NATP
Task Force on Prioritization, Monitoring & Evaluation
PME notes
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Prioritization in agricultural research

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Since the beginning days of NATP we have been told to rationalize our resource allocation in terms of priorities. Most researchers are puzzled why we need new (and unfamiliar) methods of priority setting. What was wrong with our earlier approach based on researchers' knowledge and peer review? This mechanism was adequate; our agricultural performance over the last four decades testifies this.

To answer this, we must understand the changes in the context and environment confronting the agricultural sector. These forces necessitate reorientation in management and operation of public systems. More focussed prioritization is one of the instruments for this.

THE NEW CONTEXT

The objectives of agricultural research have changed greatly. In addition to increased production, we are now asking for increased efficiency (lower unit costs). Other themes like sustainability, income generation, balanced regional growth, exports, employment, etc. have also entered the research agenda. These goals are inter-related. Sometimes these are conflicting. A much larger research portfolio emerges in response to this expanded mandate and complexity. All this makes research project evaluation and resource allocation decisions difficult. Agro-biological scientists do not have the tools to relate constraints and resources to these multiple objectives. Formal analytical approaches are necessary to provide objective information to assist the managers and to bring about transparency.

Another feature of the new environment is financial stringency and the resulting insistence that each rupee must be spent in a way which maximizes expected benefits. It is no longer enough to say that the problem is `very` important. Research managers need to know how to choose between various `very` important projects.

They would need more quantitative information and analysis on expected impacts not only on production and incomes but also on other objectives of public policy such as poverty alleviation, resource conservation, export/ imports etc.

In short, in the past, technical merit and judgement of peers was considered adequate for prioritization and subsequent decisions on allocation of resources.

With a relatively small research portfolio (determined by few objectives), this approach served us well. These are still relevant and provide the first screening mechanism.

What is needed is more information and analysis to make the process objective and transparent. This requires joint work by agro-biological and social scientists. The NATP, therefore accords high priority to strengthening this interface. Insistence on more rigorous prioritization of production systems research is intended to ensure that NATP resource allocation decisions can stand public scrutiny, and that this approach is gradually institutionalized system-wide.

AN ILLUSTRATION

We provide a simple illustration of the rationale for formal prioritization approach based on a proposed research initiative for the rice-wheat system in the Indo-Gangetic plains. Five major research programmes have been identified for the system in the high-productivity zone comprising Punjab, Haryana and western Uttar Pradesh. These are:

(1) Improved rice and wheat cultivars, (2) Integrated plant nutrient management, (3) Tillage and crop establishment, (4) Water management, and (5) Weed management.

Detailed technical programmes were developed after extensive discussions covering the critical constraints as perceived by scientists, a thorough review of the state of art and on-going research efforts, and identification of gaps and potential research strategies. These were the priorities identified by the multi-disciplinary group. After this, detailed budgetary requirements were worked out. In this case, the total amounted to Rs. 83.8 million. The funding agency—ICAR or Planning Commission or Scientific Advisory Panel, usually does not have resources to cover the entire research portfolio. It organizes another review, usually peer-based, to recommend which programmes could be funded within the available funds, say Rs. 50 million. The review panel uses its collective judgement, considering factors like expected impact on production, sustainability etc, probability of research success, and so on and then arrives at a consensus. The process is essentially science-driven, and socioeconomic dimensions are intuitively considered.

The use of a simple formal approach for such discussions is illustrated below. This requires more specific and additional information for each proposal. For example, the exercise required information on: expected yield advantage over the existing technology if any; change in per hectare cost of cultivation; probability of research success; research lag; potential level of

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PME is a major theme of the National Agricultural Technology Project (NATP). PME notes are meant to disseminate concepts and information regarding this activity. Please [illegible] Dr. Dayanatha Jha, Chairman of the Task Force on PME and Director, NCAP.