Agricultural Information System

(A system to integrate all important agro-information)

Scope Definition

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CSE-308

Information System Design

Topics:

1. Existing System

- **Scenario:** Now a day, most of the farmers of Bangladesh work based on their experiential knowledge on farming. They seldom collect weather update from various source, rather they use their intuition on weather and cultivate accordingly. They often face problems while cultivating and don't know those solution. Sometimes they do something innovative but don't know what to do with them. They use ancient farming method as they don't have the modern farming technological knowledge. Farmers collect loans from various govt. & non govt. organizations like "KRISHI BANK" , "GRAMEEN BANK", "BRAC" and sometimes from local rich people.
- **Problems on Current System:** Farmers have to suffer a lot for collecting information regarding

crops, seeds, fertilizers, pesticide, and agro-equipment.

- Sometimes urgent information about weather updates like flood, storm etc. are not delivered timely.
- To know the market price of agro products & agro-equipment for buy and sell farmers hesitate where to go for different kinds of things.
- For financial help, farmers don't know where and how they can get much loan with easy installation.
- In case of any sudden problems like various diseases of crops, pest attack etc. during production, farmers cannot communicate with experts very often.
- Exploited by loan sharks because of illiteracy

- Automation Status: Some institutions provide information to farmers. There are also sites mentioned later that provides agro information. But these are not enough to meet the needs for farmers.

2. Discovering Scope

- We Will Cover: Our system mainly focuses on detailed information for farming. Here farmers can get all kinds

of necessary information through interpreter (field worker). For this, at first they have to become a registered member of the system. As in our country in every union, there is an information center that provides computer and internet. So farmers can register to the system by going to the nearest union information center with the help of field worker. Farmers can access their registered id and get necessary information from the information system with the help of field worker. So, about 50-100 or more registered farmers can be under the supervision of the field worker. We have seen from our experience in past and also in present that most of the people of our country depend on farming for their livelihood but it is a matter of regret that most of them are not proper educated so they lack of the current scientific method of cultivation. For that, they are neither able to produce higher amount of crops nor able to make good quality crops in accordance with the lands they cultivate. Furthermore, they don't know where to ask their problems. So, we will develop this information system in such a way that they can aware of scientific method of cultivation and ask their questions about farming. Here in our information system, farmers can ask questions about their problems to the field worker and the field worker forward the question to the experts. Then after receiving the answer the field

worker tell it to the farmers. So here field worker is just an intermediate medium for interaction. Moreover, farmers can get all agro-market information like theirs products current market price, agricultural instruments price etc. Farmers can also get current and future weather news and updates from the information system that can surely help them to cultivate and plant crops in proper time.

- We will not cover: As the farmers are not educated and up-to-date with the modern technology we will not implement online marketing, online banking and incubation feature in our information system. But the information about banking like loan procedure, subsidy and bank addresses will be included in our information system.

3. Worthiness:

At a first glance, the agricultural information system may seem unworthy or impractical; it is highly probable that a person with limited technological background may find this project just a waste of time and money. But in a developing agro-based country like ours, technology can be used to improve people's (in this case farmars') lives.

3.1. There are sites like http://www.landandfarm.com/ in developing countries for selling/buying lands or farms. In our country, a farmer who is not able enough to farm can sell his land easily over the internet should find the site useful for the cause.
There are sites like http://bikroy.com or http://cellbazaar.com for selling and buying non-agro products. As farmers products are more bulky, they can use the information system to find buyers and sell their products wholesale.

3.2. The government needs to have knowledge about the crops grown in yearly basis so that it can whether to import grains. A information system can be highly usable in this manner. The government can know about people's need and act accordingly. The system will be able to provide useful information to the government to avoid food shortages and even famines. The website of Bangladesh Buraue of Statistics (http://www.bbs.gov.bd/) is not responsive or attractive enough to be used by anyone other than the government. The website of Agricultural Information System will be helping hand in this matter.

3.3. The farmers lack expert's opinion about what to grow, what equipment to use etc. The AIS will be able to provide the farmers' about useful information from the experts.
In the first stages, the AIS frontent will be only the website. But in the passage of time, the AIS will make use of SMS (Short Messaging Service), IVR (Interactive Voice Response), android apps etc. It will make the project easily accessible to mass farmers.

3.4. Some might think that, farmers are not literate enough to make use of this kind of system. As mass people are getting the hang of technology and the spread of easily operable devices like smartphones/tablets, there will be a vacuum of available apps/Information systems. The app market may go away to the hands of foreign app developers. To prevent that, we have to develop our own apps to keep the market ours. Until farmers are culturally capable enough to handle these technological aspects, they will remain passive users of the AIS.

3.5. The farmers lose many crops due to untimed weather forecasts. The AIS will be able to hand them

updated weather forecasts and warnings. The necessity of weather forecasts in farming can only be explained by farmers themselves.

3.6. If we do a cost benefit analysis, the project might need manpower, server infrastructure to start. But as the project will expand as expected, the need for manpower and servers will lessen. Farmers themselves will be able to use the front-end eliminating the need for manpower.And, if the government sees benifit of the farmers, then they might buy the project wholesale.

4. Roadblocks

- Possible Roadblocks

1. Illiteracy of the farmers:

First of all we all know that 80% of our farmers are illiterate so that it is a day dream for us to make them use a website. They can't even sign their own signature in that case it is impossible for them to access a website and collect information from it. So that we can't easily reach information via computer to the farmers. It is the major impediment to our proposed system.

2. Lack of manpower: Secondly we have lack of manpower for doing the job of a field worker, Most of the people of our country are not enough aware to help the farmers, they will not willingly come forward to help the farmers. We can't reach every farmer in the rural area. If we give enough salary to them they may do the job of a field worker but to afford salary for the field worker is also a burden for the govt and NGOs

3. Government Verification:

It is also a question that will Gov., verify our proposed system.yes,as there are many TV channels which publish videos and many other agricultural programs for the farmers they may think it is quite needless to make a computer based website to help the farmers on scientific method of cultivation and other helpful feature.

4. Cost of maintenance:

Our proposed system is expensive to maintain as there are a database, videos from experts, helpful links on modern invention of cultivation, fertilizer, insecticide etc. We have to make a link with the union agriculture office, we need some field workers to reach the farmers in every village. So the maintenance cost is also a big impediment to our proposed system.

- **Roadblock Counter :**
  Farmers can be summoned by system using interpreter (field worker) to use this information system. Effect communication with govt. or NGOs should be done. Cost of system can be maintained using govt. or NGO help .