AGRICULTURAL ECONOMICS RESEARCH IN CONTEMPORARY BANGLADESH: THE STATE OF THE ART

Gerard J. Gill

ABSTRACT

This paper reflects the personal and deliberately provocative views of a non-Bangladeshi who has worked here for more than seven years. A number of problem areas for the future development of the profession are identified. These include the poor development of library facilities, a lack of attention to macro-level research, undue reliance on questionnaire surveys, and number of unwarranted biases. Prominent among the latter are a bias towards crops, a lack of attention to women's role in agriculture and a funding bias, which encourages project evaluation at the expense of research on the traditional sectors. Too many surveys are 'one-off' 'quick-and-dirty' studies which are weak in analysis and inadequately link with theory. It is suggested that professional bodies in the country should play a leading role in addressing the challenges implicit in these observations.

INTRODUCTION

This paper is offered to the agricultural economics profession in Bangladesh on the grounds that it is sometimes useful to have an outside view of one's work. The author is approaching the end-of more than seven years as a researcher in agricultural economics and as a research administrator in the social sciences more generally. As such he feels it not inappropriate to offer a few gratuitous comments on the state of the art today. If, in the course of doing so, some criticism of the profession is either voiced or

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Programme Leader/Agricultural Economist, Winrock International (Human Resources Development Division), Bangladesh Agricultural Research Council, New Airport Road, Farm Gate, Dhaka. This is a revised version of a paper originally presented at a seminar organized by the Bangladesh Agricultural Economists' Association at BARC. The author is grateful to several members of the Association for their helpful comments and criticisms, many of which have been incorporated in this revised version. Responsibility for the opinions expressed nevertheless remains that of the author and should in no way be interpreted as reflecting the official views of any organization.
implied, it is the author's hope that it will be viewed as constructive criticism. We must surely agree as professionals that, although compliments are more pleasant, criticism is more useful. If this brief contribution stimulates some widening and deepening of the debate on the future development of the profession in Bangladesh, and how it can best serve the needs of the nation, the author's efforts will have been more than amply rewarded. The paper will necessarily be selective. It will also, it is hoped, be provocative.

In presenting this paper the author has chosen not to dwell on constraints, but to focus instead on opportunities for overcoming the challenges they represent. Conducting social science research in the rural areas of Bangladesh is undoubtedly a difficult and sometimes frustrating experience. However rural Bangladesh also offers an incredibly rich environment for such research, which can more than compensate the researcher for the difficulties and frustrations. This is so for two principal reasons. The first is that, in relation to what ought to be known, the present level of knowledge is extremely scanty. There are vast areas of the agricultural economy of this country about which little or nothing is known. This partly reflects the fact that the profession in this country is comparatively young and its membership correspondingly small. It also reflects a more deep-seated social problem, however, namely the fact that the poverty and illiteracy of the great majority of small farmers keeps them from bringing their problems to the attention of the authorities. Unlike bus drivers, students and agricultural economists, small farmers have no effective platform for airing their views and pressing their demands. The same is true to an even greater degree of landless agricultural labourers. Even the most well-intentioned administrators and planners are constantly faced with the problem that they do not have any more than an intuitive grasp of the needs and resources of the rural community. The marginal social returns to rigorous economic research in such an environment can potentially be very great indeed and the responsibilities, if taken seriously, correspondingly serious.

ACCESSIBILITY OF THE LITERATURE

Any survey of agricultural economics research in contemporary Bangladesh must begin by paying tribute to the amount of work that has already been done. Some of it is excellent. What has been done is the more impressive in view of the manifold constraints faced by the researchers.

In attempting to familiarise himself with this body of knowledge, however, the researcher comes up against the serious limitation that much of the existing literature is far from readily accessible. In reviewing research proposals one repeatedly comes across the statement that nothing has been done in Bangladesh in the field in question. In a number of cases, of course, this is but a poor reflection on the would-be researcher, but the fact remains that it is difficult to gain access to much of the work that has already been
done. Research reports, conference papers, discussion papers and so forth are often produced in flimsy mimeographed form and all copies are soon buried in personal collections (those that are not used to wrap samosas !)

This particular problem is one that may become of diminishing importance with the emergence and future development of NALDOC if the Centre makes a determined effort to build up a comprehensive collection of the existing literature, as well as new literature as it becomes available. It is necessary also, however, for libraries in general to make the information they have available to the profession at large. At the moment even when libraries have accessioned copies of research reports it is often quite difficult for the individual researcher to have easy access to them. This in large measure reflects the presently underdeveloped state of library science in Bangladesh, the lack of effective communication between libraries, and the evident lack of a system of inter-library loans.

Institutional development is, however, only a part of the solution. One crucial gap in the profession at the moment, and one which can only be filled by painstaking individual effort, is the lack of review articles. A search through the journals published in the country will yield very few articles which pull together and critically review the existing literature on a particular subject. This sort of work is crucial to the dissemination and absorption of existing knowledge, as well as to the avoidance of duplication of effort. This particular problem, it will be argued later, is part of a more widespread feature of social science research in developing countries today: a bias towards primary data collection, rather than on the analysis of existing data sets.

Compounding the non-availability of literature problem is the fact that some very worthwhile agricultural economics papers on Bangladesh have in the past been published in international journals which have often very limited distribution within the country. While it is understandable for authors to wish to publish internationally, such material need not thereby be 'lost' to the country itself. The editors of international journals are generally very good about allowing free reprints of their material to be made. Using such a facility would require that the editors of Bangladeshi journals (who are in any case regularly on the lookout for good material) should routinely monitor international journals for material suitable for reprinting in their own. In suggesting this, however, the author is well aware of the difficulties in the way of securing up-to-date issues of international journals. However, most of the major journals are taken by some library in the country, so that a working system of inter-library loans would go a long way towards meeting this particular problem.

MICRO VERSUS MACRO

Of the existing body of literature, the bulk is based on micro-level studies at farm or village level. There is no question but that such studies are needed. They provide
invaluable insights into the detailed working of the farm-and village-level economy. The difficulty is that policy operates at the macro level and unless the sample selection methods of micro-level studies are directed in such a way as to be representative of the population at large, the policy-relevance of such studies must remain limited.

One major reason for the relative scarcity of macro studies is undoubtedly the fact that official macro-level statistics are widely regarded as being of doubtful accuracy. Although there is a great deal of truth in this, the view that official numbers are unusable can be exaggerated. Figures on commodity imports and exports, for example, are fairly accurate, while statistics on agricultural prices are more reliable than most. A great deal of eminently usable macro-level data are published by government agencies such as BADC, BCB, and the Bangladesh Bank; covering such variables as fertilizer prices, tubewell and LLP sales and agricultural credit. One very useful source of data on (among other things) farmers' prices for fertiliser and grains that is not as widely known as it ought to be is that published monthly by the BADC/JIFDC Fertiliser Marketing Project in its Survey of Fertiliser Prices, Availability, Credit, Promotional Services and Grain Output Prices. Information such as this source provides is published regularly, but normally after only minimal analysis, limited usually to simple tabulation and the calculation of averages. To say this is not necessarily to criticise the publications in question: often they were meant to do no more than make the information available in a fairly raw form. However if people in the profession aim at making their research increasingly policy-relevant, such data sets present an excellent basis on which to employ the analytical concepts and techniques of economics and econometrics.

Not all of the data that could usefully be analysed in this way are presently published. A good example is to be found in the case of livestock. At licensed livestock markets across the country, registers are kept of the prices paid for each animal traded. This information taken together represents a vast reservoir of untapped data. Yet these data are long-term, countrywide and reasonably accurate (since the market licensees have a vested interest in ascertaining the correct price paid). This is a potential goldmine of macro-level information for anyone interested in this neglected area of agricultural economics.

Not only livestock marketing, but agricultural marketing in general, both of products and of inputs, is an area of macroeconomics which needs a great deal of further research attention from economists: in the part, the stress on microeconomic studies has been accompanied by an emphasis on production economics. This relative lack of attention to markets is perhaps understandable when research concentrates at the farm level, since the bulk of agricultural production in Bangladesh is still subsistence-oriented. However at the macro level marketing takes on a much greater relative importance, an importance that will undoubtedly grow as modernisation proceeds and agriculture becomes increasingly market-oriented.
Finally, where micro-level studies are conducted, greater effort could sometimes be put into trying to draw macro-level conclusions from them. Partly this would require increased awareness of what others are doing or have done in fields related to the study in question, but partly it would also require a little extra effort in the design and analysis of the study itself. Better design could often make the sample more representative, while better analysis - in the sense of tying the study more closely into what is already known at the macro-level could produce at least "ball-park" estimates of national-level parameters. For example a micro economic study might be conducted into the respective command areas and labour requirements of irrigating by engine-powered and manually-operated shallow tubewells - technologies which are, from an engineering point of view, largely substitutable. If the sample were properly stratified by a relevant variable such as land type (however defined) these micro-level figures could be used to generate coefficients which could in turn be used to estimate the overall employment impact of these technological alternatives in different parts of the country.

METHODOLOGIES

Robert Chambers once coined the expression 'survey slavery' to characterise the bulk of primary data collection in economics, particularly in developing countries. Most economists working in a developing country - and the present author is no exception when faced with a research issue tend to start by designing a questionnaire. There is no doubt that well conceived, well designed and well executed questionnaire surveys can generate a great deal of hard, useful data. They are also, however, expensive and time-consuming. More importantly, the survey as a technique in social science research is full of pitfalls for the unwary.

Most agricultural economics research in Bangladesh is conducted by questionnaire. Some of these are well-conceived, direct and to the point. However, every social scientist must have seen questionnaires of a different sort. The most obvious fault is that they are too long. Very few farmers have the time, patience or inclination to sit through a two or three hour interview. After a time, even with the best-intentioned respondents, the quality of the information declines. As economists we are all aware of the concepts of marginal costs and marginal returns. If we subjected each and every question in our questionnaires to a cursory marginal analysis, we would shorten their number considerably. The question is not whether it would be interesting to know something, but how much the information it generates will help the researcher to test the hypotheses of his or her study. That is the marginal return. The marginal cost will be (a) the data that would have been gained by other questions that could have been asked but had to be excluded in order to keep the questionnaire to a manageable length, and (b) the fall-off in the quality of information from later questions as 'respondent fatigue' sets in.
The second set of issues concerns sensitivity. The questionnaire is, at best, a blunt instrument. It attempts to compress the complexities and ambiguities of real life into a set of rigid little boxes. Take a question such as ‘How much land do you own?’ which appears on almost every survey questionnaire in agricultural economics. Some questionnaires and approaches show an awareness of the complexity of this issue, but many do not. The first pitfall is that the respondent may think the question is tax-related and therefore under-report. On the other hand land ownership is a reflection of status, so some replies may instead be exaggerated. Another pitfall for the unwise interviewer is the ‘conspiracy of courtesy’ syndrome. This manifests itself as the farmer telling the interviewer whatever he, the farmer, thinks the other wants to hear (a tendency which some interviewers moreover encourage by suggesting answers).

Even if the farmer wants to tell the truth, he sometimes must wonder what is the truth. Some Bangladeshi farmers when answering land ownership questions include their wife’s land with their own - which may indeed de facto if not de jure be the case while others are more accurate. Those who mortgage-in land may consider it their own - particularly if they’ve held it for a long time - while those who mortgage it out have the opposite inclination, so that double-counting may occur. Land disputes are, of course, even more conducive to double counting. Finally on this particular topic, as local units such as holding vary between areas, the use of a single conversion factor to convert such measures to acres or hectares may lead to misleading conclusions when different areas are compared with respect to, say, average size of holding.

The adequacy of the survey technique declines with increasing sensitivity and complexity of the issues being investigated. As the profession matures in this country, one would expect to see increasing recognition of these inadequacies and increasing adoption of supplementary, not alternative, techniques, techniques for eliciting ‘soft’ data. ‘Soft data’ here means data that flow from the principal researcher’s immersing himself in the field work, spending time in the villages rather than relying on enumerators to do this, talking to farmers in friendly way, watching them working at work. These are areas in which we have much to learn from other social sciences, particularly sociology and anthropology, where the ‘soft’ nature of much of the information they collect has played a crucial role in shaping their techniques. Participant observation, key informants, case studies and the like may produce ‘soft’ data, but they also provide rich insights into the research environment that cannot be collected by questionnaire alone. As Professor Anil Gupta has rightly observed, the soft data is necessary if one is to interpret the hard data correctly. He would probably also add that it is necessary to have much of this information in advance if the instruments for collecting the hard data are to be correctly designed in the first place.

In addition to being overwhelmingly survey-based, the bulk of the primary data collection currently being done in rural Bangladesh is cross-sectional in character. That is, a given sample is studied at a given point in time. Longitudinal surveys, on the other
hand, study the same sample over an extended period. The pressures from hard-pressed senior civil servants, research administrators, representatives of donor agencies, etc., for quick results, however dirty, are undoubtedly hard to resist, as will be discussed below. But they also militate strongly in favour of cross-sectional surveys, which inevitably miss out on the important historical dimension; they might tell us where we are, but they won’t tell us where we have come from, and they certainly won’t tell us where we’re going. As the profession grows in strength and number, it is to be hoped that practising agricultural economists will be able to take time to undertake more and more studies of a reflective, long-term nature.

The above comment does not refer only to surveys, but to agricultural economics research in general. There is at the moment a serious lack of studies - whether derived from primary or secondary data - of long-term movements and trends and their interrelationships within the economy.

RESEARCH ORIENTATION

Until quite recently agricultural economics research in Bangladesh has tended to be overwhelmingly crop-oriented. Studies on, for example, livestock, fisheries and forestry have lagged correspondingly behind. This reflects at least two structural features of the profession here. The first is that many agricultural economists work at research institutes that are themselves crop-oriented. The institutes for livestock, fisheries and forestry research are relatively small (and new in the case of livestock) and have very few economists. The second feature is that the closely related and complementary profession of resource economics (which is particularly important in fisheries and forestry, but also in non-commodity areas like water resources) is virtually non-existent in Bangladesh. There is no department of resource economics at any of the universities and the number of people with professional training in this field can be counted on ones or twos.

The dividing line between agricultural economics and resource economics is in many cases rather blurred. In the circumstances of present-day Bangladesh, one might add, it is also somewhat misleading. Livestock economics, given the ownership patterns and management features of this country, should certainly be regarded as much closer to agricultural, than to resource, economics. Fisheries economics could be regarded as a branch of either agricultural economics or resource economics, depending upon whether one is dealing with culture fisheries or capture fisheries. However, with increasing depletion of open water fisheries resources and the parallel increase in the importance of aquaculture in Bangladesh, economists will increasingly be dealing with a fisheries sector whose structural features and requirements are more closely related to those of agriculture than to those of open-access resource management. A precisely analogous situation exists in forestry. Again there is rapid and continuing depletion of the natural
resource base and a parallel increase in emphasis on farmstead production (homestead forestry). Already an estimated 75 per cent of sawlogs and 90 per cent of bamboo and fuelwood derive from the homestead forestry sector, and these proportions can be expected to continue to grow.

The past almost exclusive research attention to crops has been ameliorated in recent years, largely by an upsurge in interest in farming systems research. This has, of necessity, required agricultural economists to take more than a passing interest in fields like the economics of livestock, fisheries, homestead forestry and water management. This, as most agricultural economists would surely agree, is a very healthy trend and one which the profession could do much to foster. Not only does it force us as agricultural economists to conceptualise and operate on a wider scale than previously (as the farmer has always had to do) but it can also potentially help bridge the existing and damaging gap between social and biological scientists working in agriculture. However, it still leaves another gap, at the more macro level than FSR, which could usefully be filled by an increasing number of studies in these particular fields.

FUNDING BIAS

This is a perennial problem in all research, but one that has special features in a developing country like Bangladesh, where professional salaries are very low and financial pressures force people to seek supplementary sources of immediate income. If this occurs at the expense of their long-term career development (assuming that the latter would be fostered by more rigorous, and therefore publishable, research) this is regrettable, but perhaps unavoidable. It would be very difficult to blame the individuals concerned for making this choice, for the financial pressures they face are real and have grown over the past few decades.

In these circumstances, however, research takes on an unfortunate character which is more dictated by the priorities of funding agencies than by the issues which the researcher finds intellectually and professionally challenging. To say this is not, of course, to suggest that researchers in richer countries have a free hand in setting research priorities, but they are in a relatively better position (particularly those at universities) in helping to set their own research agendas. In developing countries, funding agencies-particularly some of the bilateral donors, certain UN agencies, and the banks-tend to help skew the national agricultural economics profession in directions that are not necessarily compatible with the long-term interests of either the individual professionals they employ, the profession as a whole, or the national development goals they purport to serve.

The results of this are manifold. The most obvious is that research tends to be targeted in certain directions, most especially in the direction of evaluations - particularly of aid-funded agricultural development projects. More generally the funding bias has
been at least partially responsible for skewing the research effort towards examination of the more modern, and away from the traditional, agricultural economy. This has paralleled and strengthened a corresponding research bias in favour of the more accessible, at the expense of the more remote, parts of the country. Compare, for example, the huge number of studies that one sees of institutional credit in Bangladesh agriculture with the extreme scarcity of information available on informal credit. Yet the studies that do exist suggest that this sector continues to supply the bulk of the credit needs of the rural community in general and of the poorest sections in particular. This suggests that some of the stereotypes we have are seriously wrong. Either non-institutional credit is not as exploitative as it is supposed to be, or institutional credit is not as overhanded as it was designed to be, or both. Unfortunately lopsided research attention to institutional credit schemes will not provide answers to the questions raised by speculations such as these. In fact, traditional credit arrangements, being so much more complex and more pervasive than modern ones, are more appropriate candidates for research attention than their modern counterparts. Credit is by no means an isolated example. Consider how (relatively) much is known about the economics of modern crop varieties and compare this with the dearth of available information on traditional varieties - which still nevertheless contribute the bulk of crop production in Bangladesh. Another example is provided by irrigation. How many studies are there of the economics of traditional irrigation technologies to set against the seemingly vast array of studies on shallow tubewells, deep tubewells and low-lift pumps? If planners and policy makers do not properly understand the rationale behind traditional practices in agriculture, if they have to rely instead on intuition and guesswork, the chances of their devising efficient, equitable and appropriate modernization strategies will be slim indeed.

While one cannot reasonably blame individual researchers forced by financial pressures to take up a lopsided research agenda, one can certainly blame the funding agencies in question. Although evaluation may fill these agencies' immediate need to justify the initiation, continuation or dropping of a particular project, the scarcity of information about the agricultural economy in general, and the traditional agricultural economy in particular, means that such evaluations are inevitably conducted in a vacuum. Thus funding agencies who have this type of bias are blind to their own long-term programme interests.

It is a feature of agricultural research in general in developing countries - or at least in the least-developed ones - that it tends to be adaptive and pragmatic, rather than fundamental or theoretical. Given the resource constraints that these countries face, this is, in fact, a highly commendable allocation. In agricultural economics too pragmatism has tended to be a key feature of research, but 'pragmatism' is often carried too far, particularly in the type of commissioned research discussed above.

Because of time constraints and the consequent pressure for 'quick and dirty' surveys, the researchers who conduct such studies can often make little attempt to link
theory with practice. While standard econometric techniques may be used to estimate economic parameters, such studies are not typically based on the construction of theoretical models and their empirical testing. And yet, because it tends to be the best-qualified among the profession who are offered consultancies, it is the very people who are best qualified to link theory with practice, to do a rigorous job of analysis and presentation of findings, who are prevented by time constraints from doing as thorough a professional job of work as they would perhaps wish.

Perhaps it is the disproportionate emphasis on evaluation that has created what can only be described as an 'evaluation mentality' among some of the younger or less well-qualified members of the profession. Having for a number of years administered a small research grants programme that prides itself on not subscribing to the above bias, the author has been surprised to find that a large proportion of the research applications his office received were concerned with the modern sector in general and the evaluation of projects in particular! This one can only ascribe to the fact that a fashion for this type of work has inadvertently been set by the better-qualified members of the profession—the ones who, as was said earlier, are the more likely to be offered consultancies.

WOMEN IN AGRICULTURE

It is a very encouraging feature of social science research in Bangladesh that the role of women in agriculture is increasingly being recognized for the crucial contribution it makes. Without women's work in crop processing, seed selection, crop and seed storage, livestock care and maintenance, etc., agriculture would not function. The Women's Desk at BARD recently held a workshop on this subject which resulted in an annotated bibliography on women in agriculture consisting of around 100 entries. The Workshop also drew up a list of priorities for future research in this area, and farming systems research was identified as one area in which there was great scope for future work.

It should be added, however, that the present upsurge of interest in the role of women in agriculture has not come primarily from agricultural economists, but from other disciplines notably sociology. This in turn at least in part reflects the fact that, compared to other social sciences in present-day Bangladesh, women professionals are seriously under-represented in economics in general and agricultural economics in particular.

CONCLUSIONS

Some of the observations arising from this brief review have already been offered. Others are implicit in the comments that have been made. The first conclusion is that the agricultural economics profession in Bangladesh would benefit greatly if there were better facilities for storing and indexing reports of relevant research and sharing them between
different libraries. A related point concerns the reprinting in Bangladeshi journals of important articles on agricultural economics (both articles on Bangladesh and articles of a more general nature) which have appeared in international journals.

A second set of conclusions relate to the level at which studies are carried out and the need for an increasing number of macro-level studies - including studies of the market in agricultural commodities and inputs - in order to make the work of the agricultural economist more relevant to policy formulation. There is also a need to place some what less emphasis on purely cross-sectional studies and more on those which take longer term trends into account. In the design of studies it is suggested that a good deal more attention needs to be paid to questionnaire design in order to reduce their overall size and at the same time focus them more sharply on the topic under investigation. Increased use of complementary techniques that have been developed in other social sciences might assist in this process.

Moving from techniques to the topics that are investigated, it is very encouraging that the profession is currently moving away from its previous almost exclusive emphasis on crops. Work on farming systems has apparently opened the research agendas of agricultural economists to include hitherto-neglected areas like fish culture, homestead forestry and livestock. In the future if the profession does move towards increased emphasis on economy-level studies, these areas of economics will have a strong claim for increased research attention at the macro level.

Looking at much of the research that has been done in the past the reviewer is struck by the fact that there has been fairly strong emphasis on the study of modern agriculture and of the modernisation process, and a corresponding lack of research interest in the traditional agricultural economy. This is illustrated especially by the large number of project evaluations that have been done. This bias, it is argued, is largely the result of pressures from funding agencies, which tend to set the research agendas of many of the best qualified agricultural economists in the country.

There has been a recent and encouraging increase in research attention to the vital role that women play in agriculture in Bangladesh, and this new direction is one that might well be incorporated within a FSR framework. There is a parallel need for more women to be trained as agricultural economists.

Male domination is one structural feature of the agricultural economics profession today. Another is that in terms of the distribution of skills it is distinctly bimodal. It has a relatively small number of highly qualified people at the top, people who have PhDs from internationally-reputed universities, while the majority of the membership is made up of relatively junior people, whose skills are in need of upgrading to a considerable extent. The first group, as was noted earlier, tends to be forced by financial circumstances to spend a disproportionate amount of time working essentially conducting
evaluations. It would seem worthwhile for the profession as a whole to try to persuade more of the funding agencies—particularly the wealthier ones—to adopt a more liberal approach to the type of studies they fund, so as to allow local professionals to devote themselves first to research of a more fundamental and long-term nature without financial hardship. A second way of using the skills of these highly qualified personnel would be to employ them increasingly in teaching in-service courses for their more junior colleagues.