ANALYSIS OF THE DECISIONAL SUPPORT SYSTEM USED IN FARM MANAGEMENT

ANALIZA SISTEMELOR SUPORT DECIZIONALE CREATE ŞI UTILIZATE ÎN MANAGEMENTUL FERMELOR

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Abstract: *The efficiency of the management activities in farms is very important because it can make the difference between the performance farms and the farms that are using resources without touching the main purpose. That's way is necessary to implement some decisional support system that can help the farmers in planning activities. This paper want to make a analysis of some decisional systems which was develop using informational technology. This was developing in our country and abroad.*

Key words: *farm management, decisional support system, planning production*

INTRODUCTION

A necessity of the informational technology is recognized by many international organizations. In 2008 was organize a Workshop by FAO that have the main subject necessities of informational technology implementation in agriculture, because this can bring many benefits (economics, social and environmental) in agriculture. Near FAO, have been participated another 3 important organization: AFITA/EFITA (Asian/European Federation for Information Technology in Agriculture), IAALD (International Association of Agricultural Information Specialists) and WCCA (World Conference for Computers in Agriculture).

International Fund for Agricultural Development (IFAD) at this Workshop, revealed the impact at the global level of informational technology implementation in agriculture: agriculture is the main source of life for 86% from rural people, which represent half of the Earth population; agriculture offer 1,3 billion jobs; gross margin increasing generated by agriculture has provide that is 2-4 time more efficient than gross margin increasing generated by others sectors; most of the poor people of the planet will steel life at least one generation in rural environment (Gelb, E, 2008).

MATERIAL AND METHOD

Analysis of these tools was made using information from many bibliography researches. The author attention was oriented to some reference papers and some research projects very important at the national and international level.

To develop managerial instruments for farms is an actual theme, because of his importance, in national research and even international research.

RESULTS AND DISCUSSIONS

Most of the researches have ended with some informatical programs intended for specific purposes and only for small area. But in the same time, was identified some instruments that was used in more area, such as MODAM – is a German model used in many region from Europe, MIDAS – use in many sheep farms from Australia, APSIM (Agricultural Production Systems sIMulator), CropSyst, GTPA (Global Trade and Analysis Project) (Sander J. and all, 2010).

One of the most recent instruments is "Farm System Simulator" (FSSIM). This instrument is intended for use at European level. So, for the world, it tends to create instruments that can be used by a large number of users. The main advantages of some product are: easily to apply some general principle accepted by a big users community; possibilities that the interdisciplinary research teams to bring new contribution to develop one

single product and in this way is avoided the resources consume to create similar product; to evaluate this product is more easily by assessors because is easy to know one tools; is more easy to communicate with the persons that are interesting for using application, because in the moment when it acquires a new component is not necessary to offer information about the all product, and to accept this from the users is more easy after the tools was before accepted; the necessary information for the instruments can be easily standardized (Janssen S. et all, 2009).

Because the production condition are different from a area to another, an we are thinking at the quality and quantity of inputs, at the number and the quality of the agricultural machines, we can say that such a tools have may disadvantage such as the fact that one tools is hard to satisfy all the request from a big number of users (Stephen B. Harsh, 2005).

Even more, in same paper, the author provides that in the future the informatical systems for products management will be split in five categories, according to user's type. These categories are:

-programs to analyses the whole system. These instruments have following characteristics: will be develop to study interaction and dynamic from the elements of the product; will be used more often in research; are complex and require large amounts of data; are very useful to test different hypotheses about the dynamic of the system research;

-programs to test theory and educational use. This kind of program is like a computer game, because it has only concepts and base principle and simplifies the reality. Many times these are used in interactive way, and have the capacities to respond at the question such as "what's happen if…?". These programs are very good for teaching activities, but for practitioner, which avoided because are to easily, take more time and effort to take all the necessary information and because don't reveal the reality;

-programs for consultants. The main characteristic is that are used in a small activities area. That's way one consultant is forced to use a high number of programs or a farm manager to use more consultants;

-programs for practitioner (farms manager) are the most required on the market. This program has to be easily too used, and the information must have a higher value than the cost of obtaining;

- programs designed to control and monitor the supply chain and sales.

In Romania, the concerns for this program are more in the last period. In this way we can recall some projects that have a finality interesting SSD. On the first one is PhD thesis "Research regarding preparation of informatical products to optimize dimension and profile of agricultural exploitation". This product has ending with a program call AGR4 to optimized dimensions and profile of a farm (Stere Grasu, 2005).

Another attempt was in doctoral period, when the result was an informatical system to economic diagnosis of the farms (SIDE) (Ilea Marioara, 2009).

Both programs are using standardized data that gives to the programs an easier way to use, but in the same time, is possible that the results do not be adapted with the reality from the farm.

Research Institute for Agricultural Economics and Rural Development have develop a research project which have as a result an informatical system very interesting and useful, but, because of his complexity, is hard to be used by the medium and small farms that are the support for each rural space (Research report research project PS622).

In these period is developed another two POSDRU projects that will ending with informatical programs for farm management. One of this projects is AGROCARIERA wich wants to develop a program for agricultural teaching domain (www.agrocariera.ro). Another project is AGROMANAGER and it will be used be practitioner from farms management.

Another SSD that have results from a PN II TD research project, funded by UEFISCSU-CNCSIS in 2007 is SSD ProdPlan (Simu, 2008). This instruments offer results from the farms reality. The most important information offer by this program is: records technology for crops grows in production plan; optimal structure of production; the income and expenditure for each crop and for all farms, coefficients calculation using farm resources. This was tested and analysis by potential users. Main conclusion is that are necessary this kind of instruments, and them will be used only if users will be training. Other deficiencies are: the help option missing, and the complex way to realize data sheets (Simu, 2009).

CONCLUSIONS

After these analysis results that in Romania are necessaries to develop a big number of products that must have the most new technology. These products will offer to the interesting person possibility to use a modern management.

Modern management, using new methods and technology can offer many answers to all the questions about modernization of Romanian agriculture. To develop the management and production system, will be more easy to diminish the impact of the rural environment from Romania that is in competition with the modern state of European Union, and that's way are necessary to became sustainable farms. Necessities of implementing new modern management system will help the Romanian farmers in competition with others from European Union.

That's way is necessary to create new instruments for each region from Romania and for each agricultural activities that implements new technology and the results of the recent researchs.

REFERENCES

1. **GRASU, S.,** 2005, Rezumat al tezei de doctorat: Cercetări privind întocmirea de produse informatice pentru optimizarea dimensiunii şi profilului exploataţiilor agricole
2. **GELB, E., A. MARU, J. BRODGEN, E. DODSWORTH, R. SAMII, V. PESCE,** 2008, Summary of pre-Conference workshop Adoption of ICT Enabled Information Systems for Agricultural Development and Rural Viability
3. **ILEA MARIOARA,** 2009, Teza de doctorat: Managementul şi gestiunea activităţii economice la Staţiunea Didactică Experimentală Mănăştur
4. **JANSSEN, S. ŞI COLAB,** 2010, A Generic Bio-Economic Farm Model for Environmental and Economic Assessment of Agricultural Systems, Environmental Management
5. **JANSSEN, S. ŞI COLAB,** 2009, A database for integrated assessment of European agricultural systems, Environmental Science & Policy

6. **STEPHEN B. HARSH,** 2005, Management Information Systems, EFITA BOOK
7. **SIMU, AL.,** 2009, Testing and analysis of the Decisional Support System ProdPlan, Buletinul Universității de Ştiințe Agricole şi Medicină Veterinară, Seria Horticultură, Vol 66 (2)
8. **SIMU, AL.,** 2008, Teza de doctorat: Instrumente de management modern pentru fundamentarea procesului decizional în fermele agricole
9. **RAPORT DE CERCETARE PROIECT DE CERCETARE PS622**
10. *** www.agrocariere.ro – data ultimei accesări 11.01.2012
11. *** www.fao.org – data ultimei accesări 11.01.2012
12. *** www.madr.ro – data ultimei accesări 11.01.2012