

## Impact of Kisan Mobile Advisory Services in Dindori District for Dissemination of Agricultural Technology

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### ABSTRACT

ICT refers to technologies that provide access to information through telecommunications, or telecom, is the transmission of signals over long distances It is similar to Information Technology (IT), but focuses primarily on communication technologies. This includes the Internet, wireless networks, cell phones, and other communication mediums. In the past few decades, information and communication technologies have provided society with a vast array of new communication capabilities. Dindori is still ranked in the backward districts of Madhya Pradesh with tribal population having poor literacy. Dissemination of need based agricultural information to mass at appropriate time and in short duration so that information should be beneficial to them. Kisan Mobile Advisory Services which was started in the year 2008 with 74 members has presently 11000 members consisting of farmers, agriculture based entrepreneurs, field workers of Department of Agriculture, Horticulture Fisheries, NGOs and other organizations working in the field and Government administrative officers is now going to reach to approximate 3.7 lakh members of farming community. The major problem of our district Dindori is low efficiency of Existing Rural Information Delivery System, Remote location population and shortfall of Field Staff in Department of Agriculture. As a result overburden exists all time and performance was poor. In order to overcome the above mentioned problem Information Communication Technology played a vital role in spreading the desired information to appropriate person, at proper time. The methodology to spread our technology during the starting year in 7 blocks i.e. Dindori, Samnapur, Bajag, Karanjia, Mehdwani, Shahpura and Amarpur was by selecting 7 Agricultural Officer and 15 Farmers from Each Block. In spite of these members 25 members were from Agricultural Input Dealers and NGO's. After successfully completion of each year Assessment of KMAS were done by questionnaire method the result obtain were categories in four different aspects i.e. understanding of the message- 82.60%, Need and time based message- 93.69%, Applicability of the Message- 89.54% and Impact of the Technology – 83.35%. Similar methodology was adopted for each year starting from 2008-09 to 2017-18 and on the basis of four mentioned parameters results were evaluated. The district Collector Dindori who is directly reviewing the Agricultural activities in the District and also a member of KMAS. The display of KMAS in all Villages under NRLM, NIWCYD, TEJASWINI, BIAF and PRADAN on notice board of 4'x 5' further KVK had requested the field officials to maintain a directory of KMAS which will be useful for him any time, any where. The moto of KMAS is not only to disseminate agricultural technology but also various convergence activities of the District, Market Information, Weather, Various Schemes. The activity will be further extended to all 890 habituated villages. Seeing the Impact and Popularity of the technology members are rapidly increasing day by day. Messages which were being delivered bilingual (Hindi and English) depending upon the compatibility messages are received to the farmers. At present messages are being delivered in Unicode.

Keywords:- KMAS, Impact, Technology, Dissemination, ICT Information

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### INTRODUCTION

Indian agriculture is essentially small farm agriculture with majority of the farmers owning less than 1 hectare land small and marginal farmers now constitute over 80% of family

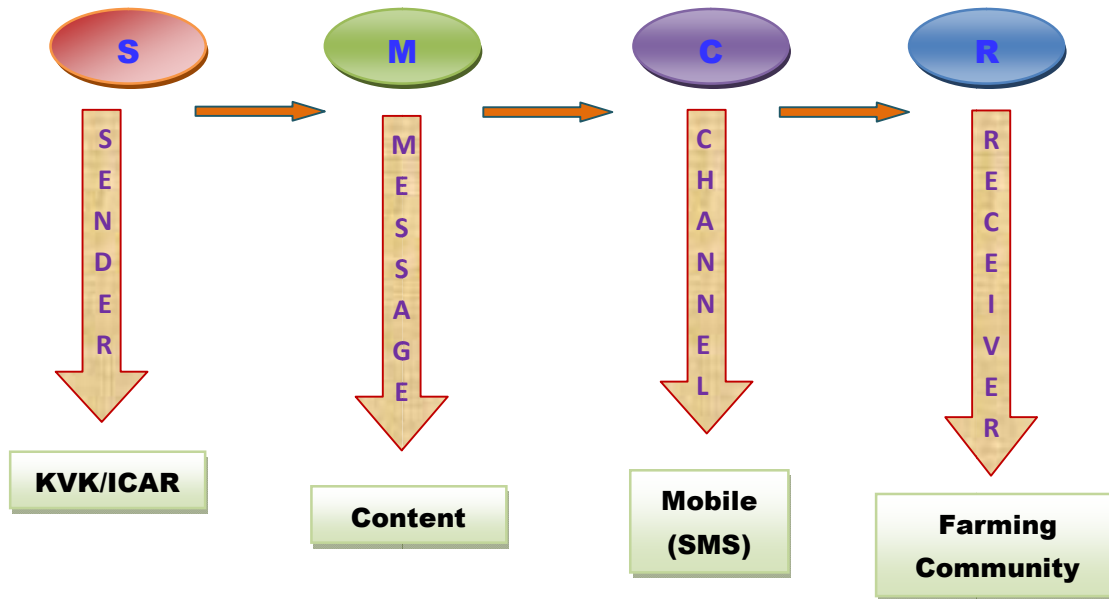
household in India. The average farm size has been declining there are white gaps in yield potential and national average yields of most commodities. In addition to stressed natural resources and very inadequate rural infrastructure there are clear evidence of technological fatigue, declining system delivery system in credit, extension and marketing services and of insufficient agricultural planning at district and lower levels. Access to adequate information is very essential to increase agricultural productivity. Introduction of Information Communication Technology in the field of agriculture has brought many changes in traditional methods of extension. It enables the dissemination of requisite information at the right time. The revolution in ICT has made access to the information easy and cost-effective to the farming community. The reports indicated that 45 percent of the world's ICT projects implemented in India. Asia highest number of information Kiosks implemented across rural India [2, 7, 9, 1]. Indian agriculture contributes 17.5 percent of our national GDP and around 55 percent people derive their livelihood from this sector. Today farmers want not only the two times bread for their families from their hard sweat, but also surplus food production, which can be sold in the market to get sufficient income to fulfill their daily needs. In the past few years the usefulness of Information and Communication Technologies (ICTs) especially Internet and cell phone to bridge the gap between scientific know how and field level do how is felt by developmental agencies throughout the world. Few technological revolutions have such a wide ranging transformation in our daily lives such as in the field of agriculture, healthcare, education, defense and so on. The ICTs are beginning to transform the way agricultural extension is being implanted. The ICT mediated extension systems are acting as key agents for changing agrarian situation and farmers lives by improving access to information and sharing of knowledge. There is an urgent need to study such systems for sustainability, scalability and identification of best practices for rural transformation. However the most of the ICT projects are implemented in the socio-economic developed states of India. Series of broadcast on a particular topic through the krishi community. Radio station has significantly increased the knowledge of the listener on need based aspects of agriculture [7].

Dindori is still ranked in the backward districts of Madhya Pradesh with tribal population having poor literacy. Dissemination of need based Agricultural Information to mass at appropriate time and in short duration so that information should be beneficial to them. Kisan Mobile Advisory Services which was started in the year 2008 with 74 members has presently 11000 members consisting of farmers, Agriculture based entrepreneurs, Field workers of Department of Agriculture, Horticulture, Fisheries, NGOs, Input Dealers and other organizations working in the field and Government administrative officers is now going to teach to approximate 3.7 lakhs members of farming community. The major problem of our district Dindori is low efficiency of Existing Rural Information Delivery System and shortfall of field staff in Department of Agriculture. As a result overburden exists all time and performance was poor. In order to overcome the above mentioned problem ICT played a vital role in spreading the desired information to appropriate person, at proper time. The methodology to spread our technology during the starting year in 7 blocks i.e. Dindori, Samnapur, Bajag, Karanjia, Mehdwani, Shahpura and Amarpur was by selecting 7 Agricultural Officer and 15 Farmers from Each Block. In spite of these members 25 members were from Agricultural Input Dealers and NGO's.

To disseminate the need-based, timely information to the farming communities and the impact of the Kisan Mobile Advisory Services Programme.

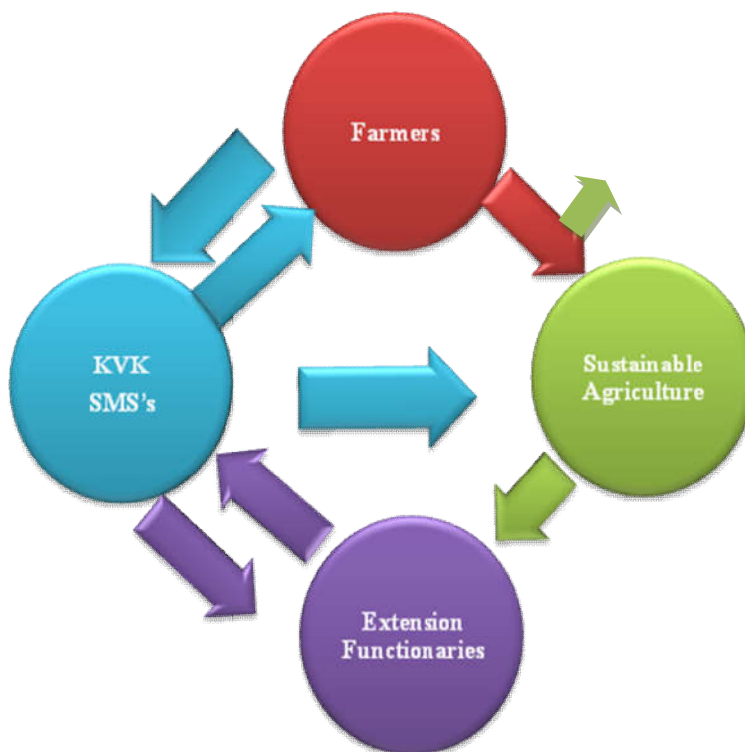
## **MATERIAL AND METHODS**

**(A) Basic Concept of Kisan Mobile Advisory Services:-** KMAS is based on the linear model of communication which involves four major components of communication process i.e. Sender, Message, Channel and Receiver as depicted in fig. 1.



**Fig 1:- SMCR Model**

**(B)KMAS Process:-**KMAS involves all the major stake holders of the agriculture development i.e. Subject Matter Specialist, Farmers and Extension Functionaries/NGO personnel. Following schematic diagram representing the flow of information in the KVK



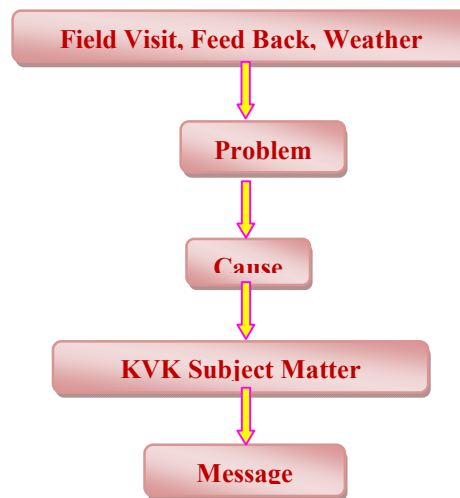
**Fig 2:- Schematic Diagram of KMAS**

**Flow of Messages**

**Message Scheduling**

- Every Tuesday and Friday
- Two Messages per member in a week
- 104 message per member in a year

**Content Development:-** In general following steps are used by the KVK for the content development as given below



**Fig 3:- Major steps of content development**

The programme was conducted throughout whole district which covered seven blocks i.e. Dindori, Samnapur, Bajag, Karanjia, Mehdwani, Shahpura and Amarpur along with 890 villages. After successfully completing one year Assessment of KMAS were done by questionnaire method. In the last ten years inspite of questionnaire method we have also selected personal phone calls. Various techniques have been used for Questionnaire such as during training programmes, field visits, group discussion etc.

The Research Design adopted for the study was ex-post facto since the KMAS has already started working in the area, the design was considered appropriate. The present study was conducted in Dindori district of Madhya Pradesh. KMAS launched for sending information through short message services(SMS) for collecting information by a semi structured interview schedule was design. Data was collected by telephonic and personal interaction with all the respondents. For the feedback of KMAS randomly villages were selected and from each village farmers were selected randomly and interviewed to know the impact of KMAS and their satisfaction to access the overall impact of technologies a device was developed and responses on a 4 point Continuum scale for each aspects and assigned scores. Finally an index was worked out to access the overall impact of technologies with the help of the following formula.

$$T1 = O/S \times 100$$

Where T=Technology Impact Index of a Respondents , O=Total Scores obtained by respondents

S= Total obtained score .The data were analyzed by using frequencies, mean and percentage

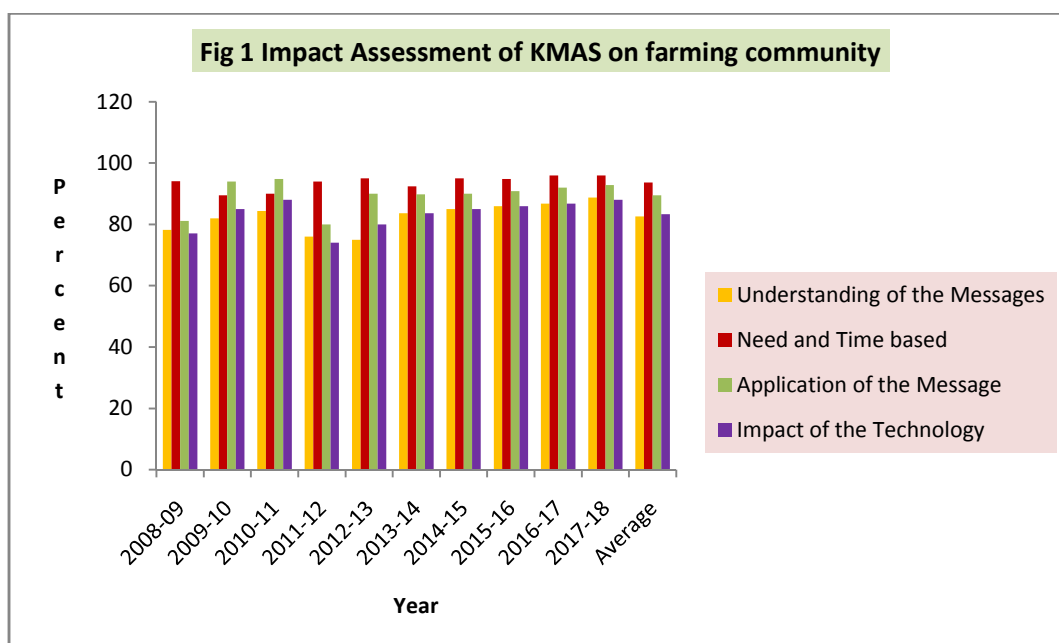
## RESULT AND DISCUSSION

Table 1:- Impact Assessment of KMAS on farming community

Sample Size N =	4.	3.	2.	1.	S. No.	
					Parameters	
					Numbers	Percent
170	131 77.05	138 81.17	160 94.11	133 78.23	2008-09	1.
					Percent	
200	170 85.00	188 94.00	179 89.50	164 82.00	2009-10	2.
					Percent	
250	220 88.0	237 94.8	225 90.0	211 84.4	2010-11	3.
					Percent	
350	259 74.00	280 80.00	329 94.00	266 76.00	2011-12	4.
					Percent	
420	336 80.0	378 90.0	399 95.0	315 75.0	2012-13	5.
					Percent	
490	410 83.67	440 89.79	453 92.44	410 83.67	2013-14	6.
					Percent	
560	476 85.0	504 90.0	532 95.0	476 85.0	2014-15	7.
					Percent	
350	301 86.0	318 90.85	332 94.85	301 86.0	2015-16	8.
					Percent	
350	304 86.8	322 92.0	336 96.0	304 86.8	2016-17	9.
					Percent	
350	308 88.0	325 92.8	336 96.0	311 88.8	2017-18	10.
					Percent	
	83.35	89.54	93.69	82.60	Average	

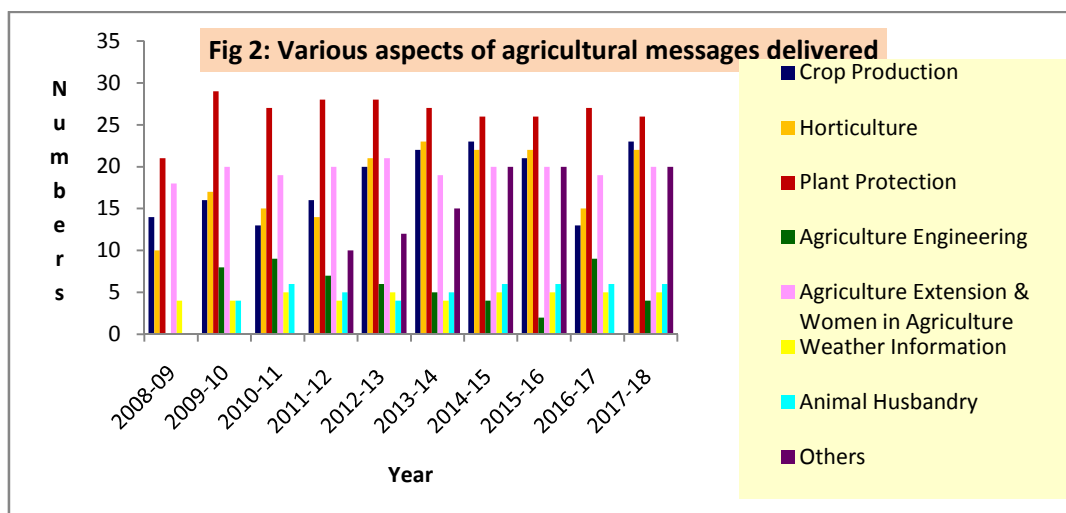
Table 1 Shows that the impact of KMAS on farming community of last ten years i.e. from 2008 to 2018. Understanding of the Messages gradually increases due to training, group discussion, mass campaign. As per their feedback and requirement need and time based messages were made available so that that can avail complete use of technology, Application of the messages also increased. This findings was similar to findings reported by Kanavi and Jahagirdhar [3]. Thus on the basis of above mentioned three parameters

impact of the technology was increased from 77.05% to 85.00%. This finding states that KMAS members applied the technology sent through KMAS found the information useful. Similar results were found by Parganiha *et al.*[8] and [4, 5].



**Table 2-**Shows that the various aspects of agricultural messages have been delivered as per feedback and requirement of farming community.

Discipline	2008-09 (Nos)	2009-10 (Nos)	2010-11 (Nos)	2011-12 (Nos)	2012-13 (Nos)	2013-14 (Nos)	2014-15 (Nos)	2015-16 (Nos)	2016-17 (Nos)	2017-18 (Nos)
Crop Production	14	16	13	16	20	22	23	21	13	23
Horticulture	10	17	15	14	21	23	22	22	15	22
Plant Protection	21	29	27	28	28	27	26	26	27	26
Agriculture Engineering	00	08	09	7	06	05	04	02	09	04
Agriculture Extension & Women in Agriculture	18	20	19	20	21	19	20	20	19	20
Weather Information	04	04	05	04	05	04	05	05	05	05
Animal Husbandry	00	04	06	05	04	05	06	06	06	06
Others	00	00	00	10	12	15	20	20	00	20
<b>Total</b>	<b>67</b>	<b>98</b>	<b>94</b>	<b>104</b>	<b>117</b>	<b>120</b>	<b>126</b>	<b>122</b>	<b>94</b>	<b>126</b>

**Table 3:- Economics of KMAS**

S.No.	Year	Number of SMS	Cost per SMS in Paisa	Total Cost (Rs.)
1.	2008-2009	25,000	46.00	11500
2.	2009-2010	55,000	18.00	9900
3.	2010-2011	1,00,000	10.00	10000
4.	2011-2012	2,40,000	10.00	24,000
5.	2012-2013	4,09,500	0.60	24,000
6.	2013-2014	6,72,000	-	-
7.	2014-2015	8,82,000	-	-
8.	2015-2016	1,24,800	-	-
9.	2016-2017	9,36,000	-	-
10	2017-2018	1,40,000	-	-

Table 3 Shows that from 2008-2018 as number of messages increases the cost per sms decreased, also message were made available in Hindi and English languages both. At present messages are delivered free of cost via Farmers Portal in unicode, which not only benefitted the Centre as no charges are being paid but also the farmer's who receives messages in hindi.

**Table 4:- KMAS Member Details**

Member Details	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18
Farmers & Farm Women	100	309	500	2288	2715	4780	6175	7115	8060	9000
Extension Personnel	50	90	465	700	720	750	770	800	850	900
NGO's and Input Dealers	20	25	35	60	65	70	75	85	90	100
<b>Total</b>	<b>170</b>	<b>424</b>	<b>1000</b>	<b>3048</b>	<b>3500</b>	<b>5600</b>	<b>7020</b>	<b>8000</b>	<b>9000</b>	<b>10000</b>

Table 4 Shows that as awareness of KMAS increased beneficiaries also increased tremendously i.e. in the year 2008-09 total 170 beneficiaries was registered which became 10000 in the end of the year 2017-18.

## CONCLUSION

The study indicate that KMAS is one of the most useful tool for disseminating agricultural technology to the farmers and also can play a greater role in enhancing efficiency of extension services by reaching large number of people. Results of study shows that message were highly useful and having high impact on beneficiaries. Thus, KMAS was found the novel and innovative step to transfer the present agricultural information communication system at grassroot level to educate the farmer, extension functionaries or field workers on regular basis as per ground level development. Information Technology constitute one of the

most effective available ways of meeting basic human needs and fulfilling fundamental human rights. Enhancing livelihoods through ICTs is not as straight forwarded as merely installing the technology, but it is not conceptually complex either. Provided a few relatively simple principles can be followed, it seems likely that widespread agricultural revolution and improving livelihoods of farmers can be achieved with ICTs. The main challenges are not actually in the technology, they lie in the coordination of a disparate set of local and national factors, each of which can spoil efforts if not taken into account. If all the points can be integrated in a holistic manner then it will result in a very efficient model for the overall development of agriculture and progressive extension through ICTs.

### **IMPLICATION INCLUDING RECOMMENDATIONS**

Until the last decade the transfer of Agriculture technology was done only by way of direct capacity building programmes, Radio, TV which had some limitations. The main things was that these were normally general recommendations and were available to a Scientific Group. By the end of the last decade an innovative approach of technology diffusion Kisan Mobile Advisory Services was designed it is still popular but it also had some limitation as restriction of availability to mobile holders another problem as display in English Language. The District Dindori planned an innovative approach of display of these sandesh at villages with mobile connectivity on 4' x 5' Notice Boards simply painted on walls at a community place. The responsibility for editing, writing KMAS was given to the Kisan Mitra in that area in the existing local language.

Looking to the popularity of the programme innovative approach of Display of the KMAS through LED (Digital Display Boards) at the Block Levels was planned. The approach is definitely promising but the problem with it is the editing of the messages which needs a technical person. The problem gave an idea of application of G.S.M. 3G technology for display of information on the remote notice boards in this it is not required to go and edit the LED boards but using the technology a computer professional at a remote centre can edit the other LED Notice Board at the remote location it will have option that a common message can be sent as well as separate messages can be passed to different boards depending on the micro-level situation. The remote boards are connected with a modem, the message sent as SMS, Updates in the remote digital board, Latest hibread LCD modules are used in this system.

### **REFERENCES**

1. Chattopadhyay, B.N. (2004) Value added e-Learning for quality extension education presented and published in the resource document of the ICAR sponsored winter school on "Advanced Extension Strategies for Agriculture Management Work Quality Issues at BGKV, Kalyani India
2. Government of India, 1984, Planning Commission, Report of the Working Group on District Planning, vol I, May, New Delhi.
3. Kanavi and Jahagirdar (2016) Usefulness of KMAS by the farmers in Dharwad and Gadag district of Karnataka, Journal of Global Communication Vol. 9, 215-223
4. Kumar, S. Singh SRK, Sharma RC., (2014) Impact of KMAS on Transfer of Agricultural Technologies, International Journal of Extension Education Vol. 10, 71-72
5. Meera, N. Shaik, 2008. ICTs in Agricultural Extension. Ganga Kaveri Publishing House Varanasi.
6. Ministry of Agriculture, 1987. Computerization of Rural Development Information, Department of Rural Development, Ministry of Agriculture, New Delhi.
7. Nitya Shree Devendrappa and Nagnur Shobha (2013) Impact of KCRS programme on science for Women, Health and Nutrition, Journal of Global Communication, Vol. 6(2): 116-119
8. Omprakash Parganiha; S.K. Shrivastava; A.K. Choubey and J.L. Nag (2012) Impact of KMA on Agriculture Technologies Dissemination, Indian Research Journal of Extension Education special Issue Vol. II 175-178
9. Swaminathan, MS. (2005) Rural Knowledge Revolution: A Road Map, The Hindu, 9th July, 2005, New Delhi