

Enhancement of Technologies Involved in Agronomics

B.Ramakumar, Dr.A.Senthil

¹ Research scholar, ²Assistant Professor,

Department of Soil and Environmental,

Agricultural College and Research Institute, Madurai

Abstract— This paper deals about the technology involved in the agronomics and where the associate of these technologies will bring higher crop production and better maintenance of the agricultural land, some of the technologies are mobile computing, sensors & tracking system, cloud database storage, heavy machineries which are controlled by the remotely or some other machines are operated in the autonomous where these kinds of implementations and applications which can minimize the human work load in an efficient manner.

Keywords: Agronomics, Sensors, Heavy Machineries, Cloud Storage.

I.INTRODUCTION:

Agronomics is described as the primitive of the agricultural and domestic animal managing where it is applied to the principles of agriculture economics to maintain the farming system in an efficient manner to produce the large amount of yielding process, agronomics deals with the advanced technologies by the interfacing of

the various computer based and embedded based technologies are formed together to form the new way of the managing the entire agricultural land into the integrated systems. Where agronomics deals with the efficient managing process of the system thus it could combine with those technologies to form a high level in the agricultural sectors.

Now a day's mobile computing plays the important role in the agricultural region where the all heavy machineries can be controlled by the small handheld devices, high speed internet system is always needed for the agricultural transactions process in order to transfer the large data. Some of the new technologies which is telematics where this is the new kind of technologies which can shows the machineries in the system and whether there are in the operating condition are not and thus the fuel levels are also shows by the system and also combined with the RFID technologies.

II.MOBILE COMPUTING:

The mobile computing also plays the main role in all over the world but now a day's

mobile computing are taken towards the agricultural sector fields such that the apple iphone are created the various applications for the agricultural sectors that the farmers can be utilize the application for the agricultural purposes. For some examples the application which can be created for the forum posting and queries based especially for the farmers where they can easily access the phone for these activities.



1. Mobile based Agriculture Management

These mobile applications are designed with the suitable platform that it should run in all kinds of mobiles, so it has to be platform depended process, then only every users can easily access the data in any of the devices of the system. There also some of the famous software such as farm leader and farm manager etc. Our system purposed for the single purposes or for the multiple options which are going to take the collectively of the process.

III.ADVANCED NETWORK:

The advanced networking is much needed for the agricultural technology where the internet in the mobile computing technology have the better improve for the 3G network, now it is moved to the 4G network based such that the farmers can access the quick processing data from the server to the client, it could be only possible when the high speed data transfer is enabled, such that satellite also kept separately for the agricultural processing.

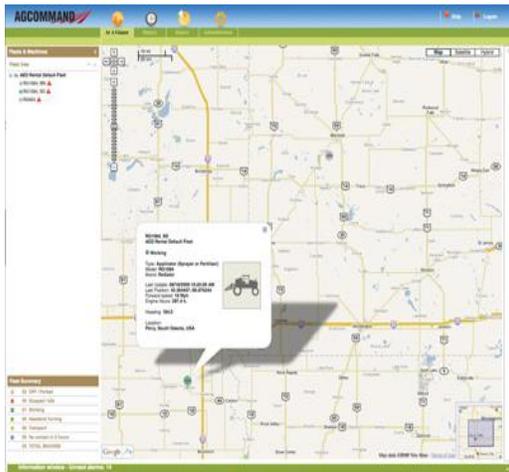
Also in some of the rural areas the 3G network is not installed, but our system needs only the 4G network for the data access, now the system is going to take in the full advanced manner such that the satellite network is to be applied and the farmer should have the high quality of mobile phones or satellite based phones which could able to collect all the information from the direct satellite. Fibre optic cable and fibre optic communication takes to the high speed internet system to load the data quickly and successfully, but the fibre optic cable is not suitable for the rural areas only satellite is best.



2. App for Agriculture

IV. TELEMATICS:

Telematics is the one of the most advanced technology that the software is added to the system, where the geographical images are shown on the mobile device that shows the moving of the machineries and other equipments are able to added in the system and the farmer can access the software anywhere from the field or any place if wish to see, these are the categories of telematics product which are uses the internet over the system.



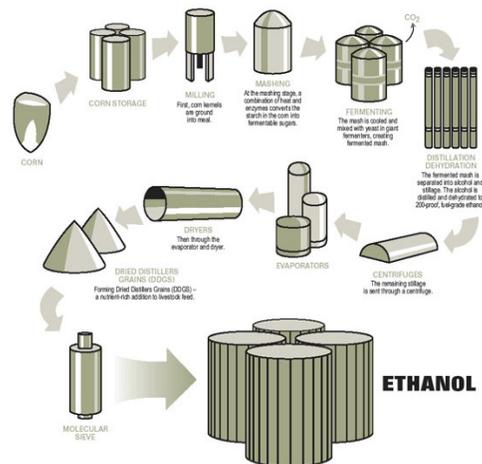
3. Telematics System

This telematics software can able to integrate with the other technologies so that the machineries, water pumping mechanism and other sensors activities are to integrated into the single telematics project, thus it works with the high speed internet system so that the data can uploaded and downloaded in the quick process system, where these are installed with the tracking system so that the messages are gathered by the tracker and this information are passed to telematics.

V. ETHANOL PRODUCTION:

The ethanol production is the producing of biomass production, where some of the sources are created by the fossil fuels. But the ethanol production is made up of the ethanol and distiller’s grains, grains are renewable sources as this will be the efficient and effective process. By the ethanol production it minimizes the production of fossil fuels among the countries, where it can be used as fuels instead of fossil fuels.

The plants which are wasted and other purposes which are to collected and perfectly treated with the water that is pure water and further it should added with the ethanol, where ethanol is the pure form of the liquid and it can be alcoholic intoxication, fuel as well as antiseptic process. In our case the alcohol is taken out for the biomass production for the renewable process system this could be the more efficient process alternatively method for the production of the biomass production system.

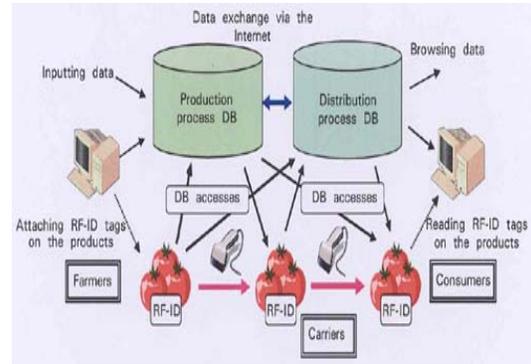


4. Ethanol Production

VII.RFID TECHNOLOGY:

The RFID technology is known as the radio frequency identification where the crops and grains are tagged in the system in order to maintain the stock system of the agricultural sectors and also this RFID can be used for the livestock of the farming process to identify the animals which are in the farm and which are missed out from the farming area. Some of the heavy machineries can also be controlled by the RFID technologies which are to be used to find out the location of the machineries in the land.

In the farming technology RFID used for the many purposes such as the tagging of the RFID into the vegetables and then it will be entered into the database which may be the production database where these activities are controlled by the input data computers and these can be achieved by the distribution data which are accessed by the browsing data and further it will reach to the consumers. There is a big advantage with the tagging of RFID into the vegetables then it should not be missed out of the farming database also analyse the quality of the vegetables.



5. RFID in Agriculture

VIII.SENSORS INVOLVEMENT:

The sensors are placed in the important phase of the farming technology where the sensors are used to analyse the whole farming maintenance or the sensors can be placed for the single plant maintenance process of the system. As the sensors are used to analyse the physical quantity of any object and it can be forwarded to the digital data to the database system, thus in our system the sensors are placed for the purposes of analysing the plant water level and nitrogen levels are to be focused by the system.



6. Sensors in Plants

IX.CONCLUSION:

Thus the paper completely deals about the all technologies which are to be implemented to increase the production of the yielding process in the system, where technologies such as mobile computing, sensors technology and RFID will analyse the

farm and the plants and intimate the farmers about all information of crops and plants to report frequently, so it will be more efficient when adding of the technologies to the system so it could better management.

References:

1. B.L. Gardner (2001), "Agriculture, Economics of," *International Encyclopedia of the Social & Behavioral Sciences*, v. 1, pp. 337-344. Abstract & outline.
2. C. Ford Runge (2008). "agricultural economics," *The New Palgrave Dictionary of Economics*, 2nd Ed., Abstract.
3. Shaars, Marvin A. (1972). "The Story of The Department of Agricultural Economics: 1909-1972" (PDF). Retrieved 2009-09-17.
4. Schultz, Theodore (1968). *Economic Growth and Agriculture*. New York: MacGraw-Hill.
5. Schultz, Theodore W. (1956). "Reflections on Agricultural Production, Output and Supply". *Journal of Farm Economics* **38** (3): 748–762. JSTOR 1234459.
6. Ford Runge, "Agricultural Economics: A Brief Intellectual History," page 1 (abstract), University of Minnesota Working Paper WP06-1, June 2006, <http://ageconsearch.umn.edu/bitstream/13649/1/wp06-01.pdf>
7. Ezekial, M. (1938). "The Cobweb Theorem". *Quarterly Journal of Economics* **52** (2): 255–80. doi:10.2307/1881734. JSTOR 1881734.
8. Waugh, F. (1928). "Quality Factors Influencing Vegetable Prices". *Journal of Farm Economics* **10** (2): 185–196. doi:10.2307/1230278. JSTOR 1230278.
9. Griliches, Zvi (1957). "Hybrid Corn: An Exploration in the Economics of Technical Change". *Econometrica* **25** (4): 501–522. doi:10.2307/1905380. JSTOR 1905380.
10. Farrell, M.J., "The Measurement of Productive Efficiency," *Journal of the Royal Statistical Society Series A*, General 125 Part 2(1957): 252-267. Farrell's frequently cited application involved an empirical application of state level agricultural data
11. Vernon Wesley Ruttan, "Technological Progress in the Meatpacking Industry, 1919-47," USDA Marketing Research Report No. 59, 1954.
12. Hildreth, H.; Houck, J. (1968). "Some Estimators for a Linear Model with Random Coefficients". *Journal of the American Statistical Association* **63** (322): 584–595. doi:10.2307/2284029. JSTOR 2284029.
13. Ford Runge, "Agricultural Economics: A Brief Intellectual History," pp. 15-16, University of Minnesota Working Paper WP06-1, June 2006, <http://ageconsearch.umn.edu/bitstream/13649/1/wp06-01.pdf>.
14. "Georgetown International Environmental Law Review". Findarticles.com. Retrieved 2013-05-02.
15. Hoef, Robert G. (2000). *Modern Corn and Soybean Production*. MCSP Publications. pp. 107 to 171. ASIN B0006RLD8U.
16. "Iowa State University: Undergraduate Program - Agroecology". Archived from the original on 7 October 2008.
17. "Definition of Agriculture". State of Maine. Retrieved 6 May 2013.
18. Committee on Forestry Research, National Research Council (1990). *Forestry Research: A Mandate for Change*. National Academies Press. pp. 15–16. ISBN 0-309-04248-8.
19. Budowski, Gerardo (1982). "Applicability of agroforestry systems". In MacDonald, L.H. *Agro-forestry in the African Humid Tropics*. United Nations University. ISBN 92-808-0364-6.
20. Jared Diamond (2012). *The World Until Yesterday*. Viking. p. 353. ISBN 978-0-670-02481-0.
21. Douglas John McConnell (2003). *The Forest Farms of Kandy: And Other Gardens of Complete Design*. p. 1. ISBN 978-0-7546-0958-2.
22. Douglas John McConnell (1992). *The forest-garden farms of Kandy, Sri Lanka*. p. 1. ISBN 978-92-5-102898-8.
23. "The Development of Agriculture". National Geographic. Retrieved 22 April 2013.
24. DK Jordan (24 November 2012). "Living the Revolution". *The Neolithic*. University of California – San Diego. Retrieved 22 April 2013.
25. Hancock, James F. (2012). *Plant evolution and the origin of crop species* (3rd ed.). CAB International. p. 119. ISBN 1-84593-801-1.
26. UN Industrial Development Organization, International Fertilizer Development Center (1998). *The Fertilizer Manual* (3rd ed.). Springer. p. 46. ISBN 0-7923-5032-4.
27. S. Johannessen and C. A. Hastorf (eds.), ed. (1994). *Corn and Culture in the Prehistoric New World*. Boulder, Colorado: Westview Press. ISBN 0-8133-8375-7.
28. DK Jordan (24 November 2012). "Beyond Wheat". *The Neolithic*. University of California – San Diego. Retrieved 22 April 2013.
29. Vergano, Dan (19 January 2011). "Grapes domesticated 8,000 years ago". *USA Today*. Retrieved 4 May 2013.
30. DK Jordan (24 November 2012). "The "Agricultural Revolution"". *The Neolithic*. University of California – San Diego. Retrieved 22 April 2013.
31. Adams, Kristina. "Horses in History: A Bibliography". USDA National Agricultural Library. Retrieved 24 May 2013.
32. Heiser, Carl B., Jr. (1992). "On Possible Sources of the Tobacco of Prehistoric Eastern North

- America". *Current Anthropology* **33**: 54–56. doi:10.1086/204032.
33. Richerson, Peter J. (2001). "Chapter 5: Pastoral Societies". *Principles of Human Ecology*. pp. 79–80.
 34. Michael Moïsse Postan, H. J. Habakkuk, Miller, Edward, ed. (1987). *Cambridge Economic History of Europe: Vol. 2: Trade and Industry in the Middle Ages*. Cambridge University Press. p. 28. ISBN 0-521-08709-0.
 35. Brian M. Fagan (2004). *The Seventy Great Inventions of the Ancient World*. Thames & Hudson. ISBN 0-500-05130-5.
 36. "Farming". *Egypt's Golden Empire*. PBS. Retrieved 22 May 2013.
 37. Janick, Jules (2008). "Roman Agricultural History". Purdue University. Retrieved 22 May 2013.
 38. Janick, Jules. "History of Agricultural and Horticultural Technology in Asia"(PDF). Purdue University. pp. 3–4. Retrieved 23 May 2013.