

TECHNOLOGIES FOR RURAL MASSES

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ABSTRACT

India needs production by the masses and not mass production” The above line, once said by the Father of the Nation, Mohandas Karamchand Gandhi, aptly brings out the methodology for achieving a sustainable growth in a developing country like India. It points to a path leading to prosperity. It has a deeper meaning than what may be conveyed literally. On one hand it may appear that mass production using machinery and new technology is desirable, but careful juxtaposition of thoughts of Bapu reflect his vision of self-reliance and rural development. He was in fact in favor of the use of most elaborate machinery to avoid idleness of individuals (Fischer, 1997). His philosophy of self-reliance and his paradigm of using technology for social progress of rural India have worked effectively in the past during the British Rule.

OBJECTIVES OF THE STUDY

The main objectives of this study is to collect the information about new technologies for rural masses. The present analytical and explanatory research work includes the following specific objectives

- To explain Integrated Rural technology Centre
- To explain Simple technology for rural masses
- To find out local level development plans.
- To Identify and promote local inventiveness
- To Dissemination of Rural Technology and its Role in Promoting Rural Education amongst Youth: A Gandhian Approach
- To explain benefits of Information Technology to rural masses
- To discuss Communication techniques for mass rural education

METHODOLOGY;

Both primary and secondary datas were collected to write this report. Primary datas are collected through direct survey method and secondary datas are collected through report writings, magazines articles government publications and internet sites

INTEGRATED RURAL TECHNOLOGY CENTRE

Integrated rural technology centre is a research center in Mundur,palakkad, Kerala, , India. It was established by Kerala Sasthra Sahithya Parishad (KSSP) (KSSP) in 1987. The aim of this organization is to spread Science and Technology among masses and to provide appropriate technology for rural development. IRTC concentrates on Watershed-based development projects, GIS based Decision Support System, Mechanical engineering, civil, engineering, electronics engineering, Solid waste management, Pottery and decoupage, Skill development training, soap making, mushroom cultivation, water and soil testing, ornamental, fish culture, rabbit rearing, and agriculture. Major changes and new emphases have appeared on the development scene. Societies are opening to debate and markets to individual initiative; privatisation and entrepreneurship are being encouraged; new technologies are becoming widely available; management of government services is gradually being relocated closer to the users, if not handed over directly to users themselves, in order to cut costs and seek partners more

committed to effective implementation. Indeed, a host of structural adjustments are profoundly affecting most aspects of production and human interaction. These structural adjustments make demands, and have direct economic and social effects on people.

SIMPLE TECHNOLOGY FOR RURAL MASSES

D-RAX (Data Rural Application Exchange) system", the first of its kind in the country, will be launched on a pilot basis in two zilla panchayats in Shimoga and Ramanagara districts tomorrow, official sources told PTI here today.

Through this system, jointly developed by Karnataka Science and Technology Council and C-DOT (Centre for Development of Telematics), the rural as well as the general public just by pressing a button of a control system like TV monitor, can hear messages transmitted through the system on weather, market prices, market situation, health tips or any other essential information.

T Sahnakar, incharge of NRDMAS (natural remote data base management system) which controls the system said, villagers can use internet adopting local language for getting connected and browse any information required easily. He said the system had been successfully field tested by C-DOT at Bangalore and Mysore. This simplified internet access will enable the rural masses to learn the importance of e-governance, e-market and e-education.

NEED FOR RURAL TECHNOLOGY

The analysis of the need for promotion of rural technology would result in focusing on the basic necessities of people. We can separate five elements of social and economic infrastructure, which should be taken care of effectively by the local bodies and central government. They are – health, education, drinking water, housing and electricity. Followed by these the need for roads, efficient agricultural output, employment at grassroots level and telecommunication cannot be neglected as well. All these goals of rural development converge towards development of effective rural technologies and a sound rural education to absorb the technological innovations.

Promotion of small scale industries through Rural Entrepreneurship and traditional job creation is one of the effective ways of adhering to the problem. Rural technology is also important for strengthening our rural economy and to make it self-dependent. The approach of Five Year Plans in this regard aiming at growth, equity, social justice, self-reliance, improved efficiency and productivity, calls for a sharper focus on employment generation and poverty alleviation through development programs. The provision of these programs will help people to stand on their own feet and work with self-confidence and self-respect, which in turn will help in people's participation in development tasks.

TECHNOLOGICAL DEVELOPMENTS SO FAR

Information and Communication Technology (ICT)

The strengthening of rural communication services through ICT is an important ingredient for the welfare and development of rural India as it has many advantages. Mobile Phone revolution has almost redefined the meaning of connectivity. In today's world when man is trying to automate every single process of manufacturing through powerful computers and machines, computer literacy has also become an important issue. Computer Literacy Missions have been launched in various states to incorporate this objective. ICT also helps in accessing health care in times of urgency and in cases where a village is located far from a city. It also gives timely information on business, price, market, demands etc. so that the people in rural regions can respond to changes in the market. It also provides information about employment and generates opportunities to women and underprivileged people regarding self-employment and income resources

TECHNOLOGY DISSEMINATION IN FUTURE

There is a requirement of a speedy growth in rural telecom sector. This can be ensured by evolving appropriate mechanism for regular monitoring of progress of rural telecommunications both at state and national level. High technology devices are needed for rural areas as efficient devices allow maximum energy and materials to be extracted for useful purposes. For example, use of high technology for lighting and cooking, since around 75% of total household energy is used for this purpose (Boateng, 1997). There is also a requirement of liquid fuel for lighting, simple hurricane lanterns are used presently which have very poor light output. Noorie lanterns are a major improvement in this direction. Research and Development (R&D) is also required for biodiesel and pyrolysis oil in stoves to improve their efficiency. Improvement is required in high-tech biogas reactors and storage of biogas in hydrates, porous carbon, etc. Developing nano-materials for such structures is a challenging task ahead.

Technology dissemination process also differs from generation to generation. It requires understanding of economics, financing, institutions, management, stakeholders etc. So the learned planners of government bodies should be efficient enough to take into account all the factors.

RURAL EDUCATION

As discussed above, the rural education framework is very important for absorbing technological innovations specially meant for rural areas. With the help of education, people develop a sound reasoning of what is good and what is bad and this also makes them self-reliant. Technology plays a crucial role in achieving this goal. There is a need to develop good infrastructure for education in villages. Proper schools need to be built instead of running classes in kachha houses. Low cost computers need to be invented which are affordable by poor people. In this regard, it is noteworthy that 100 \$ (approx. Rs. 5000/-) laptops are under construction phase which when launched will cause a revolution in computer education across the world.

Apart from this more number of Rural Technology courses need to be floated in Polytechnics where youth can learn about these technologies and then start production on their own. For instance, knitting and sewing attracts large number of girls. They also get health and child care education through this in the polytechnics. Software Technology Parks of India (STPI) are also helping to promote start-ups in villages. Gandhiji had proposed the idea of Nai Talim or 'New Education' for educating whole India which was largely followed at the time of its emergence in 1937. It is working as a model for imparting education by many Rural Institutes across the nation today.

ROLE OF TECHNOLOGICAL INSTITUTES OF NATIONAL IMPORTANCE

The varsities and other institutes of national importance such as IITs, NITs etc. can play a very important role in dissemination of technology in rural regions. With special R&D programs and curriculums in these institutions, various innovations can be done for developing low cost machines, cheaper and effective means of transport and other developments for rural education etc. The government should promote such courses and activities in these institutions of national importance and should accordingly fund these institutions to carry out research activities for rural uplifting. With the liberalization of the economy in the recent years, there are more such cases involving private industrial establishments and university – industry cooperation e.g. setting up of the Oysters Lab (OLAB) in BITS, Pilani. It is a semiconductor R&D lab and is the first campus based VLSI Design facility in India. Texas Instruments has set up second development facility in India in IIT- Madras.

COMMUNICATION TECHNOLOGY AND KNOW-HOW ARE AVAILABLE

We live in a communication era, with rapid expansion in the reach of mass media, and improved techniques for the interpersonal exchange of ideas. The advent of the cheap transistor radio, for example, has brought this medium to remote corners of even the least-developed countries, where a lack of electricity can be overcome by solar-powered transmitters and receivers.

Video provides a good example of the technological advances in the communication field. Little more than a decade ago, video was a bulky and expensive medium. The basic kit for shooting in black and white included a camera and recorder weighing about 30 kg, a power supply, and often an electrical generator for fieldwork. Total cost: almost US\$10 000. Now video can be filmed in vivid color using a "camcorder". A semi-professional unit, including batteries, weighs less than 3 kg, and costs less than US\$3 000. The size and price of video equipment drop further every year helping the use of video playback to expand rapidly everywhere, even to villages in remote rural areas.

Preparation of printed materials with type, graphics and photographs, has also been revolutionised. The use of computers for desktop publishing has sharply reduced costs and production time, providing much greater access and versatility. Traditional and popular media such as folk theatre, dances, puppet shows and popular poetry, as well as rural press linked to literacy programmes, and audiovisual materials, can be highly effective channels for disseminating development information and for stimulating community action.

Much more is now known about the interpersonal communication skills development field workers need in order to function more effectively as agents of change with rural people. These skills include the use of techniques such as focus group discussions, illustrated discussion tools such as flipcharts that have been pretested to be effective for rural viewers, and other media such as video and audiovisuals that can be used to share ideas and cause reflection, or as part of a training methodology involving presentation, discussion and practice. Interpersonal communication skills can improve activities at all levels, enhancing management, teamwork and the morale of personnel.

A LOOK INTO THE FUTURE

With such rapid advances in communication technology and know-how, the age of telecommunication for rural development may already be upon us. Solar-powered microwave links for telephone communication, facsimile machines and even satellite links, are increasingly reaching into rural areas of the world, offering the possibility of breaking their traditional isolation for the first time in history.

In fact today the idea is being mooted that telecommunication learning centres could be established in villages of the developing world, with user-friendly computer terminals that would download interactive learning and management information programmes from a central supply, similar to a water or electricity service, with users paying modest charges for the time of actual use. The programmes could be video images, sound and computer-type data. This technology already exists, and the speed with which it is becoming cheaper and more accessible is so rapid that the use of computers in the villages of developing countries may someday be part of a pragmatic strategy to reduce the rural-urban population shift and promote rural development.

TIME FOR COMMUNICATION FOR DEVELOPMENT

Whether we come to see village learning centres equipped with a centrally linked computer terminal, or, instead, a more systematic use of traditional media for human development, the use of communication no longer depends on the availability of technology: it depends on the will and decisions of policymakers to exploit its potential. Already communication has been highly exploited for political and commercial aims. Now is the time for communication to be applied to development.

COMMUNICATION IN PRACTICE

...for better planning and programme formulation

Any development programme that regards people as mere recipients, rather than as the actual creators of change and progress, usually fails. Consulting the people and actively involving them in making the decisions that will affect them virtually ensures the programme's success.

In practical terms, effective planning must make a deliberate effort to determine what people want to do, can do and can continue to do in a sustainable way. To find this out, communication techniques go far beyond the simple question-and-answer survey. Meaningful discussion, generated by people trained in interpersonal communication skills, and audiovisual tools, such as video or radio, can help the community to identify its true problems and priorities and where its capabilities and needs lie. This self-analysis can help a community to generate realistic proposals for new development initiatives and stimulates tremendous interest to have these initiatives succeed.

The views of rural people can also guide prospective work plans, preventing them from moving in the wrong direction. For example, agricultural research can be tied directly to what farmers really want and are capable of using. A systematic communication process brings researchers and practitioners together. A policy of communicating with people intensively before a development programme is even drafted, and taking into account their views, capabilities and needs as they see them, is the best insurance a planner can have.

COMMUNICATION IN PRACTICE

...for people's participation and community mobilisation

The dynamic strategy behind people's participation and community mobilisation is to ~ release the energy of rural people by building I their confidence to make decisions and carry them out ~ as a community in a self-reliant way. and to grove that A. they benefit from such efforts.

Communication activities can help people, even those from different social groups within a community, to share information and exchange ideas in a positive and productive fashion. This dialogue can be enriched by understanding how development issues affect them, discovering what others think in other communities, and seeing what other communities have achieved. These are effective methods to help people to reach a consensus and find common grounds for action, based on their own needs and capabilities.

Dialogue can be initiated and guided by field staff who have good interpersonal communication skills. Discussion tools such as flipcharts, audio-cassettes, slides and even video, can be used to help people visualize and reflect upon their own reality. Rural radio too can be a popular forum where local people do most of the talking about technical and cultural topics. These activities can lead to a serious diagnosis of problems and a search for solutions. Gaining people's participation always requires much face-to-face work within the community in order to make a bridge of understanding. Communication skills and media help people to visualize and cross that bridge more swiftly

COMMUNICATION IN PRACTICE

... for changing life-styles

Rural population, and women in particular, find it increasingly difficult to cope with rapidly changing social conditions, which often lead to the development of unsettling life-styles. For instance, in societies where marriage and childbearing no longer go together, the social and economic cost of teenage pregnancies weighs heavily on people's, and the nation's, resources. In others, rural youth, often from fatherless homes, increasingly rebels against parental poverty.

Pressed by peers, teenagers often drop out of school, fall for drugs, or end up in the gangs of city slums.

Communication can focus on the long and sensitive process of changing behaviour and life-styles. Quite recent communication research methodologies make it possible to gain insight into the underlying reasons why people adopt a certain life-style.

Once this understanding is acquired, communication approaches can respond in a combination of ways. Mass media can raise awareness and public understanding of the social implications of problems such as adolescent fertility, AIDS or drug abuse. Other communication activities can bring about informed processes of change among the audiences they intend to reach. Interpersonal communication techniques such as peer counselling have the capacity to develop coping mechanisms, self-esteem and images of a better future among teenagers, especially if combined with group discussions and other tools which create a dialogue. Social communication activities based, for example, on street and village theatre, and using truly participatory methodologies, can pioneer attitudinal changes at the community level and stimulate nonthreatening environments in which teenagers wish to learn about life.

BENEFITS OF INFORMATION TECHNOLOGY TO RURAL MASSES

- Speakers at the inaugural session of the three-day conference on human-centred sustainable development paradigm called for focus on the poor and the rural farmers by taking information communication technology to the masses. In his address, Governor S.S. Barnala called for guidelines for accelerating the progress in gender justice and equity. There was a need to address gender inequity in sharing the benefits of science and technology, he added.
- Mr. Barnala, who inaugurated the international meet, felicitated M.S. Swaminathan, chairman of National Commission on Farmers, on his 80th birthday. He called for the need to take the benefits of information communication technologies (ICT) to every rural home and urged participants at the conference to support Dr. Swaminathan's initiative of national alliance for Mission 2007, so that "knowledge connectivity can become the catalyst of Bharat Nirmal Movement." Under the scheme, 2.4-lakh panchayats will benefit from ICT.
- In Tamil Nadu, where self-help group movement thrives, the ICT will make the groups sustainable, he said. "Only if they have backward linkages with technology and credit and forward linkages with management and marketing" will the groups be sustainable, he noted.
- Dr. Swaminathan's proposed "ever-green revolution" focussed on "farming systems-centred" and not crop-centred research. Hence, it would be necessary for scientists to work with farmers "through participatory research and knowledge management systems," he said. He welcomed the scientist's idea of setting up 50,000 farm schools and called for farmer-to-farmer learning system and strengthening of farmer-scientist linkages. This would help alleviate poverty in rural areas.
- On the occasion three books were released — one was on the life and works of the scientist, the second book is titled: "Revolution to green environment, to grow the human heart" and the third a handbook of plantation crops.
- Ismail Serageldin, director, Library of Alexandria, Egypt, Geeta Mehta, convener, Friend of MSSRF, Japan, Rinalia Abdul Rahim, executive director of Global Knowledge Partnership, Malaysia and N. Ram, Editor-in-chief, The Hindu, felicitated Dr. Swaminathan. The seminar will have five plenary sessions in which delegates from around the world will participate

DEVELOPMENT IS NEITHER A SIMPLE NOR STRAIGHT FORWARD LINEAR PROCESS

“. The aim of this paper is to examine the extent to which communication technology has contributed towards India’s rural development. Conventionally communication includes the electronic media, human communication and new information technology. Communication technology is always expression of socio-economic, geographical and political interests, partialities, alignments and commitments. The growth and development in communication technology has revolutionized the life in rural India. The different areas that had been influenced by communication technology are listed below

- Agriculture
- Education
- Health care
- Economical development
- Empowering women
- Good governance
- Access to knowledge

The analysis presented indicates that it’s not only the rural population that is being benefitted but all also the urban population has reaped huge benefits. The current communication policy of the country, which is one of the face of it is proactive for rural development, but remains urban “pro rich” in effect. This is because the rural India supports the whole country in terms of supply of raw material, food products and other material benefits. Therefore the growth of India lies in growth of rural India. Reflecting on these and other experiences included in this research, we found that implementing Communication technology in rural development projects will require paying attention to 2 key factors of success:

1. For whom

: "A detailed understanding of the work environment of end users, needs of the beneficiaries, and specific benefits proposed to be delivered leads to well-planned and executed projects..."

2. What bundle of services

: "In terms of income and employment generation, and improving skills, rural ICT centers must be multipurpose in order to be economically viable..."

CONCLUSION

Any developing country cannot become developed without the development of its rural base. For a country like India, where almost sixty percent of the country’s population lives in primitive conditions, it becomes even more important. This development is possible through technological advancements in the nation. These advancements can be channelized to improve literacy as well, which is a major obstacle in the path of development.

Rural regions in our nation are still deprived of electricity and basic necessities. Modern technology has not touched the lives of people even after sixty two years of independence. Thus the Gandhian Paradigm of social progress needs to be followed effectively in our villages. We have to ensure that rural beneficiaries are not just introduced to new technologies but also entrusted with their use. A number of schemes and programs have been made for providing employment opportunities to the rural youth over the years but due to poor implementation of the programs and the absence of proper monitoring almost all the schemes have not shown expected results.

India must also tap Information Technology to the maximum extent for its development so that many of its problems can be checked through new public policies, which are supported by the scientific data. Poverty in rural areas has resulted in suicides of a large number of farmers. Therefore, the rural problems are manifold in nature but the solution is only one — ‘Technological advancements coupled with increase in literacy in rural areas.’

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