

between regions also appear to be highly significant and in this case the analysis has served to confirm the patterns portrayed by the conventional classificatory analyses of NFS data.

It must, however, be acknowledged that in a number of respects this study could be improved upon and extended. The most obvious directions for improvement and development are perhaps:

- i) the utilisation of the other NFS data: on net household income (which, although reducing the usable sample of Survey households by about 40%, may provide a better guide to pure income effects); on the age (particularly of children) and sex of the household members; on the occupation and industry of earners; on price movements during the calendar year; and on the extent of free supplies available to the household;
- ii) the utilisation of data for other years, whether to increase the sample size, check the consistency of patterns between years or examine trends in them;
- iii) the adoption of particular functional forms with respect to the potential numerical variables (income, household composition), whether or not derived from some underlying theory of consumer demand. Linked to this might be an allowance for specific forms of interaction between variables—e.g., do the same regional differences apply at all income levels?

While it is unlikely that all of these possible lines of development (and there could be more) could be tackled in any one study it seems clear that NFS data provides considerable scope for detailed analysis of household food consumption patterns and trends. It will therefore be of interest that the ESRC is making the data tapes for individual calendar years available, for research purposes, through the ESRC Data Archive as well as selling up-to-date, at various levels of aggregation and classification*.

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* For further details, including a brief note outlining the range and cost of information available, may be obtained from: National Food Survey Branch, Room 419, Whitehall Place (West), London SW1 A 2HH. (Tel. 01-233 5088).

FARMING SYSTEMS RESEARCH: AN EVOLUTIONARY APPROACH TO IMPLEMENTATION

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Evidence suggests that many FSR programmes have faced 'institutional problems'. We argue that these have arisen largely as a result of the way in which FSR programmes have been planned. Too much emphasis has been attached to developing a methodology for FSR, and too little given to understanding the research environment for which the FSR programme is supposedly designed. An alternative approach to the planning of FSR programmes is proposed: one which is based upon a dialogue between the planners and researchers and which takes explicit account of the needs of the client research institution.

Introduction

In the past few years considerable and widespread interest has been generated in Farming Systems Research (FSR). This interest is reflected in the activities of several of the major aid donors and international agricultural research centres. Large funds have been invested in FSR programmes in Latin America, Asia and Africa and, despite the warning that FSR is not a panacea (Gilbert *et al.*, 1980), its proponents are leading us to expect a great deal from these investments.

A huge literature on FSR has also grown up since the mid-1970s. While there has been much discussion of FSR in theoretical terms, an area that has been particularly neglected so far is a critical review and discussion of the institutionalisation of FSR programmes: how they might best be planned so that they effectively strengthen and link up with the existing 'informal' and 'formal' research activities and become fully incorporated into the research and extension structure. It is perhaps not surprising, given this area of neglect, that some recent reports point to considerable problems in setting up self-sustaining FSR programmes.

In this paper we ask why these problems have been experienced, and discuss how they might best be reduced. Out of this analysis an alternative approach to programme planning will be proposed and outlined—one which gives explicit consideration to, and indeed is based upon, an understanding of the characteristics and capabilities of the institutions which make up a national agricultural research system.

'Implementational Problems' of FSR

Donor-funded FSR programmes have been set up in many countries of the Third World. Because the majority of these are relatively new, few critical

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discussions of programme implementation have as yet emerged. However, amongst those that have appeared, there is already a consensus that FSR programmes have faced 'institutional problems' (Collinson, 1982; Moscardi *et al.*, 1983; and Gilbert *et al.*, 1980).

Two factors have been identified as particularly responsible for these problems. First, the bureaucratic structure of the research institutions works against problem-solving, interdisciplinary research, and discourages feedback from the lower levels. Collinson argues that many of the problems encountered in Kenya were '... features of the research organisation, particularly the strong compartmentalisation, upheld by everything from disciplinary loyalty to parallel compartmentalisation in the layout of government estimates and fund votes' (p.31).

Second, the attitude of some staff members is blamed, particularly those in high ranking posts, within the research organisation. Gilbert *et al.* have cited their 'reluctance to change', due to their 'limited understanding and mixed feelings about FSR' (pp. 66-67).

We would argue though that for the proponents of FSR to talk about 'institutional problems' is to demonstrate a lack of analytical rigour, for it is on board an attitude that FSR claims to have rejected. To explain further: an FSR approach demands that one does not blame a farmer client for rejecting an extension recommendation; one accepts that he or she may reject not from stupidity, laziness or 'reluctance to change', but because it is simply inappropriate to his or her situation. And if this line of argument is pursued it implies that the staff of a research institution should not be immediately blamed for rejecting recommendations on how to organise an on-farm research programme (i.e., with an FSR programme); the recommendations may be rejected because they are inappropriate to the institutional setting for which they are supposedly designed.

This parallel between, on the one hand, the relationship between research/extension and the farmer, and, on the other hand, the relationship between the proponents of FSR (especially the international research centres and major donors) and national research institutions is an important one, and should be explored further.

Crucial to the development of FSR was an awareness that technologies should not be generated in isolation and then transferred from the top down to farmers. But now we see that FSR has itself become a form of technology, developed largely from special projects, in international agricultural research centres and U.S. universities, and 'packaged for easy delivery ... to LDC institutions' (Shaner *et al.*, 1982, p.XV). In only a few instances is there evidence of an FSR programme growing out of a genuine dialogue and a joint planning exercise involving the programme donor, the research institution, and the extension service responsible for its implementation. Instead, we have more frequently seen a top-down transfer, from the donor to the research institution—in total contrast to the stated philosophy of FSR. To some extent this reflects the pressures felt by the proponents of FSR to 'get results quick', their concern that FSR may not be given enough time to prove its worth (Gilbert *et al.*, 1980); but implicit in this packaging is an attitude of 'we-know-it-is-best-for-you'.

Within this current approach to the planning and establishment of FSR programmes, we have four major concerns. The first of these is the set of assumptions that FSR is a totally new, even 'unique' (Gilbert *et al.*, 1980) approach to agricultural research* and that if LDCs are to conduct relevant

research trials they *need* an FSR programme. This is an ethnocentric view, and one which is simply erroneous. FSR is not such a new approach: for example, in many parts of Africa, adaptive trials have been carried out since colonial times*; in Bangladesh a major programme of on-farm trials was established in 1957 (Government of East Pakistan, 1967); in Tamil Nadu in India an Adaptive Research Trials Programme for rice was started in 1966/67 (Vyas and Kulkani, 1977); and in China too, after the Cultural Revolution, agricultural research had a strong problem-solving orientation, with research staff spending at least a third of their time working in the rural community (Stavis, 1978).

To be unaware of earlier adaptive research programmes is a dangerous mistake. If a country has a history of adaptive research, an FSR programme may be built upon the earlier experiences, and it can learn from its mistakes and successes. These lessons clearly cannot be learned if FSR is presented as being totally new, and the programme is developed in isolation and imposed upon the research institutions. Perhaps the 'reluctance to change' observed in research station scientists may in fact be a reluctance to be told that adaptive research is a new idea developed by western agricultural economists, and that they need an FSR programme in order to practise it.

A second set of assumptions rests upon the belief that the key factor in the development of an adaptive research programme is 'the method'. LDCs have not historically conducted adaptive research—it is believed—because they lack the method to do so; thus, if they are to be encouraged to conduct such programmes, it is only necessary to show them how the method works. Hence the manuals that describe precisely the method, and the demonstrations that show how it *should* be practised. And while much effort has gone into developing the method, little attention has been given to the institutionalisation of FSR activities within national research programmes.

It is significant that in Tamil Nadu the key factor in developing the Adaptive Research Trials programme was not the dissemination of a new research methodology; rather, it was a major structural reform of the research and extension institutions. In China, too, the growth of a strong problem-solving orientation within agricultural research resulted from a drastic re-organisation which merged the (previously) separate research and extension structures (Stavis 1978). That 'institutional problems' are currently cited as preventing FSR programmes from functioning effectively implies that we must analyse more carefully these socio-economic issues when thinking of promoting a method.

Third, we are concerned at the high level of donor support for many FSR programmes. While the provision of expatriate personnel and development funds may assist re-orientation of research activities in the short-term, we must question whether the approach developed and the methods used will continue to be relevant and viable when the 'special project' status is withdrawn. If we wish to see FSR programmes being genuinely self-sustaining they must evolve out of local research systems and be developed by local scientists using local funds. Successful research programmes cannot be 'bought'; failure cannot legitimately be blamed upon 'resource limitations' (Gilbert *et al.*, 1980). To blame a 'lack of resources' is similar to putting policy failure down to 'lack of political will' or 'corruption of the bureaucracy'. To use such excuses shows an analytical laziness and in many cases diverts attention from more fundamental issues concerning the formulation and implementability of public policies†.

* See, for example, Belshaw and Hall (1972).

† For a full discussion of these issues in a wide range of agricultural and rural development situations, see Clay and Schaffer (1984).

The fourth point concerns a general approach to agricultural research and technology generation. In the hurry to analyse and diagnose the problems of small farmers, and orientate national research systems to work on these issues, the FSR proponents have put little emphasis on capitalising on the informal research activities of farmers. In Japan, as well as in many western countries, extension programmes were first set up for the very purpose of helping to disseminate innovations developed by farmers, and the farmers themselves frequently played a key role in that dissemination (Stavis, 1979). FSR, by contrast, aims to fine-tune externally-generated innovations on behalf of the small farmer; the participation of the farmer in that process is limited and the farmer's 'voice' imputed.

If FSR is genuinely to reflect and respond to the perceived needs of small farmers, it must not only integrate and support informal R and D systems, but also set up institutions through which small farmers can voice their own problems and actively participate in the formal research process.

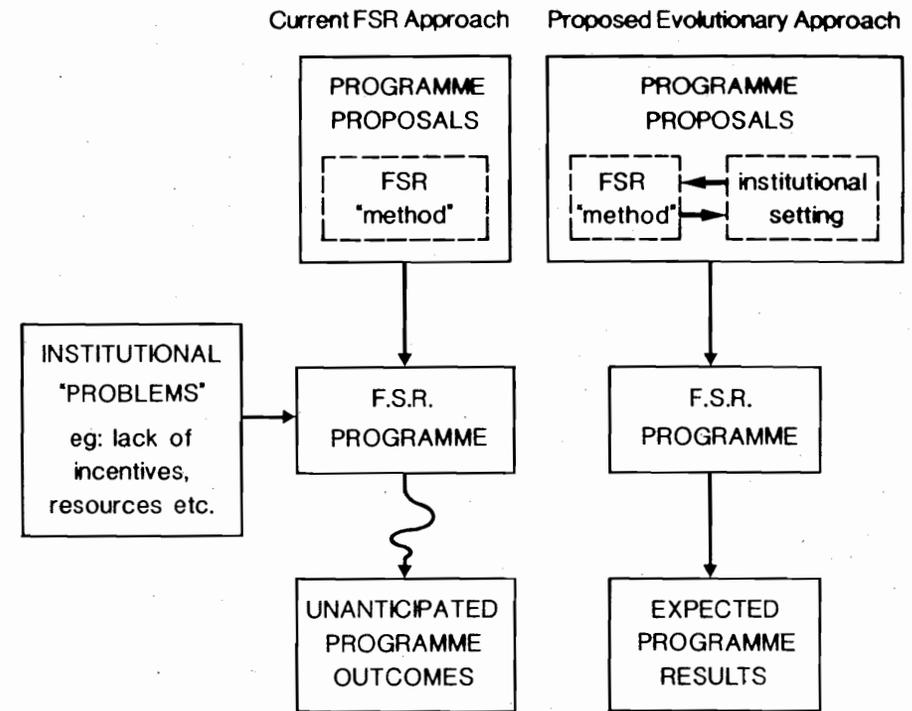
Towards an Evolutionary Approach to FSR Programme Planning

Because the FSR literature has not focussed on theoretical issues of implementation and institutionalisation to any great extent, 'the method' has been considered in isolation, under abstract ideal conditions; and the absolute importance of institutional issues has been overlooked in the formulation of FSR programme proposals. Instead there has been a tendency for policy analyses to take place in what Biggs (1981) has referred to as '... a vacuum where administration and implementation issues are seen as "minor details" to be left to bureaucrats or project staff' (p.35). Indeed, it is only after the programme has been initiated that the full significance of these issues is recognised. And because they were not considered in the initial analysis, they are dismissed as unfortunate external effects that prevent 'the method' from functioning efficiently, i.e., they become 'problems'.

An alternative planning approach would be to internalise the administrative and institutional issues of programme implementation and give them consideration from the outset. Programme proposals would explicitly recognise the institutional characteristics and capabilities likely to be countered, and suggestions would be based upon an analysis of these issues. It is argued that such an approach, with its roots in the real, though imperfect world—rather than the current approach, formulated under ideal conditions—would be a more fruitful one to adopt. An approach which explicitly took into account the capabilities, resources and past activities of the host research institution, and based the research programme proposals upon these would, it is argued, result in programmes that would be more realistic, appropriate and acceptable. As such, they would be less likely to encounter institutional 'problems', less likely to be blown off course, and ultimately more likely to be both self-sustaining and problem-solving. Figure 1 demonstrates a proposed evolutionary approach.

The alternative approach demands that those responsible for 'pushing' the FSR programme (be they external donors or local planners) first, gain an understanding of the local research institutions—both informal and formal—before programme formulation and second, base the proposals for a new research programme upon these already existing research systems. This should be seen as intrinsic to the FSR approach: if extension recommendations that are useful and relevant to the farmer are to be generated, then research should take as its starting point the socio-economic and agro-climatic situation of specified groups of farmers; likewise, if appropriate recommendations on how to organise an on-farm research

Figure 1 Alternative Approaches to the Consideration of Institutional Issues



programme are to be formulated, then the research institutional environment for which the proposals are being made should be a basic focus for enquiry. Indeed, only when planners understand the existing research system can there be any possibility of improving it.

But the planning process not only needs a more sensitive approach on the part of the planners; it also demands the active participation of local staff members, the host research institution, the agricultural extension service, and the farmer client. Their participation is sought because it is they, and only they, who know best the present state of research and who can screen suggestions on how it might be improved.

Without local participation, any new FSR programme is likely to be seen by the staff within the research system as being imposed on them (be it by planners or donors), and thus is likely to be rejected. With local participation we are more likely to see research programmes that evolve from, and are developed out of, the local institutions themselves. Only with the active and constructive support of local staff and farmers can there be self-sustaining problem-solving research systems.

Such an approach implies that there will be no 'proper' way to set up an FSR programme, and that there will be major differences between programmes. Indeed, no two are likely to be the same because no two countries, or institutions within countries, have the same cultural and political background or similar availability of scientific resources.

It further implies that donors should not claim that FSR is one of 'their' new ideas—to do so may even prove counter-productive to their cause. A more

constructive approach for donors would be to put the importance of their own input into perspective. They do have something to offer, but for long-term developments the major contributions have come from local staff. Overdue credit must go to those working within the local institutions. It is they, after all, who have screened, selected, and developed components of FSR. This has been in the institutional environment where careers depend on the way they behave. Strengthening a local research system involves local researchers in significant career and, sometimes, political roles. While the donors clearly want recognition for their work, it is significant that quiet improvements may ultimately meet with greater acclaim than fanfared short-term successes at the expense of long-term failures.

Summary and Conclusions

In this short article we have been primarily concerned with exploring the problems that can arise in implementing new FSR programmes. It is clearly not a 'balanced' piece of work in that little space is given to examining the positive aspects of FSR—of which there are many. But if we are interested in FSR evolving, and in improving it and learning from its successes and mistakes, then criticisms are essential. Our criticisms therefore reflect a belief in the value of FSR, and an enthusiasm for, FSR.

Nevertheless, there is a need for the major proponents of FSR to reflect on the way in which programmes are currently being set up. The evidence available suggests that a new approach to planning programmes is also required—one which shows more sensitivity and analytical rigour than at present. If the proponents of FSR are to win friends, they must recognise, and admit, that much of FSR is not new, either as an approach to planning research, or as a method for conducting it. The idea of defining specific groups of farmer clients, on-farm trials, and socio-economic surveys has been used in any formal research programmes all over the world for many years; and to suggest otherwise is to demean the work of many conscientious researchers. Equally, farmers with no scientific training are always doing formal adaptive research, and to ignore and not use this valuable source of knowledge is a serious flaw in any formal research programme.

There is a need for those involved in planning to look explicitly at the characteristics and capabilities of the research institution that will be involved in developing a FSR programme. Plans which concentrate exclusively upon the 'method', and only look at institutional issues when they become 'problems', are not very useful. Just as the overall environment of farmers must be taken into account as the starting point for any research activity proposals, so too the socio-economic and political environment of the research institution must be taken into account as the starting point for any research programme proposals.

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