works on the machinery. For the sustainability of the centres capacity of spare parts dealers will be enhanced to open up shops at operational areas.

COMPONENT 4: Coordination

The management/operation of the centres will be manned by either the Districts or Municipal Assemblies or Private Companies.

F. Cost and financing

G. Implementation strategy of the project

Two (2) models are proposed:

1. Metropolitan, Municipal and District Assemblies (MMDAs)

Under this model MMDAs will be encouraged to apply some of their Common Fund to establish AMSECs in their districts to service farmers. They will be expected to set up strong management and monitoring structures to make the AMSECs effective

2. Private Companies/Enterprise

This shall be strictly private-sector business enterprise: It shall be owned and run by a Managing Director, who may employ a team of Engineers, Technicians/Mechanics and operators to support the daily running and management of the center.

An oversight committee comprising of MOFA, the Donor agency, Financial Institution, the Mechanised Services Centers, Farmer Representatives and District Assembly will agree on charges for services rendered by the centre to ensure smooth implementation of the scheme.

H. Project organisation and management

1. Supervision

MOFA shall for the period of operations of the centre have supervisory responsibility. This is to ensure that the machinery and equipment are applied effectively for the purpose for which Government delivered them.

2. Monitoring

MOFA shall institute effective monitoring procedures to ensure that best practices are adopted during the operation phase

3. Training

MOFA shall continue to offer periodic and regular training in care handling and operation techniques to ensure extended operational lives of machinery and equipment

I. Monitoring and evaluation

An M&E framework will be developed to track the progress/performance of the centres based on indicators every quarter.

J. Risks

If factors such as improved seeds, rainfall, good agricultural practices, etc are lacking it may lead to low production hence low earning for farmers will affect their ability to pay for mechanisation services rendered. This will hinder the implementation of the project.

Inadequate and suitable machinery to stock the centres may hinder the attainment of the objectives of the project.

Lack of funds may hinder the establishment of the project.

LOGICAL FRAMEWORK

Project/program	Objectively Verifiable Indicators (OVI)	Means of Verification	Important Assumptions/Risks
1. Global objective			
To make agricultural mechanization services readily available in a timely and affordable manner to farmers and processors to enhance food security			
2. Specific objectives			
1. Strengthen and expand existing mechanisation services centres			
2. Support the establishment of additional 100 mechanisation services centres in major rice growing districts			
3. Outputs/Results	<ul style="list-style-type: none"> • Timely access to mechanized services • Efficient utilization of agricultural machinery • Reduction in drudgery and tedium associated with agriculture • Rural employment generation • Reduction in post-harvest losses • Rice area cropped increased 		
Component 1: Capacity building for commercial management of AMSECs			
1.1 Conduct training needs assessment for personnel	xx number of personnel needs assessed	Project Reports	
1.2 Train/Technical backstop (book keeping, proper handling/operation, etc)	xx number of personnel trained	Project Reports	

2.3 Recruit personnel (manager, engineer, financial officers, technician, mechanics, operators) to manage the centre	xx number of personnel recruited	Staff list	
Component 2: Improving beneficiaries access to AMSECs services			
2.1 Conduct feasibility for identification and selection of suitable sites	100 sites selected for construction	Feasibility study report	
2.2 Identify and select private companies for additional centres	100 private companies selected	Project report	
2.3 Negotiate for land use and Construct mechanisation centres	Number of AMSECs constructed	Project report	
2.4 Rehabilitate existing AMSEC	Number of centres rehabilitated	Project report	
2.5 Stock centres with requisite machinery along rice value chain	Number of existing/additional centres stocked with machinery	Project report	
2.6 Sensitise farmers of importance of mechanisation	Number of farmers sensitised	Project report	
Component 3: Machinery/equipment maintenance at AMSECs			
3.1 Identify and introduce appropriate and suitable machinery along the value chain	Number of machinery available at centres	Project report	
3.2 Rehabilitate existing AMSEC workshops with up to date tools/equipment	Number of workshops rehabilitated	Progress report	
3.3 Facilitate the set up of spare parts points at operation	Number of spare part points set up and operational	Progress report	

areas of centres			
3.4 Carry out daily and routine maintenance on machinery/equipment	Number of machinery/equipment repaired/maintained	Progress report	
Component 4: Coordination			
4.1 Organise consultation meetings with stakeholders	Number of meetings organised	Progress report	
4.2 Carry out monitoring and evaluation visits	Number of visits conducted	Progress report	

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