
Chairman's Report

Pakistan's Agriculture Research has to take a different route if the demands of the country are to be met. New initiatives are also indicative of the fact that the existing personnel will have to work themselves differently. Business as usual will not do. Research earlier was organized along supply side. There has to be sea change and the effort now is to take it to demand management. In other words, move from commodities to products has become essential in order to enhance the income of the farmers. This is a tall order for it means that the existing paradigm has to be shifted. What that shift will mean for research will determine which way the system will eventually end. Four decades of business as usual has stagnated the system. The time has come to see research differently.

Old myths and obsolete thinking must go. This means that new work force based on not the earlier clandestine caste system is to be developed. The organization has suffered and there is a brain drain. Of the 350 PhD's only 147 are left. Of these, 117 are over fifty years of age and they have their family commitments. The reasons for the brain drain are many but two of the main ones are that the serious worker is under strain as the earlier governance system had recruited people not on work merit but on connectivity. They went through the paces of transparency and then recruited those that had connections irrespective of the standards they had set themselves. Research is not only site specific but also person specific. The past has been a poor measure of what we are capable of and what we have achieved. The selection of future generation of scientists is our responsibility. The process has to be done in a manner that allows us the ability to play well for the future generations. Research is not about yesterday or about today but about the cognitive ability to understand the future and to make honest mistakes rather than mark time and do what the past generations of leaders have done. It is not about connectivity but understanding that agriculture can make a difference and should do so.

Many worries and hopes lie behind this new concern that research has in respect of rural areas. The element of hate through well-developed agricultural practices is one of the central themes of the work being done. It is hoped to bring into the fold those that have been excluded. Agriculture is not a perfect science but there has to be a conscious effort in developing those that have been left behind. The marginal and peripheral areas and the problems therein speak volumes of the requirements. Land centered practices and virtues should gain ground and must become inexplicably part of the morals of this society.

The degradation of nature by the urban elites and the concept of development that we have to undergo a change, a massive change to really arrest what is going on must be realised. This degradation is not only of the soils [water logging and salinity], of water pollution, resource consumption in a manner that it is substantially sustainable. Around Islamabad the evidence is clear for there is radical disruption of plant and wildlife population. If this is happening where knowledge is not in short supply what must it be like elsewhere? The core concern will be food supply and this has been more than adequately looked after this year given the excellent policy on wheat production developed by the political system headed by the Ministry. There is considerable amount of satisfaction in the quantum achieved. The move in policy terms has now to be in the direction of nutritional value. The disconnections in our society have to be better managed in order to bring sustenance to our teeming millions living in rural areas. Research brings that to the fore and the traditions have been set aside to take charge of the marginal and peripheral areas. There are broader anxieties vaguely understood

and powerfully felt by those that live at the margin. Declining community sensibilities have to be recreated to improve the heightened sense of restlessness and anxiety. The decline of the rural household economy must be rebuilt in a manner that takes notice of and is sensitive to the cause of the poor small farmer.

This means that in essence the input costs have to be reduced and the central play has to be the farmer for whom research is to be inclusive. The criticism of the green revolution has been that the elite and the rich farmers occupied the center stage. That criticism is valid and has to be put aside. Research has taken care of these elements in the short term that this organization has taken up these new instruments. There is indigenous knowledge at play and there is foreign participation especially of our Chinese friends. The USA has also pitched in but the manner and the intervention both are critical as it is different and exciting. The Chinese friends seem to have broken the bottlenecks of productivity so far as the supply side is concerned. USA continues to be the leader because of its shift and rich heritage of Land Grant universities. These universities have since been modified given that the first graduates were inducted for the Cuban wars way back in the mid nineteenth century. Because we are a nation that must husband our resources better, overlapping and mindless activities have to be reduced.

So where are we? The first of the imperfect science is to see how water can be bio-premeditated and this has been demonstrated in NARC and is now in villages and even where there is metal pollution. It is slow work and the organization has to be augmented. As is true what we are demonstrating is the cure but the prevention has to be improved and we have asked HEC to allow us some Pakistani expatriates that are working in Canada so that they can advise us on industrial pollution and save the waters that go to the rural areas for agriculture and for household use by the farmers and the villagers.

Commensurate with this has been the ability to reduce the inefficiency of orchards and the particular aspects that are being hit are the mango and pears [as they are also salinity tolerant] and in the next phase these will go to apples and citrus. There are serious problems in our horticulture industry and these have to be addressed.

One of the factor inputs that is becoming exceedingly expensive is fertilizer and its commensurate pesticide. In order to get out of chemical agriculture, it was decided to give the resource poor farmer another option. That was to do with organic fertilizer and bio-pesticide. The experiment has been exceedingly successful and ten organic factories are now coming up in the private sector. This means that the resource poor farmer who is unable to use chemical fertilizer would be able to use organic fertilizer and will have an equally reasonable productivity and maybe more than what he was getting before. Certainly, these are the results that we have obtained in our research fields. Rice where excessive water is used is another area of effort and this year aerobic rice has been successfully grown. Standing water debilitates the root zone and hampers productivity.

The new research stations at Nilibar and the Shaheed Benazir Bhutto Research Stations address the requirement of the marginal farmers and the urbanization element. We have in the last government's tenure lost 2.5 million hectares of land to urbanization. This means that the land that is unused has to be brought into cultivation. The land available in river-beds is more than the land that is at the moment under cultivation and there are distinct advantages to this as the nutrient aspect can be considered. It is wrong and inexplicably so to assume that only the irrigated areas of Punjab and Sindh are the resource bases in agriculture. Saline

water and saline lands can be brought into cultivation and Sindh Government has agreed to give an endowment fund for this purpose. PARC system will provide fodder from this unused land for the cattle colony in Landhi. The demonstration of this will lead to more land utilization under this technology.

The transaction costs in agriculture have increased and these have to be reduced through bio-diesel and the research organization has been doing just that at Umerkot and Bahawalpur. The approval is there. The systems are geared for going forward. So let us see how we can reduce the cost of fossil fuel and shift to bio-diesel. We have the capability but the only aspect that is hampering us is the unused minds. There are 277 personnel at the Karachi office and they have not worked in the field at all. Other peripheral stations also have to be organized to improve not their output but their outcomes.

Such is life, but tough. Things do not take care all by themselves and one is reminded of *enatio dromia* - a Jungian concept of friction of opposites that takes things forward through positive reinforcement. We all have to play our part and if there is any lacuna then the matter will not go ahead. Yet the scientists have to be looked after. There are many slips and the motivational aspect needs to be reconsidered. Money incomes is not the only way to motivate. There are other ways too. Let us try to be honest with ourselves and others.



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