THE STATE OF MECHANIZATION IN GHANA WITH PARTICULAR REFERENCE TO THE RICE SECTOR

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INTRODUCTION

- The agriculture sector is the key to overall economic growth and advance development of Ghana.
- Rice is one of the most important cereals and current national mean grain yield is 2.4t/ha against an achievable yield of 6.5t/ha.
- About 40% of farmers use some form of mechanization including rice farmers.
- The most but partially mechanized farm activity is seedbed preparation.
- There is therefore scope to expand mechanization to other activities such as planting, cultivation, harvesting and processing.
Major challenges to mechanizing rice farming in Ghana include:

(i) lack of effective and adequate land preparation machinery,

(ii) lack of simple and easy to handle post harvesting (harvesters, threshers), seeding and processing machineries

(iii) Limited and untimely availability of improved rice production technologies that promote mechanization

(iv) ineffective soil, water, nutrient and weed management.
(v) Inadequate mechanisation centres, due to high initial capital investment

(vi) Lack and high cost of spare parts

(vii) Inconsistencies in farm machinery brands and make,

(viii) Unfavourable land tenure systems.
OPPORTUNITIES

Major opportunities include:

(i) availability of water in most parts of the country,

(ii) suitable soils across most locations,

(iii) relatively flat and abundant lands for mechanized rice cultivation across most ecologies (about 8 million hectares of land suitable for mechanised agriculture, > 1 million hectares of lowlands alone)

(iv) a good rice culture (most farmers interested in growing rice and increasing level of rice consumption)
OPPORTUNITIES CONTINUED

(v) Government’s willingness to promote and support rice production.
LEVEL OF MECHANIZATION NEEDS

Due to differences in production ecologies and for easy handling, maintenance and management:

(i) simple, less expensive and lighter land preparation machinery like power tiller are preferred.

(ii) simple, lighter and easy to handle trans-planter seeders or seeders.

(iii) Small – medium size tractors and seed drillers for the drier areas.
LEVEL OF MECHANIZATION NEEDS continued

(iv) Smaller size harvesters and movable threshers.

(v) Small – medium size processors, instead of the current bigger and heavier machinery which are unsuitable for our conditions.
ON-GOING RESEARCH ACTIVITIES

Rice is one of the major cereals receiving greatest research attention. Grown across several ecologies with varying mechanized needs:

Major challenges and for which current research activities seek to address include developing technologies/products for:

(i) Seedbed preparation (tillage),
(ii) Weed management,
(iii) Seeding,
(iv) Water management
(v) Nutrient management
(vi) Harvesting and processing.
SOME RESEARCH PRODUCTS

To promote and enhance mechanization research has developed:

- “Sawah” technology for rice production with improved soil, water and nutrient management to suit our varied conditions.

The system relies mostly on smaller, less expensive and easy to handle machinery like the power tiller.

Grain yield has increased from less than 2t/ha to over 6t/ha among farmers currently.
GOVERNMENT STRATEGY

1. Supply of machinery (tractors, power tillers etc) to rice farmers under small holder credit scheme. About 800 power tillers given out to rice farmers.

2. Supply of other inputs like fertilizers at subsided cost to rice farmers

3. Establishment of AMSEC . Currently 84 operational in ten regions. At least one in all 170 districts in the near future.

4. Adaptive Trial Station for the fabrication of parts of simple agricultural machinery

5. Several projects and programs on-going to promote improved rice production methods.
Japanese Grant Assistance Programme – (2KR)

Machinery/equipment received include;
125 - agricultural tractors,
40 – irrigation pumps,
2 – combine harvesters,
35 – reapers,
35 – threshers and
10 – rice mills.
SOME MECHANIZATION MACHINERY/EQUIPMENT IN USE IN GHANA
THANK YOU

FOR YOUR KIND ATTENTION