

## **Smart Cocoa Bean Quality Detection and Traceability**

Ghana is known for its leadership in the production of quality cocoa in the world; however, the methods used in determining the quality of the cocoa beans remain traditional. The Smart Bean Quality Traceability Project aims at developing and deploying an AI-based solution to determine the quality, grading, and traceability of cocoa beans. The ultimate project aim is to apply the resulting solutions to other cash crops and attempt to solve the old-age problem of crop traceability. By addressing the existing traditional approach to determining the quality of the cocoa beans and enhancing crop traceability, the project will enable the farmer and the Ghana Cocoa Board – the mandated organisation to buy and sell cocoa in Ghana, to make better determinations of the quality and pricing of the beans.

### **Scope and Objectives:**

The achievement of the overall objective, Smart Bean Quality Detection and Traceability, is supported by the following specific objectives:

- a. To develop the Smart Bean quality detection solution using AI-based technologies like machine learning, deep learning, image processing, etc...
- b. To provide a standard way of determining the quality and categorisation of cocoa beans.
- c. To provide a means of tracing cocoa beans to where they are produced.
- d. To provide a means to digitalise the cocoa buying process.
- e. To extend the solution to other cash crops like cashew and soya bean

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