## Practical Concerns Encountered in Disseminating and Promoting Farmer-supportive Virtual and IT Based Solutions

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Sri Lanka, known as an agriculture-based country, which is blessed to have a range of diverse agro ecological zones, and still performing below the potentials where, the agriculture sector accounts only for 8% of the GDP, while 25% of its population directly engaged in Agriculture. When compared to other countries in the region, Sri Lankan agro-enterprises are lagging behind due to the poor utilization of technology. Use of mobile and IT based solutions will play a key role in future agriculture developments and Sri Lanka needs to focus on these soft solutions to have a fast development in the agriculture.

When assessing the current issues in the agricultural sector in Sri Lanka, we recognize the inability of farmers to obtain a fair value for their produce, encounter heavy post-harvest losses, extended value chain between farmer and the consumer, skewed information flow etc., as major issues in the value chain. We at Croptronix (Pvt.) Ltd. have launched the "Govipola mobile App.", to support and resolve such issues. While we are promoting the concept among the farmers, we found that inadequacies in disseminating and promoting IT based technologies among the stakeholders play a key role.

IT and mobile based solutions are supporting the farmer markets, price awareness as well as trading tools in several technologically advanced countries. India is a good example of using IT and mobile Apps for supporting their farmers, with better market concepts. Smartphone has resolved their issues in agriculture markets and the information dissemination, and it is found to be a prospective solution to overcome the agrarian issues of Sri Lanka.

Rural farmers' engagement in mobile applications is significantly lower than the urban populations, which creates a gap in promoting software solutions towards their marketing issues. As per the discussions had with random farmers, it was found that, though majority of the farmer families have smart phones, not even one of the family members, use it to acquire agriculture information, packages of practices or upcoming trends. Awareness gap plays a key role in optimizing the use of IT based technology solutions. If the farmer is aware that the use of IT and software-based technologies can bring better outcomes in their livelihood, they tend to adhere, within a short period of time. According to farmers, they wish to know the ways and means of using modern technological solutions, if they can have a fair price at the harvesting time. Buyers are also interested to reach the farmers with technological solutions, yet, they find that these technologies are distant from them. This requirement of awareness must be addressed with the proper extension services with government institutes and organizations, directly responsible for agriculture. When the farmer or buyer is willing to find better markets and, they are aware of the potential of IT solutions, they should be guided and assisted by the extension services. Different enterprises are supported by specific agencies through their field officers and all the agencies should be coordinated for better results.

Awareness on agriculture IT solutions, among the field officers of the department of agriculture and department of export agriculture also impacts in promoting IT solutions among farmers. They are the catalyst of promoting the use of technologies by the farming communities, as they closely interact with the farmers. Extension officers are a great asset in disseminating technological advancements through farmer-association meetings and regular workshops.

Agricultural field officers use agriculture-based Apps introduced by the government projects and, majority are confident in using them. However, they need to be aware on the available services, benefits and the reliability of those services.

Agricultural concepts or solutions promoted as digital solutions must be frequently and repeatedly injected to the rural communities, as they are new to the technological sphere. At present, the television, radio, and printed media are dominating in their information access, while advertising-hoardings and billboards give a similar impact on new information. Such farreaching media must be extensively used in awareness campaigns.

Among the youth farmers, who are engaged in agriculture as the major source of income, the information penetration appears to be in good shape. Currently the young and innovative farmers are using social media as well as the market information received through their mobile phones. They are using YouTube for broadening their knowledge on agronomy, future technologies and post-harvest management etc. Therefore, the awareness campaigns targeting young and innovative farmers and other entrepreneurial farmers, would be a better model for the government and the NGO based extension programs. Extension programs also may focus on generating employment opportunities and development loan schemes. As all the agriculture-based areas are covered with proper telecommunication coverage through different service providers, use of IT and other solutions could effectively be promoted to the younger generation who response faster to the digital inclusion.

Therefore, we suggest that the key issue of disseminating and promoting the use of digital solutions across the agriculture sector could be resolved by organizing frequent and coordinated campaigns especially for the youth farmers, using all possible existing extension systems.

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