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PROPOSALS FOR R AND D ON ALTERNATIVE RURAL FUTURES

An earlier paper - "Towards Rural Futures: An Approach through the Planning of Technologies"(1) argued a case for examining alternative futures for rural environments in the third world especially where poverty was acute, and population could be expected to increase and natural resources to diminish. The paper suggested that examining these alternatives might contribute to current policies, and especially to R and D priorities by suggesting technologies that might be developed to contribute to the more desirable futures. It was proposed that this approach would constitute a sort of R and D on R and D itself, and should involve learning from and working with rural people, focussing on particular homogeneous socio-ecological zones, and making projections for land, water, energy and population to a future date which might be of the order of 20 years ahead. The outcomes would include scenarios for alternative futures and specifications for current R and D.

Since that paper was written, attempts have been made to find out whether this approach has already been adopted anywhere in the world. The findings so far have been negative. Futures work appears almost always to have been undertaken on a national or regional basis, not on the basis of socio-ecological zones. In consequence it has not been related to the identification of technologies suitable for the resource proportions, especially of land, water, energy and population, of particular future rural environments. Discussion

1. Available on request from me at the Institute of Development Studies, University of Sussex, Brighton BN1 9RE, U.K.

and correspondence have shown that there is interest in exploring this environment-specific and future-oriented approach to R and D. What is needed now is a number of pilot operations to gain experience of its potential and limitations.

This paper is addressed to those with an interest in this field in the hope that it will encourage them to get something going. To open up the possibilities, I discuss below:

types of suitable environment;

the size of environments;

alternative approaches;

institutional arrangements.

The purpose is to show that a wide range of initiatives are possible.

Types of Suitable Environment

In the pilot exploration of this approach, the choice of environment is important. The benefits from the approach may be greatest in environments which are critical or likely to become critical in terms of livelihoods. These will usually be environments where population is pressing on resources, where resources are diminishing (through soil erosion, through removal and use of forest, bush and vegetation, through depletion of underground water resources, through secular climatic change), and where population is increasing rapidly. A reasonable initial data base is also important since orders of magnitude in factor proportions have to be established in order to be realistic about alternative futures.

Examples of suitable environments might be found in:

(i) Hill or mountain areas where population pressure is associated with the removal of forest, the cultivation of steep slopes, overgrazing, erosion, and/or declining water supplies. Examples include parts of Nepal, India, Sri Lanka, Thailand, Kenya, Tanzania, Ethiopia and Peru.

(ii) Arid or semi-arid areas where increases in human and livestock populations, in cultivation, in the removal of vegetation, and sometimes in human in-migration are associated with declining primary productivity, erosion, and other forms of environmental degradation. Examples include the Sahel zone, and parts of Eastern Africa.

(iii) Areas of dense human settlement with irrigation where the scope for outmigration appears slight and population is rising fast. Examples include the riverine and delta areas of the Nile in Egypt, and parts of Pakistan, India, Bangladesh, Sri Lanka, Thailand and Indonesia. Included here are areas where there is a net and secular depletion of groundwater resources.

(iv) Areas with sharp seasonal crises, especially where seasons are monomodal, and agricultural activities are tightly confined to a short period. Examples include parts of West Africa and the Sudan.

(v) Areas of high rainfall and dense and rising population where population pressure on land is a problem with limited scope for outmigration. Examples include high rainfall areas in Kenya, Tanzania, Rwanda, Burundi, Sri Lanka and Indonesia.

(vi) Areas with an existing project or programme and a good data base. Especially for pilot testing, such areas may have a comparative advantage since relatively little administration or data-collection may be required in order to carry out the exercise; and some or all of the staff needed may already be on site or available without additional expenditure. Examples include the Integrated Rural Development Programme districts in India; zones or districts in any country for which resource inventories and social surveys have been completed or where comprehensive multi-disciplinary research has been carried out; areas for which evaluation base-line surveys have been undertaken; and areas where multi-disciplinary rural development project teams are or will be at work. This category (vi) crosscuts the first five categories.

This is an illustrative, not a comprehensive list. Additional ideas of types of environment and of specific locales would be appreciated.

The Size of Environments

An actual socio-ecological zone selected for examination would not normally be as large in geographical area as, for example, the Gangetic plain in India, the Kenya Highlands, the Dry Zone or the Wet Zone in Sri Lanka, or the Nile Valley in Egypt. Nor would it be as small as a village or a group of villages. Its size would depend on a number of considerations including:

(i) the areas for which relevant data are available;

(ii) social homogeneity (including population density, social groups, in and outmigration, agricultural systems, etc.);

(iii) environmental homogeneity (geomorphology, soils, climate, vegetation, water availability and sources, etc.);

(iv) the environment-specificity of the types of technology likely to be considered.

The optimal degrees of homogeneity and variance will be matters for judgement and for learning from experience.

Alternative Approaches

In listing the four alternatives below, the purpose is to open up possibilities. Yet other approaches are possible and might well be tried. At this stage there is an advantage in variety and experiment. The main danger of this openness and flexibility is that the easier activities will be undertaken and the more difficult left out. In particular, it may be tempting to neglect learning from local rural people, and truly fruitful interaction between specialists in different disciplines.

The alternatives are:

A A Multiple Individual Approach

B A Two Team Synthesis Approach

C A One-Off Immersion Approach

D A Recurrent Approach

A <u>A Multiple Individual Approach</u>

In this case a coordinator either works out or commissions projections of resources (land, water, energy, population, etc.) for the environment. These are then taken as a framework by a number of people who may include generalists and subject matter specialists who then write alternative scenarios around those projections. These scenarios could include:

(a) a probable scenario assuming no special interventions;

(b) one or more possible scenarios based on other assumptions. These other assumptions might include either the introduction of existing technologies or the creation of new technologies through R and D and then their introduction.

The next stage would be for the various specialists to read one anothers' papers. They might also meet and discuss the congruences and incompatibilities of their scenarios. This could then be followed either by rewriting on an individual basis, or by a synthesising paper written by the coordinator or by a small working party.

<u>For</u>: Cheap. Easy to mount. No rigid timetable necessary. Requires only local resources. Problems of interdisciplinary interation should be slight.

<u>Against</u>: The outcome might be rather diffuse. The lack of a tight timetable and of full-time commitment might make it difficult to bring the exercise to an early conclusion. Some of the elements like learning from local people might be neglected as individuals might feel they could write their scenarios largely as a desk exercise.

B A Two Team Synthesis Approach

In this approach there would be two teams: one of natural scientists and one of social scientists. These might be based on two different institutions. Each team would separately describe a probable scenario without special interventions. These two scenarios would then be compared jointly and a generalist would synthesise them into a composite probable scenario. This composite scenario would then be taken by each team as a point of departure for considering alternatives. These alternatives and the technologies and other conditions required for them would be specified and written up separately by the two teams. A further meeting and dialogue would follow. The generalist, with help as appropriate from members of each team, would synthesise and write composite alternative scenarios.

For: This could involve research or other organisations which had either natural scientists only or social scientists only and help to bring them together. It would also clarify what characterises the different orientations of natural scientists and social scientists. It might also demonstrate the extent to which they cannot work without each other on an exercise of this sort. The basis for future collaboration might be laid.

Against: Overpolarisation might be a danger. Synthesis might be excessively difficult. Work might be wasted by either group in developing a scenario which the other group could show to be unrealistic. This might result in defending unrealistic assumptions and a hardening of narrow disciplinary attitudes, and of a sense of team A against team B, instead of a sense of creative collaboration. Creativity might be dampened by a sense that positions had to be defended; and that therefore they had to be safe - which might mean unimaginative.

C A One-Off Immersion Approach

In this approach, a small team would work full time and intensively over a fairly short period, something perhaps between 2 and 6 weeks. Most of the team would be engaged for most of the time, but not necessarily all of them for all of the time. The fields to be represented would include agronomy, rural engineering, economics and sociology, with additional possibilities according to need and availability including hydrology, geography, social anthropology, political economy, demography and various scientific specialisms.

For: Interaction between the members of the team should be ensured. The time-boundedness should make for intensive work. Full-time release of team members might not be too difficult for such a relatively short period.

Against: Data collection would be rather limited. The time-boundedness might make it difficult to find out about relevant R and D planned or in hand elsewhere. Full-time release of those taking part might be difficult. A full years' seasons could not be observed. At the end of the period there might be a loss of momentum and difficulty in following up.

D A Recurrent Approach

In this approach, there would be a team as in One-Off Immersion, but it would convene more than once. In the intervals between convening, additional information could be obtained, research could be carried out, assumptions could be checked, and R and D possiblities could be explored. The teams might even change in composition, or might be consulted through correspondence from time to time. Developments in R and D and in projected outcomes from R and D might be fed into intermittant reappraisal and rewriting of scenarios.

For: This would have the advantages of C without most of its disadvantages. Nonetheless, at a pilot stage, it might be best to try C without any commitment to continue into D.

Against: It might be difficult at this stage to obtain the sort of long term commitment required.

Institutional Arrangements

There are several possibilities for institutional arrangements:

1. A government organisation. Possibilities include a Ministry of Planning or of Agriculture; a research or planning cell or unit within a Ministry; a group concerned with perspective planning or with futures research; an R and D organisation responsible for agricultural, engineering, or other research; or a national committee for research policy.

2. A research institute or a university. Possibilities include a university department (for example, a department concerned with geography, agriculture, rural development, or with futures research); an interdepartmental committee concerned with rural development and/or technological R and D, and/or futures research; an interdisciplinary research institute or a pair of such institutes (one for the social sciences, one for the natural sciences); a cell concerned with appropriate technology; or an informal group of concerned and interested individuals in universities or research institutes.

3. A non-Government organisation. Possiblities include non-government voluntary agencies concerned with rural development, or with futures research, or with R and D for rural areas.

4. An international agency. Possibilities include agencies concerned with rural development, such as foundations; multi-lateral or bilateral donor organisations; and international agricultural research stations.

Conclusion

If several initiatives can be taken more or less simultaneously, it might subsequently be possible to bring participants together to share their experience. I should be glad to be in touch with any person or any institution interested in following this up.

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