

## **Enhance the Information Flow in Farming Life Cycle Using Participatory Sensing Concept**

R. S. I. Wilson<sup>1\*</sup>, Anusha Walisadeera<sup>2</sup>

The study analyses an enhancement technique in a farming life cycle to address the identified issues in the agriculture sector in Sri Lanka. The issue in agriculture sectors to be addressed to sustain a robust economic growth of a country. The government of Sri Lanka identified that providing solutions to agricultural issues is an important aspect to make the better economy in Sri Lanka. The lack of real-time information flow related to farming and farming life cycle will make more complicated issues in agriculture. The existing studies tell that the farmer-centered information flow will enhance the information flow better and help to make effective decisions for problems. The literature furthermore discusses the readiness and effectiveness of using smart devices to improve the information flow in the farmers' community. In this study, the sensory information of farmers about their farming life cycle is used to make effective information flow. Further, the study analyses the use of participatory sensing concepts to improve the information flow model. The improvement in the information flow model will enable farmer's better decision making for their issues. The network of farmer community is created using this model. In any critical situation during the farming life cycle, the sensory information such as location, time, feeling, image about the problem will be shared via smart devices through the network of farmers. The problem faced by the farmer will be easily solved with the expert and experienced farmers' comments. The image with the meta-tag will make comfortable the members in the community to make better suggestions towards the issue shared. The perfects comments and multiple suggestions may help to derive the efficient decision to the farmer who shared the problem in the proposed system. Meanwhile, the verified decision and suggestion about the problem will be updated in the knowledge-based which can be used for future references. The knowledge-based can be used by the farmer who involved in the system and it will easily disseminate information in the future very quickly without other insolvent and discussion. The system will be implemented using a mobile application which makes the farmers very easily share their problems with images and meta-tags to others in the network. Farmers can find solutions to their problems in an effective manner through this mobile application. The proposed system may lead to better economic growth through improved agriculture.

**Keywords:** *Participatory sensing, Mobile-based application, Agriculture, Information flow model, Ontology*

---

<sup>1</sup> Uva Wellassa University, Sri Lanka \*shyama@uwu.ac.lk

<sup>2</sup> University of Ruhuna, Sri Lanka

---