Research Paper Agricultural Science

Designing a Prototype Model for the Application of Knowledge Management Strategies in Agriculture

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ABSTRACT

India is one of the rapidly developing nations of the modern world. It has become an independent country, a model republic, more than six decades ago. During this period the country has been engaged in efforts to attain development and growth in various areas such as building infrastructure, finance, agriculture, industrialization, rural development and so on. As compared to the various areas of development agriculture, have not reached the desired level of development and reflects lot of scope for development if we can think of competitive strategies. In this paper we have made an attempt to discuss the importance application knowledge management in Agriculture and its prototype model to implement knowledge in agriculture in a comprehensive way.

KEYWORDS Knowledge management, Agriculture, Agricultural information, Extension, village knowledge centre

Introduction

The year 1991 was a watershed year in the Indian economic development. Economic reforms were initiated to strengthen the economy in the name of structural adjustment. Structural adjustment gave more importance to non-agricultural sector which intern resulted in the decreased share of agriculture in national income. Though the share of Agriculture has been decreased in the share of national income dependency on it and its importance in rural India remained unchanged. Agriculture is the key income source and livelihood for around three-fourth of the India's total population especially for those who live in villages. Agriculture is the only major source which can feed the nation. Having such an important role in making the nation hunger free and self relied agriculture sector must be a priority sector for government but in practical it is not happening. When we look at the practical importance except target fulfilling syndrome, it seems to be lacking in growth and advancement as compared to other sectors of the economy.

Though we have started giving importance to the Agriculture from the first five year programme onwards as a major area of focus we have achieved short term satisfaction with green revolution but still we have a lot to do to increase the efficiency of agriculture with the long term perspective. Literature study, research analysis and study of government programmes for improvement of agriculture reveals that most of them are focused on some aspects of agriculture further, it confirms that there are very few efforts made to improve the intellectual capacity and to manage the intellectual resources of farmer and rural community who are directly or indirectly involved in agriculture. Intellectual efficiency, education and awareness are the major enablers of any success, but unfortunately we have ignored these areas and focused on many areas which are suffering to bring the desired level of growth.

RELEVANCE OF KNOWLEDGE MANAGEMENT IN AGRICULTURE

Bringing knowledge management practices in Agriculture to manage the Agri-knowledge is the most challenging factor as most of which is hidden in the human mind in the form of tacit knowledge. The knowledge management practices which we are planning to bring in agriculture will enhance the required competency and productivity. KM approach in agriculture is not only confined to managing the tacit and explicit knowledge and information also focuses on many other competitive strategies which can enhance the intellectual and managerial capacity of agri-community in a holistic manner.

To address most of the problems of the Indian agriculture through improving the intellectual efficiency of the farming community, through knowledge management practices. Knowledge management is a set of process and practices which are able to bring competitive edge to every sector and which is already notably acknowledged its role in the success of corporate world with its strategic support. Application of KM in agriculture has lot of feasibility and relevance for Indian Agriculture. Being a strategic approach KM can play a recognizable role in addressing the major problems of agriculture through education and knowledge. Here the KM approach which we are going to implement is designed in a way to address most of the problems of agriculture through identifying and implementing practices in various areas according to its feasibility, relevance and availability of resources.

Government has been investing lot of money on agriculture and rural development. When we think of cost benefit analysis of these plans and programmes it seems to be dissatisfactory in most of the programmes. Today major focus is needed to invest in setting up of active knowledge centres which can really address the problems playing the role in the failure of all these developmental programmes. Setting up of knowledge centres in rural areas will help to bring all the possible knowledge management practices in all the possible areas of agriculture and rural development.

Impact of the Study

The success of achieving the goal of sustainable development for this country lies at the heart of empowering the agriculture sector where almost 60 percent of the population depends on the agriculture for their livelihood. If agriculture suffers with problems as it is the life blood of nation it will be a great bottleneck for the sustainable development the nation. Understanding the alarming situation of Indian agriculture which is still far from the new developments needs serious attention from the policy makers, institutions and researchers. Keeping this in mind the researcher made an attempt to bring Knowledge Management strategy to strengthen the ag-

riculture activities. KM strategies are very relevant to support and give the strength to all other programmes and agriculture activities by providing single platform access to needy Knowledge and Information, education and awareness and thus encourage the use of shared knowledge for a range of solutions which is the need of the hour of Nation.

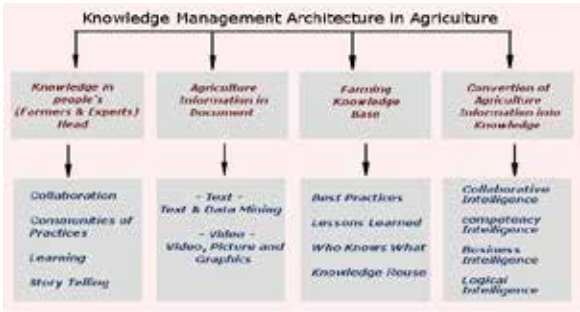
The Indian government has spent a lot on many innovative programmes but it has failed to reach the desired level of progress. Reason for not achieving desired level of progress is not the scarcity of resources but lack of education, lack of orientation and knowledge among the beneficiaries. Lack of education and Knowledge among the beneficiaries results poor participation, poor participation results poor progress. So real need for the day is not only spending on programmes with a target fulfillment syndrome which would not help to realize the desired progress but help only to spend taxpayers money but we need a programme which can educate people and provide knowledge to make them active participants of developmental programmes and to make them more scientific in their agriculture and marketing activities. Realizing this need we have made an attempt to bring knowledge management strategies for agriculture which can give competitive edge to agricultural activities has been made through this project

This project is going to be very significant in bringing the desired change in Indian agriculture sector. Knowledge Management approach to agriculture is not only for creating awareness and managing the knowledge it is also to address most of the farmers problems individually as well as farming community as whole. KM practices which are proposed to implement are helpful in following ways.

- Systematic audit of agriculture knowledge
- Extracting and managing the traditional and modern knowledge for the benefit of farmers
- Bringing Businesslike approach in agriculture
- Educating farmers about all the government programmes, projects and other initiatives through a single platform called **rural knowledge centre** particularly using technology and human resource
- Rural Knowledge Centres as platform for brainstorming to solve the agriculture sector with the association of farmers, experts and researchers in the field of agriculture
- Making use of individual expertise for community welfare
- Sharing the best practices of agriculture for the benefit of agriculture community
- Solving the agricultural problems with a co-operative approach
- Field level application of Agriculture research output
- Improving the participation of farming community in planning and implementation of the developmental programmes
- Making agriculture as an attractive profession by giving competitive edge through many KM strategies

Application of KM Practices in Agriculture
Knowledge Management is the booming strategy in corporate world to improve the performance of the organization. When we talk about KM, most of us restrict its application to corporate setting so it is booming there only; we are not practically analyzing its feasibility in most of other fields. When we look at basic definition of KM as "it is a set of strategies and process to extract, organize and share the human knowledge (tacit & explicit) to improve the value of an organization or (&) a task." We cannot restrict its application to any particular field. Every field of human activity associated with knowledge in one or other ways.

In the following image we have made an attempt to create the architecture to apply KM practices in agriculture which will help to understand the various KM applications in agriculture.



Proposed Application of Knowledge Management Practice in Agriculture and its Impact

Agriculture Information Management
Information management as a KM practice should address the needs of all categories of users. Information needed for the farmers should be collected, organized and presented in manner which is easy to access and use by both literates as well as illiterate farmers. Knowledge Manager can create a portal or database or if the facilities are limited he can use manual methods with the motto of reaching the farmers. In brief he should create "**one-stop center for agricultural information for all farmers**".

Managing Tacit Knowledge/Knowledge in People (Farmers & Experts) Heads

Collaboration Improving collaboration in farming is the need for the day where the farming sector facing the scarcity of physical as well intellectual resources. Ex- collaborative farming, information sharing, collective bargaining, Etc. As a KM practice we should bring the systematic collaboration among the farmers. **Collaboration** Improving collaboration in farming is the need for the day where the farming sector facing the scarcity of physical as well intellectual resources. As a KM practice we should bring the systematic collaboration among the farmers

Story Telling As a KM practice story telling technique can be used to share the tacit knowledge of the experts and farmers who are succeeded in the farming. **Mind Mapping** Mind mapping is a technique of organizing the thoughts and ideas before executing any task. Farmers are having many thoughts and ideas to do but they are not able to organize their thoughts and ideas in a systematic manner. **Community of Practice** COP Refers to the process of social learning that occurs when people who have a common interest in some subject or problem collaborate over an extended period to share ideas, find solutions, and build innovations. As a KM practice in agriculture we can use the COP as a platform to bring the farmers of common interest together through which they can share their innovative ideas and solve the problems together. There are many such practices but doing it in view of KM will make it most strategic. **Learning,** Learning is acquiring new knowledge, behaviors, skills and values. As a KM practice we should motivate the farmers towards learning by providing the essential resources and atmosphere.

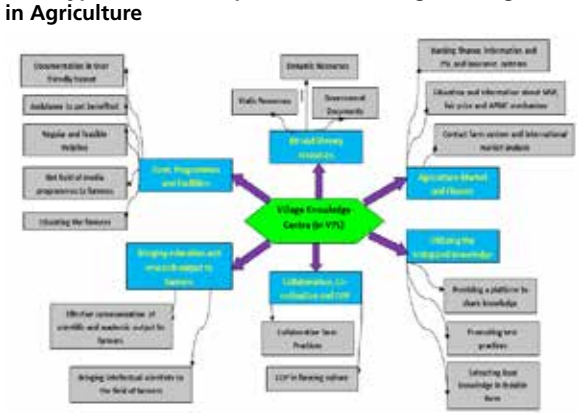
Agricultural Memory
Agricultural memory refers to stored information gained from experience that can be used for current decisions. It is not centrally stored, but distributed across different facilities where it is retained. **Knowledge Re Use** As a KM practice we can capture the knowledge and experience from the farmers and experts which can be reused for timely utility. This can be captured in AV form or in text form. **Best Practices** There are many success stories in agriculture which are the results of best practices in their operations. As a KM practice we can capture and organize those best practices in a systematic manner which can be studied and practiced by other farmers wherever necessary. **Lessons Learned** With lots of success their might be many failures in agriculture practices with those failures farmers use to learn that, not to repeat the practice which caused the failures.

Conversion of Agriculture Information into Knowledge
Any organizations can provide information, but those that can convert that information to knowledge will be most successful. **Logical Intelligence** It is a kind of critical thinking. Improving logical thinking in farmers will help them to think scientifically and take thoughtful decisions. **Competitive Intelligence** Competitive intelligence is the information gathered from various competitors and other farmers who are succeeded. Providing Competitive Intelligence to farmers will help to improve their efficiency and the competence. **Business Intelligence**

Business Intelligence refers to skills, processes, technologies, applications and practices used to support decision making.

Objectives of the study
- Understanding the awareness of knowledge management strategies among farmers
- To make the agriculture a profitable sector with the application of Knowledge Management practices to solve the farmers' problems
- To make aware and update the local farmers and other stakeholders on agriculture includes the schemes, Projects and funding opportunities to be the government and Non – Government Sectors.
- To meet the challenges of scarcity of resources by avoiding duplication and improving the efficiency in agricultural practices by collaboration, co-operation and best practices.
- To encourage the use of locally available and untapped agricultural knowledge by sharing through cooperation, participation of the farmers with the help of KM practices.
- Designing a prototype model for establishing a knowledge centre to meet the knowledge needs of the farming community.
- To provide easy access to all kinds of traditional and modern knowledge to farm community to bring awareness and to improve the efficiency of the agricultural activities.
- Educating farmers towards strategic farming with the help of knowledge management strategies.
- To Provide Single platform to all kind of Information and knowledge related agriculture and allied activities.
- Making use of all kind of expertise in agriculture for the benefit of whole community and to create awareness among the farmers about the new developments and government program in agriculture

Prototype Model to Implement Knowledge Management in Agriculture



Above model is a comprehensive way of implementing the knowledge management in agriculture. In this model we approached to establish a village knowledge centre with six major components namely section 1) To bring awareness and to educate the farmers about government programmes related to agriculture 2) To bring collaboration and co-operation strategies in agriculture 3)To bring the education and research output to the farmers. 4) To facilitate the utilization of local untapped knowledge and expertise for the benefit of farmers 5) to provide agriculture market and finance and insurance related information and awareness to farmers 6) to provide literary and other resources useful to farmers in their convenient format.

Conclusion
Rural India is real India where almost 65% of the nation's population lives and most of them depend on agriculture as a means of their life. The real development of the nation depends on the development of villages and agriculture which is the need of the hour. A country with a large population has to be nearly self-sufficient in essential food items which can be realized by agriculture development. Hence, agriculture development must top the agenda of the policymakers.

When we analyzed the real problem in agriculture it is not the scarcity of resources or scarcity of programmes it is the problem of unawareness and lack of orientation and knowledge. This situation sounds the real role and need of knowledge management approach towards these problems, which is more vital than all other responsibilities towards the success of agriculture. With this we came out with the above discussed model to implement knowledge management in agriculture in a comprehensive way.

REFERENCES

1. Malhotra, Yogesh, "Knowledge Generation, Connecting the Dots Between Strategy, Technology and Implementation", 2002 ,BRINT Institute LLC, New York, 5th sep,2010. http://km.brint.com/CBK/WorkingKnowledge3.pdf. 2. Trivedi, Mayank ,OpenMED@NIC, Knowledge management centre, 2006, National Informatics Centre, 12th Sep 2010, http://openmed.nic.in/1369/01/new_kmc.pdf, 3. 12manage B.V, 1991. 12 Sep2010, http://www.12manage.com/methods_walsh_ungson_organizational_me mory.html 4. 15the Sep 2010, http://en.wikipedia.org/wiki/Agriculture_in_India 5. The Hindu Business Line., May 28, 2010 , 12th Sep, 2010 http://www.thehindubusinessline.com/2010/05/28/stories/20100528512 11000.htm 6. Arora, Deepak, "Indian Budget's thrust on Agriculture, social sectors", 10th Oct, 2010. http://www.thetribuneonline.com/businessarchives06.htm, 7. Good Agricultural Practices (GAP):An Introduction, FAO Agriculture Department Report Food and Agriculture Organization of the United Nations Rome, 2003 8. Learning to Fly: Practical Knowledge Management from Leading and Learning Organizations By Chris Collison and Geoff Parcell, Capstone Publisher; 2 Pap/Cdr editions (January 14, 2005); ISBN-10: 1841125091.