

Science and Technology for Rural Development

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Introduction

The application of science and technology is vital to the process of growth and development of any society. Despite innumerable handicaps, our country has taken rapid strides in the scientific and technological fields. The achievements of our distinguished body of scientists and technologists are second to none among the developing countries yet the benefits of their endeavors have accrued only to limited groups, especially the urban-centered, and their trickle-down effect to the rest of the community has been but incidental. The disconcerting dualism existing between the urban and the rural sectors is perceptible even within the rural sector. One segment of rural society is comparatively 'modern' and forward looking, ready to assimilate new ideas and make use of the opportunities offered by the science and technology. The other, a much wider segment-is still 'traditional', static and dismissed as unresponsive to change, while being denied the opportunity to benefit from the modern science. Thus, two social systems in the rural scene co-exist and function independently of each other. Advancement of appropriate technology to rural areas should aim at removing this dualism between the urban and rural centre's as also within the rural sector.

The task of affecting technological change in the rural areas is extremely complex. It requires a multi-disciplinary approach, which is sensitive to the actual needs of the rural community and attuned to the reality of the rural scene. Development and transfer of technology in the rural areas must be based upon an objective assessment of what is actually required by the people. Only then will it find acceptance among those for whom it is intended. I would, therefore urge the scientific community, and more particularly the young scientists to the cannot be done only through district level official machinery like the District Rural Development Agencies. Revitalization of popular local democratic institutions like ZilaParishads, Panchayat Somitis and Gram Panchayats would be very necessary. Involvement of these decentralized democratic instiutions in all aspects of rural development,



including the application of new improved technology, is a must, if success of these programmes is to be ensured. A continuous feedback from these institutions would help in evaluating technologies that are sought to be extended and in identifying areas for new research and innovation.

There is yet another group of dedicated people who assist in the development process by mobilizing people's participation. These are the various voluntary organization based in rural areas and actively involved in rural development work. It is, indeed, gratifying that, not only have these agencies been doing commendable work in many areas but that there is a growing awareness and interest in such voluntary effort. During the Seventh Five Year Plan, it will be our endeavour to involve voluntary agencies in much larger degree in various development programmes, particularly those which are aimed at reaching the poorest of the poor, The different ways and means by which such involvement can be affected are already under the active consideration of my Ministry and the Planning Commission, and a dialogue with representatives of voluntary organizations has also been initiated.

I am happy to note that Council for Advancement of Rural Technology (CART) has already taken an initiative in this direction by providing assistance to several reputed voluntary agencies to take up projects for the transfer of improved technological practices in rural areas. This needs to be expanded particularly in the relatively more backward parts of the country. I would like to emphasize that the effort should be to devise and implement effective procedures which cut down delays and contain a positive approach towards speedy execution of such projects within a time-bound frame. The need is to see that transfer of technology is extended widely in the shortest possible period of time.

In addition to utilizing the services of established voluntary agencies already working in the villages, it would also be desirable that more and more of our young scientists and technologists are encouraged to take up rural development work. It would not be possible to promote new technologies extensively without adequate and appropriate manpower. I have no doubt that our young people would respond to this challenge which would not only give them great professional satisfaction but also enable them to become involved in and contribute towards improving the lot of the most disadvantaged sections of our community. CART may render assistance in building up a rural resource corps of scientists and technologists so as to provide a forum for this kind of involvement in rural development.



One of the reasons why technological improvements developed so far have not been transmitted on an extensive scale is the lack of effective delivery system. Alongwith the massive input of resources through various schemes like that Integrated Rural Development Programme (IRDP), National Rural Employment Programme (NREP) and Rural Landless Employment Guarantee Programme (RLEGP) that has taken place in the last five years, and appropriate district-level organization has also been built up in the form of the District Rural Development Agencies (DRDA). This would be, perhaps, the most suitable government agency for the transfer of new and improved technology at the district and sub-district levels. In this way, just as CART has been set up by the Government to function as the overall coordinating body for the advancement of rural technology at the national level, the DRDAs could become the focal point for the dissemination and transfer of technology at the operational level. This would, of course, require the active participation of the State Governments through the State Departments of Rural Development and the State Councils of Science and Technology. I am confident that, in this effort, we would receive the fullest cooperation from all State Governments.

As part of this concept of utilizing the DRDAs for the transfer of technology, we also propose to set up a Composite Rural Training and Technology Centre each district during the Seventh-Plan period. Broadly speaking, these centres would have two functions namely, training and technological development. While the training component would be integrated with the Training Rural Youth for Self Employment (TRYSEM) programme, the technological component would be directly linked to the activities of CART as well as to the beneficiary-oriented programmes for poverty alleviation. Over a period, these centres would develop into resource centers of excellence which will meet the technological needs of specific areas.

I should stress at this juncture that advancement of rural technology should not be regarded as a separate activity. As has been well recognised now, science and technology should be incorporated into the profiles of planning: their induction in promoting development effort should inform the various stages of the planning process. In planning for various schemes that go under the generic nomenclature of integrated rural development, I would suggest that appropriate new technologies relevant to various programmes be identified, allowing for



regional variations within the state, and extended purposefully to the field in the implementation stage.

In our world of rapidly developing sophisticated technology, the term ‘appropriate technology’ is sometimes misunderstood to mean some kind of second-class technology. This is not so. As was clearly stated in the Sixth Five-Year Plan document, “Rural technology should not be taken to mean primitive technology or technology of yesterday. A determined effort is needed to take modern science and technology to the rural areas so that it is brought well within the material, financial and skill resources of the rural people. It will be simplistic and dangerous to confine indigenous efforts to relatively simple technology for rural needs and to depend on import of technology in the high technology areas. We have to ensure an appropriate mix of small, medium and large-scale technologies in a manner consistent with our long-term interests”.

In this connection it is significant that the Technology Policy Statement of the Government of India issued in January, 1983 also includes in its policy objectives provision of maximum gainful and satisfying employment of all strata of society, usage of traditional skills and capabilities, making them commercially competitive, and ensuring a correct mix between mass production technologies and production by the masses. Approach Paper to the Seventh Five-Year Plan lays emphasis on making science and technology and ‘essential and integral part of major socio-economic sectors, particularly agriculture and rural development. It makes particular mention of special programmers on science and technology for rural development reducing regional imbalances. To quote: “In every sector an attempt would be made to take up technology development, transfer adaptation, adoption, utilization, etc, as enunciated in the policy guidelines of the Technology Policy Statement.”

This perception forms the corner-stone of our policy and approach towards technology needs relevant the rural areas. I would, therefore, once again stress upon the need to match our initiatives in the field of high technology with an equally vigorous effort at the development and extension of appropriate technologies covering the large gamut of activities in the rural sector of our economy.