INTRODUCTION

Irrigation projects—major, medium, minor—have been accepted as powerful tools of agricultural and economic growth. However, it is observed that the earlier strategy of protective or seasonal irrigation alone does not provide adequate income to the farmers to move above the poverty line. Irrigation projects, therefore, should be planned as area development measures and should fulfil social criteria besides the techno-economic criteria. Irrigation projects should therefore be regarded as one of the essential inputs for food security and rural development because, in spite of growing efforts in rainfed crops, irrigation synchronized with new high yielding varieties of seeds, chemical and organic fertilizers and pesticides can play a more decisive role. With this background the following discussion leading to pro-poor intervention strategies in irrigated agriculture in the Indian context is presented.

BENEFITS OF IRRIGATION

The following benefits of irrigation projects are expected if the projects are properly planned with social and techno-economic objectives.

a. Limitations of seasonal irrigation can be overcome;

b. proofing (drought, floods etc.);

c. High value crops can be produced;

d. Small farmers’ handicaps can be removed;

e. Employment generation for landless laborers and for other rural people;

f. Hydropower generation;

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g. Boosting agro-based industries (sugar factories, rice mills etc.);

h. Water supply for drinking and industrial purposes;

i. Improvement in infrastructure facilities;

j. Increase in fisheries, trade, transport, tourism etc.

However, proper and adequate documentation of benefits due to irrigation projects has not been done meticulously and seriously. On the contrary, the ill effects or hazards due to irrigation projects are given wide publicity through excellent documentation in print and electronic media. It is therefore necessary to identify the factors which are directly or indirectly responsible for poverty alleviation. With this idea in mind the following issues/questions for taking up research studies are suggested.

1. Completion of irrigation project itself is one of the prime pro-poor interventions in irrigated agriculture in India. Systematic planning for the completion of ongoing irrigation projects and provision of adequate budget is the need of the time. If irrigation projects are completed on time, the most vital step of poverty alleviation is taken. Completing “project” (and not just civil works!) in the truest sense of the term without cost-and-time-overruns would be the most fundamental and crucial pro-poor intervention. Equity and increased productivity are just not possible in the following scenario, which has become common everywhere.

   “Incomplete project --> poor performance --> inequitable water distribution --> tail-end problem --> faulty system --> inability to implement any good idea --> 50-60 percent rainfed area in the irrigation command --> poverty with-and-within an irrigation project.”

   It is therefore necessary to take an in-depth performance evaluation studies of irrigation projects to start with on a sample basis. In all the agro-climatic zones of India, one major, one medium and one minor irrigation project should be evaluated by comparing the project objectives and if the objectives are not accomplished, the lessons learnt as feedback will be useful for the redesigning of the proposed irrigation projects.

2. Developing user friendly canal systems with simple hardware and software (“KISS” principle—keep it simple and stupid!) that can be understood, operated and maintained mostly by the users themselves would be the second important pro-poor intervention. This is technically feasible with the following strategy.

<table>
<thead>
<tr>
<th>Software</th>
<th>Hardware</th>
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<tbody>
<tr>
<td>Location-specific</td>
<td>- Ungated self-regulating outlets (SRO)</td>
</tr>
<tr>
<td>various combinations of</td>
<td>- Proportionate flow dividers (PFD)</td>
</tr>
<tr>
<td>- Phad</td>
<td>- Weirs (e.g., diagonal, duck-bill)</td>
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<tr>
<td>- Warabandi</td>
<td>- Hydro-mechanical gates (e.g., AVID, AVIS)</td>
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<tr>
<td>- RWS</td>
<td>- Night storages</td>
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<tr>
<td>- Limited rate demand schedules</td>
<td>- Balancing reservoirs</td>
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A pilot action research study on a major or medium irrigation project can be taken up for evolving user-friendly canal system.

3. Developing and implementing water rights compatible to—
   i. User-friendly systems suggested earlier.
   ii. Realistically revised irrigation potential.

4. Evolving a better Irrigation Act which would provide for:
   • PIM
   • Right to water
   • Right to information
   • Accountability for all concerned

These would also be a basic pro-poor intervention because in the absence of implementation of Irrigation Act, anarchy will prevail. A “free-for-all” situation leads to “might is right” and is, therefore, anti-poor.

5. To resist privatization of irrigation or for that matter complete water sector would be a timely and most-needed pro-poor intervention. A genuine Water User Cooperative Society (WUSC) is a welcome thing but if WUCS is being used only as a stop-gap arrangement towards bringing privatization then it is an anti-poor intervention and should be resisted.

6. Many socioeconomic benchmark and post-project surveys of different irrigation projects have been carried out in the last 3 decades in India. However, in almost all such studies, the contact persons for getting information/data have been farmers possessing land on his or her name. Landless laborers, small traders, artisans and rural people at large are not covered through such surveys. It is therefore suggested that such research studies be taken up in all the States of India.

7. Most of the irrigation projects in India have major emphasis on providing canal water in rabi and hot weather seasons. However, one or two rotations in kharif season in the event of long dry spells can prove to be an important pro-poor intervention in irrigated agriculture. A few research studies using the technique of “case study” should be taken up so that some pro-poor policy measures in this respect can be evolved.
8. Access to technical information such as rainfall data, availability of water in the reservoirs, rotation schedules, package of practices for all major irrigated crops, storage/processing/marketing facilities, etc. should be made available to all the rural people at no cost. This is expected to be helpful in increasing the productivity of different crops especially of poor farmers.

9. It has been observed that irrigation projects are instrumental in improving the availability of drinking water to the rural as well as the urban people. This, particularly in rural areas, has helped the women folk in reducing the time spent in fetching water from distant sources. In other words, the productive work hours resulting in gainful employment have increased for women as well as men in rural areas. Research studies exactly quantifying this very important social impact should be taken up in the case of a few irrigation projects.

10. For the Government of India schemes, data for population Below Poverty Line (BPL) is any way collected from rural as well as urban areas. Irrigation Departments in India have data regarding land holdings, survey number, etc., of the beneficiaries. Using both these data sets, research studies of a few irrigation projects, if taken up, will be able to exactly quantify as to how many people have been brought above the poverty line due to irrigation projects. Methodology for this purpose could be to have benchmark surveys done of a few irrigation projects at the time of their starting and then with an interval of five years such surveys can be repeated. Such data sets will reveal the contribution of irrigation projects in poverty alleviation.