

## Mechanisation of large-scale agricultural fields in developing countries – a review

### ABSTRACT

Mechanisation of large-scale agricultural fields often requires the application of modern technologies such as mechanical power, automation, control and robotics. These technologies are generally associated with relatively well developed economies. The application of these technologies in some developing countries in Africa and Asia is limited by factors such as technology compatibility with the environment, availability of resources to facilitate the technology adoption, cost of technology purchase, government policies, adequacy of technology and appropriateness in addressing the needs of the population. As a result, many of the available resources have been used inadequately by farmers, who continue to rely mostly on conventional means of agricultural production, using traditional tools and equipment in most cases. This has led to low productivity and high cost of production among others. Therefore this paper attempts to evaluate the application of present day technology and its limitations to the advancement of large-scale mechanisation in developing countries of Africa and Asia. Particular emphasis is given to a general understanding of the various levels of mechanisation, present day technology, its management and application to large-scale agricultural fields. This review also focuses on/gives emphasis to future outlook that will enable a gradual, evolutionary and sustainable technological change. The study concludes that large-scale-agricultural farm mechanisation for sustainable food production in Africa and Asia must be anchored on a coherent strategy based on the actual needs and priorities of the large-scale farmers.

**Keyword:** Agricultural mechanisation; Large-scale fields; Asia and Africa; Modern agricultural technology