

RURAL TECHNOLOGY CENTRES IN PAKISTAN **AND THEIR ROLE IN TECHNOLOGICAL UPGRADING**

Dr. A. S. Nasir

College of Management Sciences.

PAF – Karachi Institute of Economics & Technology.

This paper has two main purposes. First, it attempts to show that the efficient promotion of rural technology would be best achieved through the establishment of rural networks of institutions referred to as rural technology centres (RTCs). Secondly, it provides some preliminary ideas regarding the role and functions of these centres.

This paper is divided into three main parts. The first briefly analyses the role of rural technologies in the process of promoting rural employment and self-reliance, and in contributing to the satisfaction of the basic needs of the rural populations. The second part analyses the effectiveness of various international, regional, and national institutions in promoting technologies which are appropriate to socio-economic conditions in rural areas. It then shows that these institutions should be complemented by rural institutions (RTCs) if the widespread and efficient promotion of these technologies is to be achieved. The last part provides some preliminary ideas regarding the role, functions, and structure of RTCs, including their relations with the rural populations and various technology institutions and their area of influence. Including public planners, rural development institutions, international, regional, and national technology institutions, non-government institutions working in the technological field, and international aid agencies.

TECHNOLOGIES FOR RURAL DEVELOPMENT

National technological capability of a developing country Pakistan as one may be defined in terms of capacity to:

- Generate new technologies and/or assimilate imported technologies through adaptation and innovation;
- Upgrade traditional technologies, and
- Diffuse and disseminate technologies most widely.

The objective of removal of poverty requires that technological capabilities are built up from the grass roots level upwards.

The term centre does not necessarily mean new institutions or institutes physically centralizing a set of activities. Existing local institutions could also take on additional tasks.

Expansion of rural technology are well enhance productivity and income in the agricultural sector. The promotion of improved rural technologies should also give rise to new productive activities (in manufacturing, construction, etc) which would lower the dependence of rural areas on goods and services originating from urban areas. Obviously,

the promotion of such technologies may not, by itself, achieve the above objectives. Other policies (e.g. public investments for rural areas, policies regarding land tenure) would also need to be implemented. Technology should therefore be seen as one of the important tools required for the effective implementation of these policies.

The activities for the promotion of rural technology centers in general terms do not vary much from one institution to the other, differences arising mostly with respect to programme content and means of action. These objectives may be summarized as follows:

- Promotion of rural self reliance in the technology field.
- Improvement of the productivity of rural producers (farmers, artisans, etc).
- Optimal use of local raw materials and manpower.
- Production of appropriate consumer and capital goods (in terms of prices, tastes, needs, etc.)
- Promotion of local participation in all the above activities.

It must, however, be recognized that a large gap exists between objectives and their translation into concrete action in rural areas. It shows that, with the exception of a few rural areas have benefited from the activities of the existing institutions. But in most cases either the transferred technological information is not relevant to their needs (in the few cases where information is actually transferred), rural areas lack the means to apply these technologies. In the majority of cases, technologies developed in R + D institutions fail to reach the rural areas.

There are two main reasons for this lack of active involvement of technology institutions in rural areas. Firstly, the approach used by the majority of institutions fails to meet the

Requirements for the effective development and dissemination of rural technologies and

little R + D work has been under taken for rural technology. Secondly, the inadequate,

performance of these institutions is partly the result of the limited means (both in terms of qualified staff, policy and financial requirements) at their disposal. Policy should

envisage the establishment of an adequate number of rural technology centres, with each

centre playing a useful and complementary role to that played by national, regional and

international technology institutions in building the national technology capability.

POSSIBLE CHANNELS FOR TECHNOLOGICAL TRANSFER TO RURAL AREA

Rural technologies originate either from within the rural areas (traditional technologies, innovations) or are transferred to these areas from a number of sources of technological information, including the following: International and regional technology institutions, technical publications, private or semi-public foreign institutions, national technology institutions, government departments (e.g. Public works Department, Agricultural Department), training institutions, experts consultants and volunteers.

CONSTRAINTS

Pakistani institutions, organizations and individuals have limited knowledge of local conditions and of the technological needs of rural areas. This is due to their limited financial means and technical knowledge and government policy, which do not allow them to undertake in-depth studies in the majority of these areas. Institutions and organizations have failed to ensure that their activities do relate to priority technological needs, and that newly developed technologies are adapted to local conditions (e.g. characteristics of raw materials, customs, climatology, etc).

LACK OF LOCAL PARTICIPATION AND NEGLECT OF INDIGENOUS TECHNOLOGIES

Most technology institutions in Pakistan operate by way of transfers, where by the technology is first developed outside the rural areas, and then transferred to these not through the dissemination of the technological information, but simply as part of a new project. This approach neglects the potential of the rural populations for technological self-improvement. In any case, there is generally little local participation in the programming of R + D activities (in terms of the priority needs of the rural areas), and traditional technologies are often not considered. Yet, these technologies may, with limited improvements, be more appropriate than technologies developed and transferred from national or foreign technology institutions. Further more, lack of local participation inhibits the full acceptance of the transferred technologies by the rural population. Technologies may be technically sound but not socially acceptable.

LACK OF SUPPORTING SERVICES

The mere transfer of technological information to rural areas may not be sufficient to ensure that appropriate rural technologies will actually be implemented. Rural producers (farmers, artisans, etc) may lack the means required for the application of newly developed technologies. For example, the required tools and equipment may not be available or there may be a need for additional training, for an improved organization of production, etc. In other words, it is recognized that information on technology is not the only constraint for its utilization, and that technical assistance as well as limited public investments at least in the early stages of the introduction of the new technologies would be required if these technologies were to be successfully implemented. Yet, for lack of staff and financial sources means, that technology institutions do not provide this type of assistance.

LACK OF FOLLOW-UP ACTION

The successful adoption of new technologies in rural areas may require a long gestation period covering a number of months or years, depending on the type of technologies being introduced. As these technologies are gradually implemented, new problems may arise which were not originally foreseen. However, in most cases, technical assistance provided by national or foreign technologists is limited in time. Thus, the end-users of technologies must either solve problems themselves or discontinue the use of the newly introduced technologies. Consequently, the lack of follow-up action may result in wasteful technical assistance, and may heighten suspicion towards technologies transferred to rural areas from national institutions.

INADEQUATE LITERACY LEVEL OF RURAL PRODUCERS

Rural producers may not be literate in the languages in which technological information is disseminated. They do not, therefore, make use of foreign and/or local technical journals, publications, etc. Thus, these sources of information are of little use unless an intermediary rural institution, experts, extension agents, etc. are used to facilitate the transfer of technological information.

LIMITED COVERAGE OF RURAL TECHNOLOGIES

Most national technology institutions work in rural areas on a project-by-project basis with a view to promoting specific technologies. Thus, it is very seldom that a number of technologies are promoted simultaneously, the field staff of these institutions being mostly concerned by the specific technology which they have been asked to promote. Given the large number of rural areas and the limited staff and means of the institutions, the coverage of rural technologies in each areas is by necessity fairly narrow. As a result, only a limited number of rural producers benefit from these institutions.

LACK OF INFORMATION

As stated earlier, rural technologies may be transferred through representatives of technologies departments (e.g. Public Works Department, Agricultural Ministry) experts, consultants and volunteers. This type of transfer benefits from the presence of the above individuals in the rural areas. However, these individuals are not often knowledgeable about the range of potentially appropriate technologies. They mostly apply the technology they know best, whether it is appropriate to local conditions or not.

Thus, capital intensive techniques may be used for the processing of agricultural products without consideration of other more labor intensive technologies, which may well be equally or more suitable.

The above analysis of constraints on the promotion of rural technologies lead to two main conclusions. Firstly, the efficient promotion of rural technologies will require the establishment of permanent local institutions, which ensure that activities in this field do relate to the priority technological needs of rural areas, that newly developed technologies are adapted to local conditions, that local participation is enhanced and that the coverage of technological sectors (e.g. agricultural production, manufacturing, construction, household activities) is large enough to benefit the majority of the rural populations. Secondly, the establishment of rural technology institutions (e.g. RTCs) would require an expansion of public expenditures in rural areas, expenditures which may be covered in part by foreign aid. Otherwise, the established rural institutions may not have the necessary means to promote the widespread adoption of technologies appropriate to conditions in rural areas.

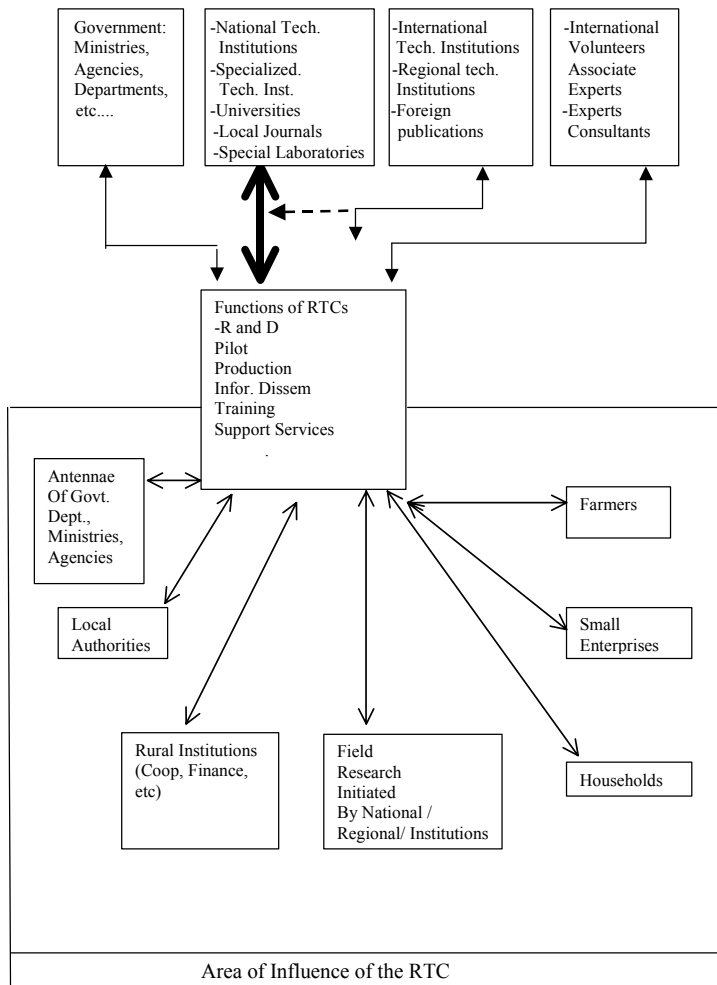
ROLE, FUNCTION AND STRUCTURE OF RURAL TECHNOLOGY CENTERS

Rural Technology Centres as an intermediary between external sources of technological information and rural producers.

Rural technology centres (RTCs) should play a complementary role to that played by other sources of technological information and they may be considered as rural antennae of these institutions. Chart I provides a summary description of the functions of RTCs, and shows the role played by RTCs as a link between external sources of technological information and a number of rural groups, sectors, and institutions.

Chart-1

Technological Transfer to Rural Areas Through RTCs



The rural clientele of RTCs may include the following:

- Individual farmers and farmers' cooperatives.
- Small rural enterprises (individual enterprises and various types of cooperates):
- Households
- Rural credit institutions
- Local authorities, and
- Rural antennae of government departments, agencies, institutions, etc.

RTCs would assist the above clientele in implementing suitable technologies in agriculture, construction, manufacturing, household activities, transportation, energy

production, etc. In providing this assistance, RTCs would be an effective link between the above rural clientele and the following sources of technological information:

- National technology institutions, specialized research centres, and universities;
- Local and foreign technical publications;
- International and regional technology institutions;
- Volunteers, experts, and consultants (local and foreign); and
- Government agencies, departments, and institutions.

RTCs would ensure that technological information provided by the above institutions, publications experts, etc. would be efficiently disseminated and implemented in rural areas. RTCs could also assist research institutions field-test newly developed technologies in rural areas.

The role played by RTCs as a link between rural producers and external sources of technological information is described and assessed below for each one of these sources.

RTCs as a link between rural producers and national technology institutions, specialized research centres and universities.

The main deficiencies of national technology institutions, specialized research centres and universities are (i) lack of knowledge of technological needs in rural areas, (ii) lack of a field network for the efficient dissemination of appropriate technology, and (iii) lack of a field structure in order to adapt transferred technologies to local conditions and assist rural producers implement these technologies. The role of RTCs would be to compensate for the above deficiencies by undertaking the following activities:

- To assess technological needs in the RTCs area of influence
- To undertake limited R + D activities in order to adapt transferred technologies to local conditions
- To disseminate technological information
- To provide supporting services and training for the efficient implementation of transferred technologies and
- To assist external technology institutions in field-testing newly developed technologies

The establishment of RTCs would improve the efficiency of technology transfer from national institutions to the local level for the following reasons. Firstly, RTCs would be able to assess technological needs in their areas of influence, identify priorities, and feedback this information to national technology institutions. Consequently, these institutions would be able to formulate relevant research and development programmes based on the real needs of the rural areas. Secondly, since RTCs would generally be more familiar with local conditions than national institutions, they would be in a better position to assess the applicability of newly developed technologies to rural areas, or to undertake limited R + D activities in order to adapt these technologies to local conditions. Thirdly,

for the same reason, RTCs would be more qualified than national institutions in disseminating the technological information; in particular, RTCs should have a good knowledge of the types of channels that should be used for the dissemination of information. Finally, RTCs should be more efficient than national technology institutions in assisting rural producers in implementing these technologies (e.g. provision of supporting services, organization of production and training), should sufficient funds be allocated to RTCs for this purpose.

RTCs as a link between rural producers and international and regional technology institutions.

RTCs may also need to deal directly with regional and international technology institutions, in cases where national technology institutions do not exist. They may, in particular, perform the following functions:

- Assist regional and international technology institutions field test technologies developed by these institutions. There are a number of advantages in using RTCs for this purpose. Firstly, testing cost would be relatively much lower than if testing were performed by the concerned institutions. The RTCs staff could, for relatively low fees, perform the testing under the supervision of the institutions. Secondly, institutions may field test newly developed technologies simultaneously in a number of RTCs, and thereby obtain valuable information on the performance of the technology under different local conditions. Thirdly, the staff of the RTCs being more familiar with the characteristics of rural areas (e.g. customs, raw materials etc) should be in a better position to assess the applicability or relevance of technologies proposed for field-testing by the foreign institutions.
- Regional and international institutions may obtain information from RTCs on technological needs in their areas of influence. Thus, these institutions would be able to formulate research and development programmes in line with the priority needs of rural areas.
- RTCs would be the obvious rural institutions through which technological information generated by foreign institutions could be disseminated. The main advantages in using RTCs for this purpose may include (i) the much lower cost of information dissemination; (ii) the more efficient dissemination of technological information; and (iii) the larger number of rural areas among which the information may be disseminated.
- RTCs would be more efficient in assisting rural producers in implementing the transferred technologies than the staff members of the foreign institutions.

- Regional and International technology institutions may use RTCs for the promotion of technical co-operation among developing countries (TCDC) in the technology field. For example, researchers from one country may obtain technological information from RTCs operating in another country through visits to these RTCs or through exchange of information.
- To conclude, the impact of international and regional institutions on the promotion of appropriate rural technologies could be greatly expanded through close collaboration with RTCs. The resources of these institutions in terms of technical skills and financial means could be much more efficiently used than if they were to operate on their own.

RTCs and the dissemination of technological information contained in foreign and local publications.

Rural producers may not always fully understand technological information contained in local or foreign publications (they may not be fluent in the language used in the publication). Given the limited means of national institutions, a great deal of technological information would never reach the rural areas. RTCs, would be in a better position to disseminate information contained in technical publications. In particular, RTCs may distil from these publications information relevant to their areas of influence, and assist rural producers in applying technologies for which sufficiently detailed information is provided e.g technologies described in publications such as the technical memoranda to be published or typed manuals published by ministry in charge. RTCs may translate technology brief into Urdu, English and other local languages.

RTCs as counterpart rural institutions for volunteers, experts, and consultants.

The effectiveness of the transfer of technological information through volunteers, experts, and consultants is often reduced whenever there are no rural institutions through which they may operate. For example, a great deal of time is wasted obtaining basic information on local techniques, getting familiar with the social structure and customs, setting up research and development activities, etc. RTCs may assist in the following:

- Provision of basic information on local techniques, customs, etc.
- Provision of a basic infrastructure for research and development activities.
- Playing the role of intermediary between the rural producers and local authorities, on the one hand, and between the experts and consultants, on the other hand.
- Dissemination of technological information.
- Training of rural producers.
- Provision of supporting services.

RTCs as advisors on technological choice to national authorities.

It was stated earlier that technological alternatives for public investment projects in rural areas are generally not considered by government departments. RTCs may limit

the use of inappropriate rural technologies by providing information on the technologies which may be used in public projects in rural areas. If information is not available, RTCs may suggest that alternative technologies may also provide information on local conditions whenever such information could affect the choice of technology. Finally, RTCs may play the role of spokesmen of the local authorities in favor of the implementation of appropriate technology in projects executed by various government departments.

Rural technology centres as promoters of technological self reliance in rural areas.

The preceding section described the role RTCs can play as a link between rural producers and households and external sources of technological information. In addition, RTCs should also be considered as initiators of local technological innovations. RTCs may, for example, assist local innovators build up particular pieces of equipment or test particular processes, or provide incentives for local research and development through the organization of local “competition-exhibits” which would reward particularly useful innovations. They may also enhance the prestige of local technologies either by demonstrating their effectiveness (as compared to “foreign” technologies), or by improving them through minor adjustments, and to prepare inventories, of local, indigenous innovations. In general, one of the main roles of RTCs should be to create an awareness among the local populations of the importance of technological choice in all sectors of the rural economy, and to promote local participation in the development and application of these technologies. If they succeed in this role, RTCs could contribute substantially to the rural development efforts.

Functions of RTCs.

The two previous sections analyze the role of RTCs. This section describes the functions of RTCs as a means of spreading the benefits of science and technology to rural areas.

Assessment of technological needs

The first function of RTCs is to assess, in close collaboration with the rural populations, the need for technological improvements in their areas of influence. For this, purpose RTCs may need to:

- Collect existing information on rural areas (e.g. various studies by experts or government agencies on climatology, soil characteristics, water availability, etc.).
- Collect data and information on the various sectors of the rural economy (e.g. production, output, trade, local production techniques, productivity, quality of output, inventoried resources):
- Analyze collected data and information for identifying potential areas for technological improvements.

Formulation of short-term and long-term programmes for technological development.

The short-term and long-term programmes for technological development will indicate the rural activities which should be assisted by the RTCs. These programmes will take into consideration the importance of these activities for rural development, and the potential for substantial improvement of productivity which may be realized through the adaptation and improvement of traditional technology in the development of new indigenous technologies. The capacity of the RTCs to carry out the various activities under these programmes should be taken into consideration in order to avoid formulating unrealistic programmes.

Collection of technological information from external sources

RTCs will collect technological information from external sources (e.g. national technology institutions, foreign institutions, and publications), taking into consideration the priority areas identified in the short-term and long-term programmes for technological development. This information could be supplemented by inventories of indigenous innovations.

Undertaking of R + D Activities

RTCs may be required to undertake R + D activities for the following purposes:

- To adapt transferred technologies to local conditions
- To perform specific tests and analyses on local raw materials
- To assist local innovators in their work
- To improve local traditional techniques and
- To undertake pilot production whenever necessary

Dissemination of information on appropriate technology.

One of the major functions of RTCs is to disseminate information on rural technologies. For this purpose RTCs will need to

- Identify the most effective information dissemination channels
- Organize meetings and seminars and
- Publish booklets, manuals, and instructional material in the local languages

Provision of supporting services and organization of production.

RTCs will also need to provide various supporting services in order to ensure that appropriate technologies would be effectively adopted and implemented. These services may include the following:

- Assistance in the procurement of tools, equipment, and intermediate inputs required by the newly developed technologies
- Promotion of local production of tools, equipment and intermediate input whenever it is feasible to do so
- Advice on the most efficient organization of production, taking into consideration the particular characteristics of the technology

Training.

The implementation of new technologies may require that training be provided to the users of these technologies. RTCs will therefore need to develop and implement training programmes. Training may be provided directly to the users of the technology or the trainers from rural training institutions, whenever the latter are available. Use may also be made of extension officers for this purpose whenever these are available.

Assistance in the field-testing of technologies developed in national and foreign technology institutions

RTCs may assist national and foreign institutions to field-test technologies developed in these institutions. This assistance may range from the provision of information on local conditions to the actual undertaking of field-tests by the RTCs' staff. RTCs may be compensated financially for the above services.

Cooperation among RTCs within and between countries.

RTCs within a country may cooperate with one another through exchange of information, field visits, joint programming of activities etc. This type of cooperation could result in a substantial reduction of the cost of R + D activities, limit wasteful duplication of experiments, especially those which failed elsewhere.

RTCs may also promote TCDC through the exchange of information on technologies which have been successfully applied in their areas. RTC officials may also obtain first hand information on these technologies through visits to neighboring centres.

Organization of exhibits and competitions.

RTCs may promote local technological innovations through the organization of "exhibits/competitions" whereby financial awards will be made to reward local innovators of particularly useful technologies. These type of "competitions" have been successfully organized in some countries including India, Indonesia, South Korea.

Assistance to volunteers, experts and consultants.

RTCs may provide assistance to volunteers, experts and consultants working on international technical assistance projects in rural areas. This assistance may take various forms, including the following:

- Provision of basic technical information for the development of appropriate technologies.
- Assistance in R + D activities.
- Assistance in the dissemination and implementation of appropriate technology.

Participation in the formulation of area development programmes.

Given the importance of the technology factor for rural development, RTCs may usefully participate in the formulation of area development programmes with the central and local authorities.

The functions of RTCs should also include the provision of feedback to national institutions/centres of technology which could in turn act as a clearing house of information to other RTCs in different regions of a country.

The various RTCs functions described above are fairly exhaustive and few RTCs would be able to perform all of them. The performance level will depend on a number of factors, including the financial means at the disposal of the RTCs, the availability of technical staff (e.g. technologists, economists) the adequacy of the available rural infrastructure etc. However, given the important role which may be played by RTCs in favour of rural development, the Government and international aid agencies should seriously consider the allocation of sufficient funds for the establishment and efficient functioning of RTCs. In the final analysis, the success of national technology will depend on the local network of such RTCs.

Structure of RTCs.

The administrative and organizational structure of RTCs should be such as to enable them to perform the above functions efficiently. A tentative structure of RTCs is described below.

Administrative Structure.

RTCs would generally be required to operate under the authority of a given government (central, provincial or local) department or agency. The choice of the

authority under which RTCs may operate should be made with great care in order to maximize the impact of RTCs on the promotion of appropriate rural technologies.

This choice will obviously vary from one case to another, depending on the administrative structures of the RTCs. However, one may identify a priority. Three main authorities under which RTCs may operate are (i) a national technology institution (ii) a local authority, and (iii) a provincial ministry, department or agency in charge of rural development.

National or Provincial Technology Institution

RTCs may be considered rural antennae of a national or provincial technology institution. In this case, RTCs may be involved in complementary research and development activities (e.g. field- testing of technologies developed in the institution) and in information dissemination. The reason for the above is that a national or provincial technology institution may not have sufficient financial means and influence on local rural authorities in order to enable RTCs to undertake the other functions described above. This would be particularly the case if the national technology institution is not under the administrative authority of a strong governmental department (e.g. the Ministry of Technology).

On the other hand, being directly associated with a national technology institution, RTCs may be in a better position to obtain the needed technological information and to undertake limited R + D activities.

Local Authority.

Where RTCs are under the authority of a local government, their integration in the rural areas could be greatly facilitated and they should obtain greater support from local authorities for the dissemination of information and implementation of appropriate technologies. In particular, RTCs would be in a better position to promote popular participation in their programmes, especially where local governments enjoy a certain degree of administrative autonomy. On the other hand, RTCs may, in this case, be constrained by the lack of funds and the limited support provided by national technology institutions.

Rural development agency.

Where RTCs are under the authority of a national or provincial rural development agency, they should be able to better influence technological choice in public investment projects for rural areas. They may also benefit from the allocation of sufficient funds for their development programmes, especially if they are considered as an important tool for the promotion of rural development. Whatever the authority under which RTCs will

operate, they should integrate their activities to the greatest extent possible with those of other rural institutions working in the technology field in the country.

Area of influence of RTCs.

The area of influence of RTCs may be one of the following :

(i) an administrative unit (e.g. a rural district) or (ii) a homogeneous geographical area, in terms of major economic activities, crops, etc. The size of the area should be such as to ensure the successful promotion of technologies developed in the RTCs. Thus, travel from the RTCs location to other locations within the area of influence should take relatively little time and travel costs should be minimal. The reason for the above is that once production and processes have been developed by RTCs, the adoption and implementation of these products and processes by rural producers may require daily or weekly contacts with the latter. Furthermore, those interested by the activities of the RTCs should be able to visit the latter without great inconvenience in terms of time and cost. Thus, the size of the area of influence would depend on the available transport facilities, the travel cost associated with each means of transport, and the effectiveness of existing extension services.

Staffing of RTCs

The staffing of RTCs should be such as to minimize staffing costs while allowing RTCs to perform their functions efficiently. It is very important to maintain low staffing costs as these may become prohibitive whenever it is considered to generalize the establishment of RTCs to all rural areas. Therefore, RTCs may include a small permanent staff and a temporary “project staff” to be hired for the duration of specific activities.

Permanent Staff

The duties of the permanent staff will cover all activities, which are not directly related to the development, promotion and implementation of specific technologies. Thus, the permanent staff will be responsible for the following:

- Collection of basic data and information on the rural area
- Formulation of short term and long-term programmes
- Relations with local authorities
- Development of an approach and of policies for information dissemination
- Promotion of local participation in the activities of the centre (joint programming of activities, incentives to local innovators, etc)
- Servicing TCDC activities and relations with other RTCs within the country
- Assistance to volunteers, experts and consultants

- Organization of exhibits/competitions
- Advisory services to government departments operating in the rural areas and
- Participation in the formulation of area development programmes

It is recognized that the recruitment and financing of the permanent staff for an adequate number of RTCs may be outside the means of Pakistan (both in financial terms and the availability of trained staff willing to live in rural areas.) However, solutions may be found to minimize staffing costs and solve, by the same token, recruitment problems.

Project Staff.

The duties of the project staff will cover all activities directly related to the development, promotion and implementation of specific technologies, including the following

- Assistance for local technologies' development
- R + D activities
- Pilot production whenever required
- Organization of production – supporting services
- Training
- Dissemination of information
- Field testing

The project staff may include a number of teams, each team being responsible for the development, promotion and implementation of specific technologies/products. The number of teams which may be working at the same time depend on the financial resources of the RTCs, and the availability of qualified technologists willing to work in rural areas. These teams will be hired for the duration of activities under their responsibility (i.e six months to two years depending on the technology which is being promoted).

Physical infrastructure and equipment

The physical infrastructure of RTCs may include the following:

- Administrative offices;
- One or more workshops, depending on the number of teams, (projects staff) operating at the same time;
- Land for pilot production;
- An exhibition hall;
- A classroom for training.

