Sustainable Models of Information Technology for Agriculture and Rural Development

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ABSTRACT

Information of the necessary quality always has the prospective of improving efficiency of all spheres of agriculture and rural livelihood. Information Technology has a major role to participate in all facets of agriculture and rural livelihood .In addition to facilitating farmers in improving the competence and efficiency of agriculture and rural livelihood, the prospective of IT lies in bringing about an overall qualitative development in life by providing timely and quality information inputs for decision making. During planned development in the independent India, gaps remain in its basic communications adding to the diversity of structural disadvantages and disparities. Studies on information technology serving rural communities have focused on a few sectors like agriculture and rural livelihood. The paper touches upon the role of information technologies at the rural level in various parts of the country. Information Technologies have been used to distribute knowledge to maintain agriculture and rural livelihood (ARL) for over ten years now. This paper shows that less than 10% of the Krishi Vigyan Kendra's and other extension scheme activity "Use digital Content "Contributes digital content "for general Use. This research paper identifies the need for 'easier knowledge flow method information exchange, storage and rescue mechanisms in rural areas. This paper will focus on knowledge achievement, knowledge institute and knowledge idea in Agriculture and Rural livelihood for Rural Development This research paper outlines an approach towards a agricultural knowledge repository, a multimedia platform for creation, sharing and dissemination of agricultural information among farmers and experts, delivers high quality, expert agro-advice in a timely manner at the farmer's doorstep.

Keywords: *Information and communication technologies (ICT); Agriculture and rural livelihood (ARL); On-line communication;*

*I*nformation technology or IT has become the buzzword in India these days. One hears about it everywhere - from stock markets to government corridors across the country. Everybody wants to do something connected with IT - be it a school student or a politician. They are looking at IT as the ultimate solution. The ever- growing media interest on success stories is fuelling this desire for IT. And within this rage for IT, the focus is on the Internet or the World Wide Web. Generally, there is an IT - friendly impression in the country *(Kanaka, Durga, P. 2004).*

But, does this fashion for IT have any meaning for the silent bulk of the country, for those living in rural areas? How can computers be of any use for the people who do not know how to read and write? And even if they can read and write, they can read and write English, which is the major language in the IT arena today*.*

Moreover, how many people in this country can pay for to have a personal computer or PC? In such a scenario, it may be rather difficult task to answer a question like - *what can be the role of IT in villages or in rural development.*

The critics of IT have repeatedly said that computers can only provide information, transmit from one place to another and with the advent of the Internet, make communication instant. But it cannot provide people drinking water, it cannot cure their diseases and it cannot give them employment. True, a computer is not a magic wand that can solve all our problems in rural areas. Even if we take computer only as an information tool, it is a great catalyst. The critics forget that villagers also have their own information needs. They need to know about their village, their districts, natural resources around them, about seasons and

monsoons, about market rates of different supplies and about government schemes. They also need to know how much money is being allocated for rural development in their area and how much is being spent. And all these so-called bits of information are related intensely to their lives and livelihood. A connected PC is an effective tool to do all this and much more.

A major handicap in mass application of IT in rural areas is that the information content is generally not directly relevant to people for whom it is developed. The contents are written or designed by people who have themselves not lived in rural areas. As a result, these systems have a heavy urban-bias. Such systems, therefore, have limited convenience and are commercially unviable. This problem can be overcome by developing appropriate content in local languages. Already in some states all official forms can be accessed on the net, village maps and land records are accessible in many cases and job opportunity for the youth can be found. And lot of this content exists in local languages. This has to spread to more and more states.
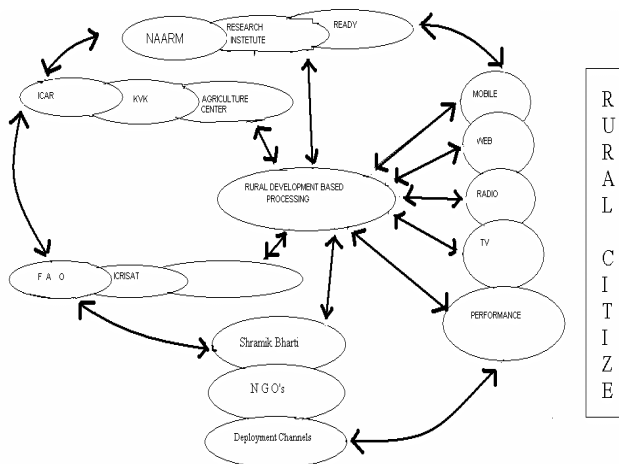

Figure 1: Information Mediation ontology Based Processing

It is also a myth that people in rural areas like to have free delivery of information. Experience has shown that if the information has direct significance to people and has a potential to result in commercial gains, people are willing to pay for such services *(Kasham, M.A. and Hussain, M.M. 2000).* In light of this, the IT Task Force has not compulsory a scheme that would allow the process of large-scale self-employed youngsters crossways the country to set up and develop contents for information KIOSKS, particularly for rural areas. It has to be ensured that such schemes have large scale private sharing and are not dependent on government

funding alone. However, the government can ensure that any one who wants to set up information kiosk at any place in the country is not only freed from all convention and licenses but also is confident through simple and striking financing schemes.

METHODOLOGY

The Present study was carried out on the problem entitled "on-line communication system for rural development in Kanpur-dehat. Selection of villages was depend on the basis of communication accessing. Out of 10 blocks of district kanpur dehat, 4 block was selected on the basis of random sampling technique. A group of villages from each block was selected on the basis of random sampling technique. By this way, total 20 villages were undertaken for conducting the research.

The respondents was selected on the basis of accessing the information /communication by any means of communication system. Ultimately 10 respondents belonged to different socio-economic strata was selected through stratified random sampling technique. So for, finally a group 200 respondents was pool for the study.

Prior to the preparation of interview schedule a pilot study of the research area was carry. I was visit the different villages where the on line services will run in order to select respondents for this study. The specific objectives are as under.

1. To study the socio-economic status of the respondents related to on-line communication services.
2. Availability and Utilization pattern of on-line communication services in Kanpur- Dehat of U.P

RESULTS AND DISCUSSION

Socio-economic status : Socio-economic status plays an important role in on-line communication. Therefore, it was felt necessary to study the socio-economic status of the selected respondents.

It is clear from the Table 1 that the majority of the respondents (79%) were having above 5 members whereas 21 percent respondents were having up to 5 members in his family.

Thus, it is clear from the Table 1 that majority 79.00 per cent respondents belonged to big family size comprising more than 5 members in the family, who participated in on-line communication activity.

Table 1. Distribution of respondents on the basis
of their size of family (N=200)

S. No.	Size of Family	N	%age
1	Up to 5 member	42	21.00
2	Above 5 member	158	79.00

Table 2. Distribution of respondents on the basis
of their local participation (N=200)

S. No.	Category	N	% age
1.	Member of one organization	54	27.00
2.	Member of two organization	137	68.50
3.	No member in any organization	09	4.50

It is revealed from Table 2 that majority - 68.50 per cent were associated with two organizations followed by 27.00 and 4.50 per cent respondents who were the member of one organization or no any organization. Thus, it is clear that majority of the on-line users were the member of two organizations.

Table 3. Distribution of respondents on the basis
of their educational status (N=200)

S. No.	Education status	N	%age
1.	Illiterate	46	23.00
2.	Up to primary	62	31.00
3.	Up to High School	34	17.00
4.	Up to Intermediate	29	14.50
5.	Up to Graduation	24	12.00
6.	Above Graduation	05	2.50

Table 3 revealed that the maximum of 31.00 per cent respondents were educated up to primary followed by 17.00, 14.50,12.00,2.50 per cent respondents were having education up to high school, Intermediate, Graduation and above graduation, respectively. Only 23.00 per cent respondents were found illiterate. Thus, it is evident from the above Table that the educated and uneducated both categories of respondents were having interest in on-line communication services.

Table 4. Distribution of respondents on the basis
of Farm income (N=200)

S. No.	Farm income	N	%age
1.	Lower group (up to 50,000)	54	27.00
2.	Medium group (50,000 – 1 lac)	87	43.50
3.	Higher group (More than 1 lac)	59	29.50

It is clear from the Table 4 that maximum 43.50 per cent respondents fell under the category of medium

income group followed by 29.50 and 27.00 per cent respondents belonged to the category of higher and lower income group, respectively.

Thus, it can be said that majority of the respondents belonged to medium income category and tried to use on-line communication services for the purpose.

Table 5. Distribution of respondents on the basis
of Occupation (N=200)

S. No.	Occupation	N	%age
1.	Farming	87	43.50
2.	Farming+Business	41	20.50
3.	Farming + Service	42	21.00
4.	Caste occupation	30	15.00

Table 5 depicted that 43.50 per cent respondents were doing agriculture as a main occupation followed by agriculture and business (20.50%) and agriculture and service (21.00%) and caste occupation (15.00%). Hence, it may be stated that all the respondents were having agriculture as one of their main source of occupation. Thus, it can be concluded that most of the on-line users were doing other job work with agriculture.

Table 6. Distribution of respondents on the basis of
mass media exposure (N=200)

S. No.	Mass media exposure	N	%age
1.	Radio	182	91.00
2.	T.V.	147	73.50
3.	Mobile phone	109	54.50
4.	Newspaper	11	5.50
5.	Telephone	148	74.00
6	Journal	23	11.50
7.	other	10	5.00

The distribution of respondents on the basis mass media exposure is depicted in the Table 6, about 91.60 per cent of the respondents possessed radio followed by 74.00, 73.50, 54.50, 11.50, 5.50 percent possessed telephone, T.V., Mobile phone, Journal, Newspaper and other, respectively.

Availability of on-line communication services: The availability of different on-line communication services were analyzed and presented in Table 7. The results reveal that availability of Hariyali Kissan Bazaar was the highest (81.50%) among the respondents of respective areas followed by Telephone (74.00%), Chaupal Sagar (66.00%), Kissan Call Centre (61.50%), University Helpline (28.00%), Computer and Internet (27.00%) and Infothela (6.00%) .Similar observation

were made by *Bhatnagar, S. and Schware, R. (2000),* and *Card S.K., Robertson G.G. and Mackinlay J.D. (1991).*

Table 7. Availability of on-line communication services (N=200)

S. No.	On-line services	Availability	%age
1.	Telephone	148	74.00
2.	Computer and internet centre (CIC)	54	27.00
3.	University helpline (ATIC)	56	28.00
4.	Chaupal sagar (ITC)	132	66.00
5.	Kissan Call Centre (KCC)	123	61.50
6.	Hariyali Kissan Bazaar (HKB)	163	81.50
7.	Infothela (I.I.T)	12	6.00

Thus, it can be concluded that maximum respondents gather information from Hariyali Kissan Bazaar and the least number of respondents were receiving information from the infothela among the available on-line communication services in the study area.

The study of utilization pattern of on-line communication service exhibit in Table 8 that 18.92 per cent respondents used telephone mostly, 43.24 per cent used it often and 37.84 per cent used it sometimes. Maximum 53.70 per cent respondents used computer and Internet mostly, 46.30 per cent used it sometime and none respondents was found often user likewise. In case of Kissan Bazzar (HKB), maximum of 43.56 per cent respondents used Hariyali Kissan Bazaar mostly, 31.90 per cent used it often and 24.54 per cent used it some times. At least only 25 per cent of total

respondents used infothela often, 75 per cent used it sometimes and none used it mostly *(Chatterjee, J. 2004)*

Table 8. Utilization pattern of on-line communication services in Kanpur- Dehat of U.P (N=200)

S. No.	On-line communication source	Utilization pattern		
		Mostly	often	Sometime
1.	Telephone	28 (18.92%)	64 (43.24%)	56 (37.84%)
2.	Computer and internet centre (CIC)	29 (53.70%)	-	25 (46.30%)
3.	University help line (ATIC)	7 (12.50%)	21 (37.50%)	28 (50%)
4.	Chaupal sagar (ITC)	31 (23.48%)	53 (40.15%)	48 (36.36%)
5.	Kissan Call Centre (KCC)	46 (37.40%)	63 (51.22%)	14 (11.38%)
6.	Hariyali Kissan Bazaar (HKB)	71 (43.56%)	52 (31.90%)	40 (24.54%)
7.	Infothela (I.I.T)	-	03 (25%)	09 (75%)

CONCLUSION

A good source of communication directly affects the adoption process. Without a suitable source or channel, it is not possible to convince all the farmers and rural citizen for the adoption of ICT. The adoption and a good source of information are the relative terms, which decides the extent of adoption. In India it is important that the extension administrators should decide the effective communication sources before development of any system for the higher adoption at a farmer's level.

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