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THE SMALL FARM AND FUTURE LIVELIHOODS

by

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This paper seeks to raise questions rather than attempt answers to them. It is based largely upon evidence from Africa south of the Sahara and parts of Asia; but not Central or South America. Its necessary brevity and the difficulties of generalising across a wide range of environmental, social and political conditions together provide a convenient excuse for a simplistic style.

The questions are linked to six premises. Those who disagree with the premises may or may not consider the questions wrongly framed. The premises are:

- (i) that for the foreseeable future rural populations will continue to rise dramatically in many third world countries

Some rural and urban population projections are presented in the appendix. While these may be a little on the high side, their orders of magnitude are probably correct. Between 1975 and 2000, it is estimated that the urban populations of African and South Asia will treble or quadruple, but in spite of that increase, which reflects not only natural increase in urban areas but also substantial rural-urban migration, rural populations will rise sharply in most countries. In Africa we have percentage increases in rural populations of 109 in Kenya, 107 in Tanzania, 96 in Rwanda, and 82 in Nigeria. In Asia the percentage increases are somewhat lower but still substantial, including 49 in India, 48 in Indonesia, 24 in Sri Lanka, and 85 in Bangladesh. These are national averages, and percentage increases can be expected to be higher in some regions. Short of a demographic disaster, the rural (and in these countries predominantly small-farming) economy will have to sustain

very much larger numbers of people than at present. Moreover, most of these rural populations can be expected to go on increasing for a long time.

(ii) that irreversible degradation is widespread in vulnerable rural environments

In many countries poor people extruded from the higher potential areas are engaged in what is, in effect, irreversible mining of fragile environments such as steep hillsides and marginal savannahs. Not only is this using up a capital resource; it is also concealing, temporarily, the extent of population pressure on agricultural resources in the higher potential areas and may be followed by a backwash as refugees return from environments which they have degraded in order temporarily to survive.

(iii) that the rich tend to get richer and the poor to stay poor or get poorer

The 'talents effect', as Andrew Pearse (1977) has called it after the biblical parable, is widely observable both internationally - between rich and poor countries - and, more particularly for our purposes, within the countries of the third world and within rural areas. In the absence of countervailing political action, wealth and income differentials tend to widen. This is the case even when, as in the Indian Punjab, the poorer people achieve a rise in their real incomes. But in many areas they achieve no increases, or their real incomes decline. For Bangladesh, for example, Clay has reported that:

"A downward trend appears to be developing within the pattern of short term fluctuations in real wage rates. The record year for production of 1969/70 failed to bring real wages back up to the levels of 1963/64. The recent upsurge in production still leaves real wages in 1975 30% below 1969/70" (1976:423).

For these trends many factors appear responsible. Population increase and environmental degradation (the comfortable explanations) have been mentioned. More disturbing are those persuasive explanations based on human acquisitiveness and political power, including unequal relations between rich and poor countries (affecting directly the returns received by farmers for their export crops and indirectly the wages they pay), urban bias (Lipton 1977), and, at the local level, unequal power relations, unequal ownership and control over the means of production, and unequal access to government services.

(iv) that problems of nutrition and livelihood are much more problems of demand than of supply

There is no serious technical difficulty in producing enough food in the world for the foreseeable human population. There is very serious difficulty in enabling the poorer rural people to exercise effective demand to secure the food they need. It is a commonplace in rural areas, during the lean period before harvest, to find landless labourers and people with very small plots who are hungry even though there is food in the local shops. They lack money to buy it. If they had the money, they would buy it. The problem is much less one of growing the food and getting it to the shops; it is much more one of enabling people to earn the money to buy it.

- (v) that the proportion of the rural population who are landless labourers is usually increasing

Apart from the socialist countries, it seems the exception, not the rule, to find a decline in landlessness. Although the plots issued to the landless were very small (one tenth of an acre), the Kerala land reform did provide secure access to land to many who were previously landless (United Nations 1974). Elsewhere, where there is unoccupied land, or where new irrigation is possible, settlement projects may, locally, reduce the growth of landlessness. But the general trend, exacerbated by the individual appropriation of communal land, the subdivision of small plots, the mortgaging and sale of land to meet distress needs for cash, and the screws and ratchets of seasonal shortages, illnesses and indebtedness,<sup>(1)</sup> is probably towards an increase in landlessness both in numbers and as a proportion of the rural population. In Bangladesh, for example, the number of completely landless households and the numbers of landless grew during the period 1960-1975 at a rate of 4 to 5 per cent per annum compared with 2.5 per cent for the rural population as a whole (Clay and Khan 1977:13), and now constitute over 30 per cent of all rural households. Similarly, in one part of Tamil Nadu, whereas in 1895 there were 2 landless households to every 11 with land, the proportion in 1975 was 9:11 and projected to rise to 18:11 by the year 2000 (Harriss 1976).

- (vi) that the poorer rural people have many ways of adapting to hardship and that these tend to obscure adverse long-term trends

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1. See the papers of the Conference on Seasonal Dimensions to Rural Poverty, held at the Institute of Development Studies, University of Sussex, 3-6 July 1978. The 'screws' and 'ratchets' of rural impoverishment are briefly discussed in Chambers 1978b.

There appear to be many mechanisms at work here: less food leading to lower weight babies, lower rates of physical growth and consequently lighter and smaller adult bodies requiring in turn less food for maintenance; 'occupational multiplicity' (White 1976:277), deriving small amounts of food and income from many sources; the 'sharing of poverty' (Geertz 1968); migration; large families and diversification within the family to spread risks; the maintenance of clients' dependent relations with patrons; the mortgaging and sale of assets; indebtedness; theft; and of course early death, which obscures poverty most effectively of all. In most societies the poor are relatively unseen; in rural areas in third world countries, both the personal strategies of the poor and the patterns of perception of outsiders tend to hide what is happening.

These are six rather pessimistic points. Social scientists have a tendency, perhaps, to delight in negative complications; while natural scientists often take a narrower more positive view. Both approaches have their weaknesses. The aim here is to see whether these six points, and the context they assert, can be used positively to frame questions about the future of small farming, relevant to the integration of livestock and crop husbandry.

A linking concept here is that of livelihoods. The normative assumption underlying the questions which follow is that a priority objective is to enable all rural dwellers to secure for themselves an adequate flow of food and income all round the year. A key question to ask in rural areas where livelihoods are not adequate for all the people, is the net livelihood effect (Chambers 1978a) of an innovation, in other words, whether there will be more or fewer people above the level of a minimum acceptable livelihood.

Oddly, this question is rarely asked.

The six premises and the normative use of the concept of livelihoods support three questions which seem relevant to this conference:

(i) what are we seeking to optimise and for whom?

Here we must start with introspection. Each observer has his own orientation, his own programmed and disciplinary view, his own ideology and his own sense of priorities; and the writer is no exception. All the same it does seem odd how rare it is for the welfare of the poorer rural people to be stated as a criterion in optimising farming systems. The statement by Sterling Wortman<sup>(1)</sup> implying that "the many farmers with tiny landholdings" are "the poorest of the poor" fails to recognise the large and growing numbers of the rural landless and instead homes in on small farmers. More generally, optimality is assessed in relation to production and profitability (see, for example, Sprague 1976 passim) and labour is treated as a constraint in peak seasons and a slack resource in off seasons (ibid: 4, 10, 13); demand for labour is not seen as a

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1. Quotation from statement prepared by Dr. Sterling Wortman, Vice-President, Rockefeller Foundation for 2 Subcommittees of the U.S. House of Representatives, 23 September 1975, quoted in Sprague 1976. For the purposes of detailed textual criticism, the full relevant part of the quotation in Sprague is: "The bulk of the basic food supplies of the agrarian nations are produced by the many farmers with tiny landholdings, often in remote and isolated areas, plus those people in coastal areas who depend upon near-shore fisheries and aquaculture for a livelihood. For the most part, the gains in productivity and income of these rural people - the poorest of the poor - will require the development for and use by many farmers of new high-yielding, science-based crop and animal production systems tailored to the unique combination of soil, climate, biological, and economic conditions of every locality in every nation."

means of distributing employment, wages and livelihoods among the wider population which includes the landless. Or again, those who are concerned with energy in rural ecosystems and in third world agriculture (e.g. Phillipson 1966, Revelle 1976) may apply criteria of ecological efficiency in energy conversions, or of the extent of non-renewable energy use, or of the use of energy sources which will relieve human drudgery, rather than focus on energy systems and mixes which will optimise livelihoods, for example through generating requirements for human energy inputs. Should not agricultural scientists, economists, and others concerned with the development of small farms in those environments where there are or can be expected to be substantial numbers of poor landless people, make a major criterion in optimising the creation of livelihoods for people outside the farm family?

The easy response to this question is to treat it as someone else's responsibility.<sup>(1)</sup> Production and profitability, it may be comfortably assumed, will create direct employment, and will lead to indirect employment in various ways. Unfortunately, projections for rural areas, and alternative rural futures, are a gravely neglected subject and there are many areas of darkness here. It is sobering, however, to note that even in the labour-intensive conditions of agriculture in rural Bangladesh, employment elasticities (the ratios of the percentage increase in labour requirements and the percentage increase in output) probably lie only in the range 0.2 and 0.5 (Clay and Kahn 1977: 27ff) and may sometimes be negative.

At the very least, there seems a strong case for asking, for each environment, to what extent the generation of non-farm family livelihoods through on-farm employment should be a priority, and how the integration of crop and animal production can contribute to creating those livelihoods.

(ii) what are the relative livelihood-intensities of alternative energy sources and systems in small farm systems?

Answers to this question will be specific to environments, farm systems, and operations within farm systems. It is widely assumed, however, that it is progressive to substitute animal power for human power. This may be so where land is abundant. Where land is scarce and there are unemployed landless the situation is less clear. In each case, detailed analysis is needed. General assertions like that of Parrack for rice cultivation (1969:37) that "the expenditure of energy by a man doing cultivation himself without animals would be greater than the yield" should be based upon careful calculations.

First, there may be competition between animals and humans for land for food supply. For part of West Bengal, it is true, despite high population pressure, Odend'hal found that there was "almost no competition between cattle and humans for land or food supply", over 75 per cent of the energetic intake of cattle being rice straw, inedible for human beings. This suggests that animal power had a very low opportunity cost in terms of food or income foregone by people. But this may be misleading. Revelle (1978:155) has

noted for part of Nepal that farmers were reluctant to adopt higher-yielding varieties of paddy because they were short-strawed and they needed straw to feed their cattle. They were locked into an energy system using livestock which blocked a production-increasing innovation.

Second, there may be alternative energy sources to animal power, especially in the future. Groundwater for irrigation in South Asia is often lifted by animals, but there are alternatives in human lift as is common in Bangladesh, and the use of wind or solar power as may become increasingly common.

Third, the arguments about labour-displacement and disproportionate benefits to larger farmers which have been levelled against mechanisation in some environments must also be examined in relation to animal power sources. In situations of dense population with many unemployed landless people, where there is potential for labour-intensive micro-farming, may the introduction or promotion of animals as power sources sometimes have negative net livelihood effects? May there be areas, such as parts of Tamil Nadu, where the most livelihood-intensive and productive use of scarce groundwater may be in labour-intensive micro-farming of vegetables without the use of animal power?

(iii) what farm sizes and productive organisation are indicated by attempts to optimise a combination of technical and social criteria?

Several future courses are possible in small-farming areas. First,

subdivision on inheritance may lead to smaller and smaller farms, and micro- or backyard farming. Second, sales and accumulation of land may offset subdivision to maintain farm sizes and their distribution much as they are. Third, sales and accumulation may lead to a greater preponderance of larger units. Or fourth, political change may establish larger units, farmed on some cooperative or communal basis, probably combined with backyard or micro-farming by families.

There are two questions here. The first is what is likely to happen. This is rarely considered, although technical prescriptions involving integrated animal and crop husbandry on small farms are sensitive to scale, not least because of the lumpiness of some livestock.

The second question is what is desirable. This opens up big issues. If adequate livelihoods for all are an objective and if lumpy livestock are a likely or necessary part of farm systems, is there any alternative in densely populated areas to the fourth path - towards cooperative or communal farming combined with micro- or backyard farming? Or, put differently, do technical criteria of productivity and profitability imply a scale of operation which can only be combined with adequate livelihoods for all if there is a new form of farming organisation, one in which the landless have a direct and proprietary stake?

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Appendix: Some Rural and Urban Population Projections (millions).

	1975		2000		% increases 1975 - 2000	
	Rural	Urban	Rural	Urban	Rural	Urban
Algeria	8.4	8.4	10.7	26.0	27	210
Bangladesh	68.7	5.0	127.0	17.3	85	246
Botswana	0.6	0.1	1.0	0.4	65	459
Brazil	44.5	65.3	50.3	162.2	13	149
Colombia	9.9	16.0	11.1	40.4	12	152
Costa Rica	1.2	0.8	1.7	2.0	43	150
Cuba	3.6	5.8	3.8	11.4	5	96
Egypt	19.6	17.9	23.1	41.5	17	132
Ethiopia	24.8	3.1	42.2	11.4	70	265
Fiji	0.4	0.2	0.4	0.5	6	111
Ghana	6.7	3.2	10.2	11.0	53	242
Honduras	2.2	0.9	4.2	2.7	90	220
India	481.5	131.8	717.3	342.0	49	160
Indonesia	109.8	26.2	162.8	74.7	48	185
Iran	18.3	14.6	25.8	40.8	41	180
Jamaica	1.1	0.9	1.0	1.8	-14	93
Jordan	1.2	1.5	1.6	4.3	34	185
Kenya	11.8	1.5	24.6	6.4	109	328
Malaysia	8.4	3.7	12.1	9.9	43	172
Mauritius	0.5	0.4	0.4	0.8	-4	86
Mexico	21.8	37.4	28.7	103.6	32	177
Namibia	0.4	0.3	0.5	0.8	16	190

(cont. overleaf)

(Appendix cont.)

	1975		2000		% increases 1975 - 2000	
	Rural	Urban	Rural	Urban	Rural	Urban
Nepal	12.0	0.6	20.9	2.2	75	271
Nigeria	51.5	11.4	94.0	40.9	82	259
Pakistan	51.6	19.0	84.6	62.3	64	228
Philippines	28.4	16.0	44.1	45.6	55	185
Rhodesia	5.0	1.2	10.1	5.1	100	309
Rwanda	4.0	0.2	7.9	0.8	96	403
Sri Lanka	10.6	3.4	13.1	8.2	24	143
Sudan	15.9	2.4	30.0	8.9	89	271
Tanzania	14.4	1.0	29.8	4.25	107	307
Thailand	35.1	7.0	62.2	23.4	77	236
Upper Volta	5.5	0.5	9.2	1.7	67	244
Vietnam	36.1	7.4	53.5	22.3	48	202
Zaire	18.1	6.4	26.0	23.4	44	266
Zambia	3.2	1.8	4.6	7.0	44	280

Notes

1. Source: FAO based on data a few years old. More recent figures would probably generally show slightly lower percentage increases, but without affecting the general orders of magnitude.
2. Percentages are based on the original figures which were in thousands, and which have here been rounded to millions to one decimal place.