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Green Revolution And After: The 'North Arcot Papers' And Long-Term Studies Of The Political Economy Of Rural Development In South India

Barbara Harriss-White and John Harriss

This working paper has two objectives. The first is to summarise the results of rounds of research from 1973 onwards on the green revolution in South India. It provides background both to the research reported in Harriss-White, Janakarajan et al, 2004, 'Rural India facing the 21st \century' (London, Anthem) and to several research projects currently being conducted by masters and doctoral students in QEH. The second objective is to reflect on the achievements and problems of those long term villages studies which are not based on panel data - at a time when village studies have been neglected and are being revived once more.
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The Historical and Intellectual Context of the North Arcot Studies

Since the early 1970s, three rounds of research have been conducted on aspects of agricultural and rural development in the northern part of the state of Tamil Nadu in south west India. The research was conducted in the southern and eastern parts what was then known as North Arcot District, which has subsequently been bifurcated, in common with some others of the former districts of the Madras Presidency that are now in the modern state of Tamil Nadu. (The name and territory of 'North Arcot' are, however, still widely recognised.) The most recent round was published in 2004: '*Rural India Facing the 21st Century'* (B. Harriss-White, S. Janakarajan and others) Anthem London. The objective of this essay, however, is to explain the historical and intellectual contexts of the first two sets of studies, briefly summarise their findings and implications and reflect on the problems of long-term research through repeated rounds, revisits and new, cross-generation research.

A first task is to explain 'why North Arcot?' The first round of research, initiated and directed by B H Farmer, was carried out between December 1972 and the middle of 1974 by a group of researchers in the Economics Department of the University of Madras, under the direction of Professor V S Shanmugasundaram and a team based in the Centre of South Asian Studies of the University of Cambridge. The work was published in a book entitled *Green Revolution? Technology and Change in Rice Growing Areas of Tamil Nadu and Sri Lanka*, edited by B H Farmer (1977). This research was followed up ten years later, between 1982 and 1984, by a team led by Peter Hazell and C Ramasamy , from (respectively) the International Food Policy Research Institute, based in Washington, DC, and the Department of Agricultural Economics of the Tamil Nadu Agricultural University (in Coimbatore). Their work was published in 1991 in a book called *The Green Revolution Reconsidered* (Hazell and Ramasamy, 1991). The two sets of studies – with each of which we were both closely involved - together provide an account, unusual (if not unique) for its breadth and diversity, of development in a rural region of India over a ten year period in the last quarter of the Twentieth Century. The stories that they tell were then extended in the third round of research that Barbara Harriss-White carried out with a team led by S.Janakarajan of the Madras Institute of Development Studies in the early 1990s (Harriss-White et al: 2004). Subsequently, doctoral research has been initiated in the region on peri-urban and urban labour markets (Srinivasan, forthcoming), learning and skills in the informal economy (Silk; Roman, forthcoming) and accumulation trajectories (Basile, forthcoming; Basile and Harriss-White, 2003). M.Phil. research has been completed on the socio-economics of a 'common cluster' (gold; Stanley, 200 x) and is in progress on change in rural dalit credit institutions (Polzin, forthcoming). In 2005, three villages were revisited using the recent history of development in this small region of south India, therefore, has probably been studied more intensively than that of any other in South Asia. This recapitulation of its inception and findings is intended to inform both current and future research.

Why North Arcot?

The original decision to carry out detailed field research into the processes of agricultural and rural development in North Arcot was taken in 1971 by Ben Farmer, who was then Reader in the Geography of South Asia at Cambridge University , and the founding Director of the Centre of South Asian Studies[1]. Farmer was an authority especially on Sri Lanka, having written a classic account of agricultural development in what was then Ceylon, based on research undertaken in the late 1940s, in his book *Pioneer Peasant Colonisation in Ceylon* (1957) – which he sometimes described, with a wry chuckle, as "often quoted, and little read". He had subsequently been a member of the Ceylon Land Commission in the mid-1950s, and in connection with his work for the Commission made a study tour in south India. He gave an account of some of his observations in an article entitled 'Land Use Lessons Learnt in Madras and Applicable to the Dry Zone of Ceylon' (1956), noting that much of the Madras State (as Tamil Nadu was then known), like the Dry Zone of Sri Lanka, was a region of crystalline rock, and that this, in both regions, was overlain by a layer of weathered material in which there was a patchy aquifer. Both regions, too, were subject to a north eastern monsoon rainfall maximum. He observed in 1956 that the aquiferous layer was probably thicker and more spatially continuous in Tamil Nadu than it was in the Sri Lankan Dry Zone, and that for this reason it was being exploited for irrigation there in a way that it was not in 'Ceylon'. He argued that there was, however, a groundwater potential in the Dry Zone that was not being tapped.

Farmer subsequently travelled extensively in India whilst researching a book on agricultural colonisation, and followed the early stages of the 'green revolution' through the reports of the Planning Commission. On his return to Tamil Nadu in 1971 Ben Farmer was not surprised, therefore, to find that the 'aquiferous layer' was being much more intensively exploited as a result of the use of diesel-powered and electric pump-sets, and he continued to be intrigued by the possibility that there could be at least some developments of the same kind in his much-loved Dry Zone. It was because of this experience and these reflections, no doubt, that he was particularly sensitive to the growing significance of groundwater irrigation in India and came to believe, as he explained in *Green Revolution?* , that there was a 'delta bias' in the research that had gone on up to that time (the early 1970s) into the consequences of the introduction of modern, or 'high-yielding' rice varieties. He argued:

> The Green Revolution in rice-growing in South Asia remains less studied than that in wheat[2] …. Moreover, some of [the] literature is simplistic in its attribution of reasons for the lag in rice; or derivative, in one or more degrees, or completely removed from empirical research in the paddy fields themselves, where much of the truth must necessarily lie; or slanted, as John Harriss shows, towards Indian deltaic areas which,

[1] The Centre was occasionally referred to on mis-addressed envelopes, to Ben Farmer's huge delight, as 'the Centre of Salvation Studies'

[2] Farmer noted that according to official Indian statistics wheat production more than doubled between 1964-5 and 1971-2 while that of rice – by far the more important food crop – had increased only by 10 per cent.

> for all their teeming populations and huge rice production, have particular environmental and other features such that the conditions in them cannot necessarily be extrapolated to the non-deltaic areas which cover almost the whole of Sri Lanka and much of that of the interior of South India, with its terrible insecurity and poverty. (Farmer, 1977: 2)

Thus it was that North Arcot came to be selected as the site for research in the comparative project that Farmer planned, into the progress and problems of the so-called 'green revolution' in rice growing areas. As he wrote:

> We wished to explore the benefits of inter-country comparison between Sri Lanka and India. In Sri Lanka it was important that the area should be in the non-deltaic dry zone lowlands where, rather than in the wet zone, the Green Revolution in rice-growing had taken root. Since we wanted to compare the agrarian impact of different political and administrative systems, including different approaches to agricultural research and extension, it was important that the natural environment of the Indian study area should not be grossly dissimilar from that of the Sri Lankan dry zone: otherwise comparability would be obscured by the consequences of, for example, greatly differing cropping seasons and hydrological conditions. Tamil Nadu seemed an obvious Indian state to choose for reasons of propinquity; and within Tamil Nadu, field reconnaissance indicated the advantages of North Arcot District, or rather that part of it east of the Javadi hills and south of the sandy belt along the Palar river. For here was a traditional and reportedly progressive ricebowl area …which, like the Sri Lankan dry zone, was floored by crystalline rock overlain by an aquiferous layer of weathered material and soil and subject to a north-eastern monsoon rainfall maximum (Farmer et al, 1977: 7)

As it turned out, North Arcot was a good choice for the research site in south India, not only for the reasons that Farmer specified, but also because the district had about ten per cent of all the electric pump-sets used for irrigation purposes in the whole of India in 1974 (Harriss, J, 1982: 67). It was, by the mid-1970s, making a very significant contribution to what was described at the time as a 'rice revolution' in Tamil Nadu. With the advantage of hindsight, however, we think that Farmer's grounding of the comparative study on physical and agro-climatic conditions alone was limiting, because the differences in population densities, in agrarian markets and distributive arrangements, and politics and state interventions made rigorous comparison or a 'lesson learning' approach highly problematical.

The 'Green Revolution' and the Aims of the Research

The village level research projects were concerned with the 'green revolution', which had already, by the beginning of the 1970s, become a subject of great controversy. It was unquestionably one of the most 'hot topics' of development studies at that time, and was to remain so for at least another ten years. The term 'green revolution' seems to have been coined in opposition to the notion of 'red revolution', and this reflects the political and economic context of the time. It had been recognised by President Truman in the

immediate aftermath of the Second World War that the world now confronted a new and different sort of a struggle from that which had just been concluded – a struggle against conflicts generated by poverty – and that the maintenance of peace and security required that the problems of poverty be addressed. Shortly afterwards the United States became locked into resistance to the expansion of communism in Asia. This struggle quite clearly had to embrace not only military security but also 'development'- as was argued in an article in the prestigious US journal *Foreign Affairs* in 1953. The US had to be concerned with agriculture and food supplies and the living conditions of rural populations in Asia – since these, it was argued, disposed people towards Communism. This is very clearly reflected in the work and writings of a United States Agriculture Department official called Wolf Ladejinsky, who was the son of a Ukrainian landowner and who had gone to America after the Bolshevik revolution, and later became an authority on the agriculture of Japan . Ladejinsky was to a great extent the architect of the redistributive land reforms that were carried out, successfully, in Japan (under the American occupation) and later in Taiwan. In his work in other parts of Asia, including India, Ladejinsky pressed the case for land reforms, as the means of improving agriculture and living conditions and so stifling support for communism. But it became increasingly clear to him and to others through the 1950s that such reforms were unlikely to be carried out effectively in countries like India, because of the political influence of the larger landholders and their ability to create loopholes enabling them to evade redistributive legislation. The alternative had to involve the improvement of agriculture – and of rural livelihoods too - by the expansion of irrigation, and by building on the advances in plant breeding that had been accomplished first in wheat and maize in Mexico, funded by the Ford and Rockefeller Foundations. These same foundations, and the United States Agency for International Development (USAID), provided most of the funding for the establishment in 1960 of the International Rice Research Institute (IRRI), in the Philippines.

It was at IRRI that what came to be called 'high-yielding varieties' (HYVs) of rice – higher yielding because of their fertiliser responsiveness – were developed. The most famous of the first generation of HYVs of rice was a variety known as 'IR8', developed at IRRI, and cultivated on a significant acreage in North Arcot in the early 1970s. By that time the quite rapid spread of the new varieties across Asia, and their evidently dramatic impact upon yields had given currency to the idea that there was a 'green revolution' taking place that was choking off the chances of the 'red revolution'. IR8 was described as 'miracle rice' and proclaimed as the spearhead of the green revolution, for example by Lester Brown. One of the main publicists for the idea of the new revolution, Brown wrote in 1970 that: 'The development of IR8 and its dissemination throughout Asia is … literally helping to fill hundreds of millions of rice bowls once only half full' (cited by Farmer, 1977: 1).

Even as Lester Brown was writing, however, other interpretations of the impact of the dissemination of the new varieties both of wheat and of rice were appearing. There were those, like Ben Farmer, who had noted the spread of HYVs in India at an early stage (and had encouraged Barbara Harriss-White to study their adoption in north India on the basis of official Indian reports: see Harriss 1972), but who now felt that 'there is a large question mark [as in the title of his book] against the Green Revolution as a means of

overcoming in the longer term the basic South Asian problems of food supply and increasingly intolerable poverty. The question mark hangs heavily over the Green Revolution in general, over wheat and millets as well as over rice. But it hangs heaviest of all over rice' (Farmer, 1977: 2). To those who held this sort of a view there were major questions as to the extent to which the new varieties could spread, and successfully increase food production, since there seemed to be significant obstacles to their dissemination because of their requirement of high fertility, irrigated conditions. Their biological characteristics seemed to make them unsuited to large areas of Asia, and to the circumstances of very many small farmers. 'Green Revolution', it was argued, might be a reality in wheat cultivation in a few areas like Punjab in north-west India, but there was not yet, and there might well *not* be such a 'revolution' in rice production. It was actually these sorts of concerns that led Farmer to set up the first North Arcot project

But at much the same time another more radical critique of the green revolution began to be expressed, most clearly and most forcefully in the work of Keith Griffin, carried on initially as part of an ambitious and influential United Nations Research Institute for Social Development (UNRISD) programme on The Social and Economic Impact of High Yielding Varieties, a programme that was directed by Andrew Pearse (see Pearse 1980). Griffin's book *The Political Economy of Agrarian Change: An Essay on the Green Revolution* (1974) advanced the argument that the introduction of HYVs, as well as not solving problems of poverty and hunger, was actually making them worse. This was because the new agricultural technology required substantial investments that the great majority of smaller farmers were either unable to make, or if they did so, it was probably only by taking cash loans on such terms as ultimately to impoverish them; while, so far as agricultural labourers were concerned, the new agriculture was probably encouraging their displacement and loss of income. The 'green revolution' was, in short, responsible for the further commoditisation of agriculture with its attendant consequences in terms of the social differentiation of the peasantry. These sorts of arguments also influenced the design of the first North Arcot project.

The Cambridge and Madras researchers (in what was called MUCUPAC – the Madras University-Cambridge University Project on Agrarian Change) set out, therefore, with the aim of conducting detailed empirical investigations into research questions arising from these contrasting views. We wanted to understand the ecological, economic and social constraints on the diffusion and adoption of HYVs of rice, and their economic and social implications, including the possibility that they were indeed responsible for the further impoverishment of significant numbers of people. We proposed to undertake this task by means of a substantial agro-economic survey conducted by the Madras University team, complemented by ethnographic studies (carried out by John Harriss) and by research on the commercialisation of the rural economy (by Barbara Harriss-White) and on the administration of development (by Robert Chambers). As Farmer wrote 'Our central theme (was) that of technology and change', and he went on:

> We had a number of initial hypotheses, whose number grew and formulation varied as our fieldwork progressed and as ideas flowed between what we tried to maintain as a coherent, integrated and self-reinforcing team. Thus there was the proposition … that

> independent control of adequate water in the paddy fields is of critical importance in the successful adoption of new practices and new varieties. Again, given our inter-disciplinary scepticism about simplistic or dogmatic solutions, we did not set out to prove the case for a particular relationship between, say, size of farm or tenurial status on the one hand and 'adoption' on the other. Rather did we have an initial and flexible hypothesis that there is *some* relationship between the acceptance of new practices and varieties …(and) … such factors as size of holding, owner-occupancy and owner-cultivation, the cultivation of land other than paddy land, the method of cultivation and planting, inputs of labour, fertiliser and pesticide, and access to water and markets; but that the relationship is by no means simple. However, we admitted other factors that became evident in the course of fieldwork: for instance, the varying pressure of population on land. We were also concerned with the economic and social changes that accompany technical innovation: with technology *and* change. We sought to establish, as objectively as possible, the answers to such questions as 'Who benefits from the technical changes, and to what extent? What are the social concomitants? (Farmer, 1977: 4-5)

As this quotation so clearly shows, the first North Arcot project was much less driven by a particular theoretical framework than were some other projects from that period (such as Utsa Patnaik's seminal work on the development of capitalism in Indian agriculture: Patnaik 1972; the programme of research carried on in Purnea in Bihar, by a group based at the Institute of Development Studies at the University of Sussex, and which aimed at sophisticated modelling of the regional economy: see Joy and Everitt 1976; or in Goran Djurfeldt and Staffan Lindberg's research, in a Marxist frame, in the adjacent Chingleput District of Tamil Nadu: Djurfeldt and Lindberg 1975). Rather was the first North Arcot project driven by Ben Farmer's strong commitment to field research – what some would decry as mere 'muddy-footed empiricism'. He claimed, however, that 'Our work was firmly set in the paddy fields themselves: all of us have seen our data growing, or flowing, or walking about the fields'. He was also ready to concede immediately that 'We do not claim, indeed it would be contrary to some of the more important of our tenets to do so, that our results are typical…(but) …We do stake the modest claim ..that they, like other micro-studies, provide a necessary corrective and complement to macro-studies' (Farmer, 1977: 3).

The Historical and Theoretical Context of the 1970s Studies

The general remarks of the preceding paragraphs need setting into the specific context of Indian agriculture and of Indian rural society in the 1970s. By the later 1960s the great effort of planned modernisation in India under the Five Year Plans that were launched first in 1951, had faltered. In the eyes of contemporary observers there was a crisis in India's economic development (reflected in the title of a book edited by Streeten and Lipton, *The Crisis of Indian Planning*, published in 1968), and it was recognised that the crisis had to do, in significant part, with the failures of agricultural development. Both at the time, and since, experts have argued over the role of agriculture in economic development, and the extent to which it has to be given priority, but there are good

grounds for thinking that agriculture was neglected in India, especially in the period of the Second Five Year Plan (1956-1961). It was argued, by Nehru amongst others, that agriculture could be improved through institutional reform and innovation rather than through investment. Nehru, for example, set great store by the potentials that would be released through the activities of Village Level Workers (at the bottom of the development administration). Also amongst the ideas on which this approach rested were those surrounding redistributive land reform and the possibilities that would arise from the reorganisation of agricultural production on cooperative lines. These, however, were comprehensively dashed by the defeat of the 'Resolution on Agrarian Organizational Pattern' - though it was strongly supported by Nehru - at the annual session of the ruling Indian National Congress held in Nagpur in 1959.

By the mid-1960s, in the period of Lal Bahadur Shastri's short-lived administration, a major change in the approach to agriculture was introduced, partly influenced by American pressure – informed by a Ford Foundation *Report on India's Food Crisis and Steps to Meet It* of 1959 - but also earnestly sought by senior politicians and bureaucrats in India. The new approach came to be known as the New Agricultural Strategy, and it emphasised technological change and price incentives to induce farmers to invest much more heavily in modern inputs, notably chemical fertilisers. It involved the extension of the Ford Foundation approach of concentration of resources in irrigated areas, and provided the context for the introduction of high-yielding varieties, initially of wheat, from 1965-66. Francine Frankel says that it was at this time that C R Subramaniam, Shastri's Minister of Agriculture and the architect of the New Strategy, 'took a decision, involving in part "an act of faith", to base planning for the special intensive programmes [the so-called Intensive Agricultural District Programme that had already been established in 1961] around the high-yielding varieties' (Frankel, 1978: 276). The High Yielding Varieties Programme (HYVP) became the core of the new strategy for agriculture, and the 'green revolution' took off – apparently remarkably rapidly – in Punjab.

Yet within only about three years of the introduction of HYVs, serious questions were being asked about the suitability of this approach. Indian analysts and observers, notably, anticipated the radical critiques of the green revolution to which we referred earlier. The later 1960s were marked by the development of what was described as 'agrarian tension' in a number of parts of the country. The failure of the Nehruvian regime to realise its social goals and the drift in policy through the 1960s away from their attainment meant that inequality grew, and popular discontent began to be translated into political action by different fractions of the left. Both communist parties (the Communist Party of India had split in 1964, and the breakaway fraction called the CPI (Marxist) thereafter favoured a more radical political line in closer sympathy with that of the Chinese Communist Party) organised "land grab" campaigns in several States to take over land from the larger landholders who had successfully evaded efforts at land redistribution. An armed struggle developed from early 1967 in the Naxalbari area of West Bengal, in the narrow strip of Indian territory between Nepal and (the then) East Pakistan, involving tribal, low caste and Muslim peasant communities in conflict with landlords, and this was instrumental in giving rise to the formation on May Day 1969, of the CPI (Marxist-

Leninist), committed to the Maoist line of people's war. The Ministry of Home Affairs of the Government of India, in 1969, published a report on *'The Causes of the Present Agrarian Tension'*, which identified as underlying causes of these and other movements and events (such as the appalling slaughter at the hands of high caste landlords of Scheduled Caste labourers in an incident at Kilvenmani in Tamil Nadu, also in 1969), the failure of land reforms, and as proximate factors the consequences of the new strategy in agriculture, which were thought to be enhancing inequalities (as Griffin and others later argued on the basis of their research on the impact of the green revolution). It seemed that, though the green revolution had been expected to avert the possibilities that the communists would gain in strength, in India at least, it was on the contrary actually *turning* 'red'. The argument was reinforced by the publication in 1971 of a substantial analysis of the impact of the introduction of HYVs by Francine Frankel. Its title, *India's Green Revolution: Economic Gains and Political Costs*, accurately reflects the argument that Frankel developed, in common with other scholars such as Joan Mencher. As Mencher put it: 'It is undeniable that, at least in the rice regions, the Green Revolution along with increasing agricultural production has increased economic class differences, and (at least covert) inter-group tensions'.

This was the context in which a major theoretical and political controversy was joined amongst left wing scholars in India: the 'Mode of Production' debate. Many of the contributions to this debate, much of which took place through the pages of the remarkable *Economic and Political Weekly*, were later brought together in a collection edited by one of the leading participants, Utsa Patnaik (1990); while Alice Thorner, whose husband the late Daniel Thorner had noted what he thought was the development of agrarian capitalism in India at an early stage, published a substantial review of the arguments (Thorner 1982)[3]. This Indian controversy over what constitutes agrarian capitalism and the capitalist transformation of agriculture – which some scholars thought was what the green revolution was bringing about – drew upon the work both of Lenin and of Mao Zedong on 'the differentiation of the peasantry'. Their work on change in the rural economies of late Nineteenth Century Russia and early Twentieth Century China had been driven by the political purpose of identifying those social groups in the countryside who would be supporters of proletarian revolution, and the same concern underlay the Indian debate of the 1970s. It was also the specifically Indian reflection of critical debates in development theory of that time, when scholars were concerned fundamentally with the questions of whether and what ways capitalism was developing in former colonies of the so-called 'periphery' of the 'world [economic] system'. In our own work in North Arcot we specifically addressed the issues involved in the 'mode of production debate', and advanced a particular argument concerning the continuing role of merchant capital in the rural economy and in the reproduction of small peasant production (or what is more accurately described as 'petty commodity production': see Bernstein 1977, 1990). These arguments are set out in two books, *Capitalism and Peasant Farming: agrarian structure and ideology in northern Tamil Nadu* (J Harriss, 1982) and *Transitional Trade and Rural Development* (B Harriss, 1981).

[3] John Harriss also wrote an extended review of the debate (Harriss, J, 1980)

Some of the points at issue in the mode of production debate were also of central significance in orthodox agricultural economics at the time. A major theme concerned the relative efficiency of different forms and scales of production in agriculture. There was an important debate over the relationships between farm size and productivity, in which those on one side argued that both evidence and logic showed that there was generally an inverse relationship between the size of farms and their productivity per unit area. These arguments were advanced in support of the case for redistributive land reform (see, for example, Lipton 1974), and they tied up with those over the adoption of HYVs and their consequences. It was argued that the new technology, involving its 'package' of HYVs, fertilisers and perhaps pesticides, with (usually) water from irrigation, was inherently 'scale neutral', because it was completely divisible, and could be used with equal benefit on farms of different sizes. It did not involve economies of scale. If it was the case, therefore, that small farms were more efficient than large ones then that efficiency advantage should be extended with HYV cultivation. A very significant finding of Nanjamma Chinnappa's scrupulous analysis of the data from the first North Arcot project was, therefore, that '(t)he much discussed scale-neutrality of the new technology is …belied by the greater access which the larger cultivators have to the crucial factors of production involved – cash, pump-sets and fertilisers' (1977, pp 122-3). This extremely important argument was developed influentially at around the same time by Hanumantha Rao (1975) and then after him by Terry Byres (1981). The new technology of the green revolution might technically be scale neutral, they argued, but it was certainly not 'resource neutral'. The arguments over the new technology pitted a deductive theory deriving from marginalist economics (which sought to show that small scale production in agriculture is efficient, and that small farmers can therefore benefit from new technology as much or more than large scale producers) against a political economy that recognises the implications of power differences amongst farmers.

Later Arguments On the Role of Agriculture in Development and the Second North Arcot Study

The debates over farm size and productivity and the potential of the green revolution were very important for the significant theoretical developments of the mid-1970s that informed the second North Arcot study in the early 1980s. This was different from the first round partly because it had the explicit project, derived from a quite different body of theory, of testing the growth linkage effects of the green revolution. These had been highlighted in a book called *The New Economics of Growth*, written by the American economist John Mellor (1976). Mellor - like Michael Lipton who expressed comparable views in his theory of 'urban bias' (see Lipton 1977) - had become convinced that the crucial failure of the Indian approach to planned economic development was that it had not given priority to agriculture. In *The New Economics of Growth* and in later writing he proposed a 'food and agriculture first' strategy for realising economic growth in the circumstances of a country like India (a right wing response to the Maoist emphasis on 'agriculture first'). The argument was straightforward: if the productivity of cereals cultivation is improved, as it could be through HYVs, and if the benefits of this improvement in terms of incomes are widely distributed through the rural population,

then there will be a significant increase in demand for non-agricultural goods and services. If this demand is met particularly through small-scale, labour intensive local production, there will be an increase in rural non-agricultural employment, tightening rural labour markets and stimulating the demand for more food production and ultimately for more diversified agricultural production. The growing rural economy would also stimulate demand through production linkages (raw materials and intermediate goods for industries) for the products of large-scale industry. In short the backward and forward production and consumption linkages from agricultural growth would lead to a virtuous spiral of poverty-reducing growth through the economy as a whole. Mellor's argument was rather weakly substantiated in his book, with evidence from a few research studies; and a major reason why the International Food Policy Research Institute (which Mellor had founded) took up research in North Arcot was in order to try to measure the growth linkage effects of green revolution agriculture . Peter Hazell, C Ramasamy and V Rajagopalan did this through the analysis of a regional social accounting model, (Hazell et al, 1991). But the IFPRI project generated its own competing perspectives on the growth linkages arguments, which were based in part on spin-off field research undertaken in 1973 and again in 1982-83 on the economy of Arni, one of the market towns of eastern North Arcot (B Harriss, 1987, 1988, 1991; Harriss and Harriss, 1984).

Hazell and his co-authors Ramasamy and Rajagopalan reached rather positive conclusions, supportive of Mellor's model, finding that 'each rupee of additional value added in agriculture generated between Rs 0.87 and Rs 1.18 of additional value added in the nonfarm economy' and concluding that 'growth linkages are important in spreading the benefits of agricultural growth to local, non-agricultural households, and in increasing the incomes of the poorest household groups in rural and urban areas'. Our own studies inclined us to a more pessimistic view: 'even in an area of which [it might be said] that there are only 'middle-sized peasant farmers' and small farms, inequality is such as to have inhibited the potential of the growth linkages from agriculture for bringing about rural economic diversification. [Our evidence] shows that the economic diversification that has occurred can only partially be explained in relation to agricultural growth, and that rural inequality accounts for the existence of mechanisms which promote the external flow of resources and inhibit localised, labour-intensive production. The linkage mechanism is significant [but not having the dynamic effects that Mellor predicted]' (J Harriss, 1991a: 455).

The Green Revolution Reconsidered

The first North Arcot project had led to some conclusions that supported Ben Farmer's criticisms of the idea of there being a 'green revolution' based on HYVs of rice, reflected in the question mark in the title of the book that he edited. The distinguished agricultural scientist Sir Joseph Hutchinson said in his 'Foreword' that 'This is not a reassuring book. It destroys the illusion that agricultural problems can be solved by massive centrally planned research …'. He thought that *Green Revolution?* carried 'the debate [about the green revolution] a stage further, in that it puts on record a great range of material and shows how inadequate a simple international concept of agricultural advance can be.

Diversity is a basic characteristic of all agricultural enterprise, and we have ignored it at our cost.'. In research across the range of disciplines relevant to agricultural development, therefore, attention to local circumstances is fundamentally important, and one of the key messages of the book, Hutchinson argued, was that researchers needed to go 'to the village and the field as places where understanding must be gained if progress is to be made' (Farmer, 1977: x). In these ways and for these reasons, the research of the first North Arcot project contributed to the changes that took place in the approach to agricultural research in the later 1970s and 1980s, when it began to be conducted in partnership with farmers and on their fields, recognising the significance of diversity[4]. Hutchinson's point about diversity still remains highly relevant to agricultural and rural development.

The first book challenged the claims of some of the leading protagonists of 'green revolution', and entered into advocacy for change in approaches to agricultural development. Robert Chambers pursued some of these ideas and made them extremely influential in the thirty years that have passed by since the completion of the first North Arcot project[5]. Some of our own work within the project, though it led us to be critical of the claims of those like Frankel and Mencher who thought that the introduction of HYVs was increasing agrarian conflict, inclined us quite strongly towards the criticisms of the green revolution that had been advanced especially by Keith Griffin. Given the dependence of the mass of small producers on advances from merchant capitalists, and the limited benefits that they were able to derive from the adoption of HYVs, we were doubtful as to how far the green revolution had the potential to secure and improve rural livelihoods in North Arcot.

On the face of it, the second North Arcot project showed that these conclusions had not been justified by what had happened in the intervening decade. In the first place, as John Harriss realised as a result of a re-visit in 1976, there was widespread adoption of the new varieties, as the price differential between HYVs and older varieties of rice declined, and as varieties that were better suited to local conditions than IR8 became available. Hazell and his team found that 'Comparing 1973/74 with 1983/84[6] paddy production increased by 82 per cent on small farms [of one hectare or less] and by 143 per cent on large farms [those of more than one hectare]'. On small farms the increase was mainly due to yield increases, and it was noted that 'Large farms had already widely adopted the HYVs by 1973/74, and their yields were already one-third higher than small-farm yields. While large farm yields were still the same in 1983/84, small farmers adopted HYVs during the

[4] On the new approaches to agricultural research that were anticipated by Hutchinson, Farmer and Chambers in their reflections on the first North Arcot study, see Chambers et al 1989

[5] Robert Chambers continued the work on irrigation management for a good many years, to considerable practical effect (see Chambers 1988); the interest in the phenomena of seasonality bore influential fruit some years later (see Chambers, Longhurst and Pacey 1981); while the PRA approach for which Chambers is most celebrated has important roots in our North Arcot villages (see Chambers 1997; and the precursor of this book, *Rural Development: putting the last first*, of 1983). Some of the current interest in 'sustainable livelihoods' is also anticipated in the work on inter-village comparison, and the concept was given prominence in Chambers' contributions to the work of the Brundtland Commission on Sustainable Development in the later 1980s..

[6] Hazell, Rajagopalan, Aiyasamy and Bliven (1991) explain the difficulties involved in making comparisons from year to year.

interim and closed the yield gap' (Hazell, Rajagopalan, Aiyasamy and Bliven, 1991). Further, against the findings of the first project concerning increasing inequality – Chinnappa (1977) had found that both cultivators and labourers benefited from the introduction of HYVs, but the former about twice as much as the latter – Hazell's team found that 'The general pattern seems to be one of relative gain for all the households benefiting directly from changes in paddy farming, including the landless labourers [whose income and expenditure was found to have increased to achieve parity with the small paddy farms], and a less than proportionate gain for the non-agricultural households' (Hazell et al, op.cit.). A detailed analysis of consumption expenditure showed widespread improvements in welfare (Pinstrup-Andersen and Jaramillo, 1991). In short, if the first North Arcot project had contributed to scepticism concerning the reality of 'green revolution', to serious doubts as to the impact of the introduction of HYVs, and to proposing new directions for agricultural development, the second contributed powerfully to the positive 'reconsideration' of its relative 'success'.

One finding, however, ran contrary to these conclusions. This was that 'the green revolution did little to increase total crop employment', and it appeared to us that the tightening of rural labour markets that was observed, and the consequent improvements in labourers' wages and incomes, had more to do with other economic changes that had rather little to do with the introduction of HYVs. Policy interventions driven by the politics of populism also played a significant role (J. Harriss, 1991b). Comparable findings appeared in other research studies conducted at around the same time (see, for example, Athreya et al, 1990). The tightening of rural labour markets 'which has apparently occurred rather generally, and has resulted in some increases in real wages, has been brought about as much by changes in non-agriculture as in agriculture itself. These (and other) trends have been influenced by state interventions, including notably those intended to bring about agrarian reform, public employment programmes, and the supply of subsidised credit' (J Harriss, 1992: 220). Some of these changes had tended, it seemed, to reduce dependence on cash advances from merchants and larger landholders at usurious rates of interest and we noted that 'financial power is more diffuse than is taken to be the case in general models of agrarian semifeudalism. Yet given the continuing entrenchment of merchant capital (which appears also in our study of economic activity in Arni: see Harriss and Harriss, 1984), it would be premature [we thought] to dismiss the analytical claims of these models'..

The green revolution did not quite work out in North Arcot, or elsewhere in South Asia, in the ways that were anticipated in the early 1970s by protagonists, or by sceptics or by critics. It was more successful than the latter thought would be the case, as Michael Lipton – notably - showed in his book on *New Seeds and Poor People* (1989), though it did not have quite the dynamic effects that John Mellor had looked for because they have been blunted by rural inequality[7]. The green revolution did not compensate for the earlier failure of land reform in India, and it did not succeed in transforming the conditions of insecurity and poverty that characterise the Indian rural economy. In retrospect the dependence of the petty commodity producers (who remain predominant) upon merchant

[7] This argument is by now generally accepted. Some sources are cited in J Harriss (1992). See also the fine work of Ashwani Saith (e.g Saith 1991).

capital, and their consequent vulnerability has been shown up in the starkest possible way in the current crisis in Indian agriculture and which is reflected in the suicides of cultivators who have been unable to sustain the debts they have incurred (Cavalcante, 2006). It is not only partially proletarianised marginal farmers who are highly dependent upon advances of credit in order to carry on production at all. Very many rural producers are, as the late Krishna Bharadwaj so memorably put it. 'compulsively involved in the market'[8]. They do not have a true surplus at all, but are still compelled to market their produce at harvest time when prices are relatively low, in order to repay loans, which they need to renew in order to meet consumption needs and the costs of renewed production. In the case of producers of commercial crops, of course, much will depend upon the relative movements of the prices they receive and the prices they must pay for food. The point is that producers remain highly dependent upon advances of credit, and so downturns in yields and/or prices are likely to have ratchet effects, pauperising them and locking them still further into debt. Similar credit relations have subsequently been created in the rural non-farm economy. Probably the most important consequence of liberalization for Indian agriculture, as Abhijit Sen argues[9], has been to expose farmers to international prices which are much more volatile than those that obtained when the Indian market was very largely insulated. It is the consequences of this exposure in terms of income uncertainty which are most serious and which underlie the distress of farmers. They also reflect the persistance of the structural conditions that are brought out in some of these North Arcot papers and which were not fundamentally changed by the green revolution.

On Long Term Village Studies

The North Arcot studies have been based, in significant part, upon village level studies, a mode of research that is now unfashionable. It may nevertheless be useful to reflect critically upon the merits of this style of research, and its problems, particularly those associated with intermittent visits over long periods of time. Although the significance of agriculture in GDP has sharply declined during the decades of the North Arcot project, the absolute size of the labour force on the land, working in the rural economy and living in villages has not.

There are many more factors playing important roles in the current unpopularity of village studies than the rise of discourse in the study of development, though this does form the backcloth to the increasing reluctance to do field research at all, let alone to study material conditions in villages. Research is a set of social relationships and village research challenges each stage of the process. The word 'data' means 'given', but the data we have about villages are social constructs, unique in space, time and society. In

[8] See for example 'Production Conditions in Indian Agriculture' in J.Harriss, ed., *Rural Development: theories of peasant economy and agrarian change.* London: Hutchinson, 1982

[9] Abhijit Sen 'A whole crop of uncertainties', *Frontline* 2 February 2001. See also Sen 2002, and Patnaik 2002 for amplification of these points.

social science, field researchers have always tried to deploy methods of data gathering and of enquiry that will minimise the role played by the individual personality of the field researcher and their bias over the structure of the research or its interpretation. The impact of the person of the researcher cannot ever be entirely obliterated, however. Because of it, a clear photograph is turned into an impressionist picture. This is not the only source of fuzziness. Reflexivity is a second factor. The categories in which data come (in the North Arcot studies notably village, class, caste, family, peasant, producer) may have originated in a process of exogenous historical contrivance, yet those categories may well have been adopted, manipulated and used for their own representation by those to whom they were applied. Third, rigorously replicated re-surveys of whole villages have never yet been undertaken. They do not seem to be possible. Both researchers and the researched change, and, through both contact and reflection, they each change one another.

Long term enquiries involving revisits to units of territory are so rarely undertaken [10] that reasons for such neglect are worth exploring. In the final part of this essay we lay out other theoretical, methodological or practical difficulties which may account for the vanishing relevance of village level studies (VLS) to the canon of knowledge.

Theoretical difficulties

The village is an arbitrary unit 'no more or less contrived than other units we choose in order to investigate social relations' (Rahman and Van Schendel, 1997). Most village studies proceed to investigate 'households', although this is now recognised as an arbitrary and loaded term. Other categories (such as firms) may also now be being battened onto the household (Wood, 1999).

The village, like the family, is a contested category. The village may be territorially divided into hamlets structured by kin or caste. The plural perceptual and experienced worlds of the village vary according to social class. They will differ from the political and administrative unit. The village may remain as a social and moral reality for groups of peasants grounded there by possession of land, by kinship and religion, while residents of the same territory who are landless labourers have no link of ownership to village land (and might not relate to the main village through kinship or even religion). Village elites may also not view the village as a social unit for, even though they may control village land, they may control non land assets outside the village and their links of kinship and employment may be spatially extensive (Srivastava, 1997). Those who hold the village as a social reality will be accommodating the fact that it contains others not holding this view. So the village can be a site appropriate for questions which do not necessarily involve the whole society of the site [11] and may involve people and institutions outside it.

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[10]. See Breman, Kloos and Saith, 1997, for one collection and Dreze and Sharma in Lanjouw and Stern, 1998 for another set of reflections.

[11]. E.g. the fate (within or outside the village) of service castes.

Next, the village is an arena appropriate for certain questions and inappropriate for others. A residential unit of territory is no longer appropriate for analysis as a unit of production (unless the question concerns the relationship between home and work) for their boundaries no longer overlap. The village is accepted as an interesting arena for studying the mutual relationships between it and the state, between it, markets and capital, between material aspects of culture on the one hand and ideology or *mentalité* on the other (in all of which subjects, the social impact of technical change is a central question). But at the same time it is not the only territorial unit which may be appropriate: the slum, the region, the town need considering.

The village is also a controversial unit for the testing of theoretical ideas. By definition VLS are an assertion of the uniqueness of space, time and society and are not acceptable territory for tests of theories based on assumptions denying such uniqueness and/or based on universalist assumptions about motivation. They are better used as points of departure to place in context and to criticise, for instance: i) stylised facts (such as those concerning household behaviour, class and gender relations or contractual forms) and their explanation; ii) theories of social or economic mobility; iii) characterisations of the state which 'invades' villages with varying outcomes; iv) ethnocentricity and essentialism in social theory. Individual cases are relevant to the development and refinement of inductive theory and of little relevance to hypothetico-deductive theory. In the use of VLS as commentary, trade-offs between depth and the scale of any refinement or critique are inevitable.

VLS can be used (critically or not) to exemplify economic, political, sociological and cultural processes, and to specify development patterns. In this sort of project, however, VLS face the problem of ascertaining the quantitative importance of phenomena. It is legitimate to ask, faced with the particular, how 'important' the particular is in relation to 'norms' or 'other particulars' (Janakarajan, 1997). In this, VLS are hampered both by inter-village variation and by individualistic methodologies. Yet it is perfectly legitimate to point to processes at variance with theories, general statements or stylised facts and to examine the implication of such variation e.g. conditions where differentiation does not occur, or where markets do not develop.

VLS issue a challenge to disciplinarity. Disciplines are discrete symbolic systems : closed systems like the 'republican' conception of villages. Disciplines are not necessarily or always recognised by respondents. Interdisciplinarity is not multidisciplinarity and both are extremely hard to achieve. Though one does not have to be religious in order to study religion, one has to be a sociologist to apply sociological analysis. Villages may be a focus for a variety of disciplinary approaches which may yield different conclusions. The subject of social and economic mobility is a prominent example not only of an important focus of village studies but also of the varied data, interpretations and conclusions that can be derived from one place, but using different disciplinary or theoretical perspectives (da Corta and Venkateshwarlu, 1999). The degree of possible interdisciplinarity will vary with the substantive issues investigated and with the theoretical context. Villages are studied in a most integrated way through

comparative political economy : there is something 'out there' which is not an ethnoparticularistic construct or a product of an individualised and relativistic interpretation.

Finally, villages and VLS are vital elements in the writing of contemporary history, not always by means of methods acknowledged as historical by historians, though the overlap between documented and oral (re)construction is leavening both history and anthropology (Moore and Vaughan, 1994; Fairhead and Leach, 1996 and see Bernstein and Woodhouse, 2001 for a critique). History is a method with no determinate disciplinary coverage and there are of course ways of studying long term change by means other than those of village revisits and oral history. One, sample surveys will be discussed directly below. Another is by using profiles and cases to show divergence and variety in relation to survey or official data. Alternatively profiles may be used synthetically to build general statements or speculatively (as in initial or pilot research) to establish the scope of empirical enquiry.

Methodological Difficulties

The justification for a restudy depends on its objectives. In the case of the North Arcot papers, it was to evaluate the economic and social impact of new agricultural technology. The results of this kind of an enquiry change rapidly over a period of, say, between 3 and 10 years following the introduction of new technology.

One set of methodological difficulties concerns categories, toolkits, measurement and the difficulty of recognising and avoiding reductionism (Jayaranjan, 1993). The measurement conventions of disciplines vary a great deal. Participant observation and/or first hand surveys of populations by researchers residing in villages limit the territorial scope. Panel research confronts difficulties in tracing households, accommodating their entry and exit and their fission and fusion. Random samples have greater scope, together with the advantage of statistical representivity, (but they are notoriously difficult to organise rigorously, not the least because of the absence of crucial information about the population (Harriss-White, 1998)). Surveys by hierarchically organised paid field assistance face problems of supervision, of incentives and of closed, *a priorism* in institutionalised enquiries. Panel and sample surveys can be enhanced by diaries kept by field workers, by the use of oral histories and the insights of key informants (Drèze and Sharma, 1998). Field methods are associated with disciplines: participant observation is one of the defining attributes of anthropology, and non-residential surveys are an attempt by economics and sociology to obtain general representivity based on large numbers of cases. But there is no reason why other techniques may not be shared, a practice which has resulted in certain economists becoming critical of their categories and tools (see Bardhan, 1989). Any comparative project is stymied by the use of ethnographically particular categories rather than the general ones taken from our disciplines, though even general disciplinary categories are themselves continually contested. The dialectical analysis of 'our' and 'their' categories marks out a subset of VLS (particularly well exemplified in VLS research on health and well-being where, as Diurfeldt and colleagues show, a completely constructivist approach is logically impossible while a biomedical approach needs to avoid being mechanical: see Diurfeldt, Lindberg, and Rajagopal,

1997). It is only comparatively recently, however, that VLS have enabled researchers to see how one universal construct such as class is nested in others, such as gender, caste/ethnicity and kinship (Athreya et al, 1990; Beteille, 1996; Drèze and Sharma, 1998; Harriss-White and Janakarajan, 2004).

Central to VLS and to revisits is a comparativist project. Yet VLSs are all unique. So there are distinct limitations to comparison, even by restudy. The comparative possibilities include :
i) one village over time. In a comparative static approach, explanation does not emerge automatically from the revisit, especially when objectives do not remain constant. Further, time is more fruitfully seen as a process rather than an interval and assumptions about time, process and explanation are necessarily incorporated into the revisit and require analysis. Such assumptions may be that time moves evenly over the intervening period in contrast to oral historical and other evidence of uneven development. It may be revealed that agriculture is assumed to be the prime mover, or that demography, technology and employment are assumed to be the forces driving change. (Mellor, 1976; Lanjouw and Stern, 1998). In explanations of the relationship over time between the state and the village, more work has been done on the impact of the state on the village than on that of the village on the state (Drèze and Sharma, 1998). Furthermore in such fieldwork there is a strong tendency to 'sectoralise'. Consider the case of 'the poor' where explanations of changes in conditions of the poor are situated in relation only to that subset of state policy or interventions which have either been directly designed, or are lumped together *ex post* as those which affect the poor (Kohli, 1987). Such explanations ignore both a range of non dedicated policies and non state processes which may have affected the poor, negatively as well as positively. The time-comparativist project runs the risk of being inadequately attributed and specified. For instance, VLS have a poor track record in explaining shifts over time in casteism, in the assertiveness of agricultural labour and the casualisation of work (Breman, 1997);
ii) the comparison of village outcomes and processes with the predictions of theories (which was discussed earlier here);
iii) the comparison of villages in different regions (defined by agro-ecology, agrarian structure or administratively). Here intra-regional variation in the social and economic conditions of villages (about which we know very little) poses a problem for inter-regional comparison;
iv) the 'bulking' or synthesising of VLS. Such efforts confront problems of comparison due to the prevalence of individualistic methodologies (such that only a small subset, if any at all, may be rigorously compared – see B. Harriss, 1992).

Practical Difficulties

Village revisits can also be undertaken not to study change, or its lack - continuity - *per se*, but in an exploratory way, using earlier research as a background in order to deepen understanding (Olsen, 1996). With this as the objective, such understanding may be portrayed in ways which range metaphorically from the empathetic 'taking the part of peasants' (Williams, 1976) to the clinical (ICRISAT's ' village laboratories' :Walker and Ryan, 1990)).

Research is evidently not value free and the values of both researchers and researched change between visits. Most disquieting for social science is the consequence of the entry point. For the sociologist there is taint by association with the group with which others first identify one, an association which may be perpetuated through revisits. The revisitor is by definition an ageing being (more often than not a middle aged, middle class, male (foreign) academic). Not only will their status in the village change, so will their authority, especially when it is derived from a committed familiarity. It may be observed, however, that the older the fieldworker, the more reluctant they are to be critical of the authority of their original material and approach. Yet nationality, caste, gender and age affect both the questions and the responses. The survey questionnaire method of economists apparently admits universal access, but cannot distance the investigator completely from such 'taint' or bias. Indeed, survey methodology makes the complicit or selective responses of informants harder to recognise, a point revealed most clearly by innocent-looking but sensitive questions about gender relations and demography about savings and credit. Assistance and intermediation adds further indeterminate distortions. The local embeddedness of an assistant may hamper the divulging of information which is privately sensitive but it may also help the collection of information which requires familiarity, legitimacy or authority. The same applies on a more comprehensive scale to research in a society other than that in which one is native. Lastly respondents have their own ideas about the project of a researcher. It is difficult to avoid biases in response due to this interaction.

The errors due to recall vary with the subject under consideration. When asking about nutrition, a recall period of more than three days is known to introduce significant error; in agriculture the recall of more than one season does the same; in demography asking people to remember events over more than one year old distorts fertility data. When change is being reconstructed through oral history, when the periodicity of revisits is long and when many aspects of peoples' lives are under investigation, the period of recall will need to vary and even then is very likely to give rise to error.

Even where the social conventions guarding the ownership rights of a given VLS are resolved, the restudy of 'someone else's village' introduces further sources of error. Locations and identities are conventionally hidden in order to protect those studied. When the village is known, there may be problems in identifying boundaries. Indeterminate boundaries affect both general statements about the particular site and the data derived from such sites. Then, re-visitors have quite frequently lacked access to the original unprocessed data (for instance in the Slater village resurveys (Guhan and Bharathan, 1984; Guhan and Mencher, 1982; see also Adnan, 1997) leaving their work vulnerable to the rigidity and tyranny of the original analytical categories used. The Indian Agro-Economic Research Centre studies from the late 1950s organised the analysis of the village economy using village averages, behind which were essentialist assumptions about villages and the village community. Original classifications by one criterion (e.g. landholding) force comparisons over time in terms of that criterion (which in this example becomes ever more limiting as the village economy diversifies (see Colatei and Harriss-White, in Harriss-White and Janakarajan, 2004, chapter 1-4). The

key data, reflecting the theoretical or practical issues inspiring the base line survey will tend to be faithfully reproduced over time. Other aspects of village life may be added to the common denominators. Thus VLS have a built-in tendency to expand and become ever more invasive and unwieldy.

The Relevance of VLS

Yet, over the last 30 years (as modernisation theory and development economics were confounded by the neo-liberal counter-revolution and as 'mini-narratives' filled the intellectual vacuum), there have been major shifts in development theory and/ or in policy issues to which VLS have not adequately responded. We may instance:
- gender
- caste/race ethnicity and religion and the rise of politics organised on these social axes
- the segmentation and evolution of market economy and contractual relations
- diversification and trajectories of post-peasantisation
- spatial mobility
- accumulation trajectories and enterprise
- the politics of relative poverty
- the impact of globalisation on the village
- environmental issues, particularly those concerned with water, pollution, common property, waste and energy
- sanitation and the rural public/social health environment

These neglects can be explained by the date of the original VLSs in relation to the development of theory and ideas. Their identification as 'neglected' also depends on future intellectual history. Yet the anticipation of future foci in the construction of base line data is doomed: a contradiction in terms.

Knowledge is materially produced; village surveys and re-surveys have to be resourced. Funding is politically embedded and conditions of relevance are attached to this resourcing. 'Relevance' and 'usefulness' are often post-colonial, aid-related, political constructs particularly intrusive to foreign research. While the micro-scale, village level study is often critical of received ideas (see Breman et al, 1997; Bardhan, 1989), 'policy relevant' research has a tendency to be 'normal' in Popperian terms. 'Policy relevance' has cyclical fashions in subject matter to which projects of revisit may have to refer. Of late 'policy relevance' has also required the identification and involvement of 'stakeholders' and 'user groups'. User groups represent interests able to constrain open-ended long-term research on change and continuity.

Open-ended long-term VLS generate 'empirical surprises': encounters with topics more immediately important than those that had been proposed (Rogaly, 1994), with explanations altogether different from those that were expected (Lockwood, 1989), with a demand, hammered out in discussion with those studied, for a change in objective, with a field-based reconsideration of what *is* relevant and what *ought to be* relevant. Hence the unexpected work of the research team in the first round of the North Arcot studies on water management and on seasonality, the work in the second round on local level revenue and expenditure, and on alcohol consumption as a nutrition problem, the research

in the third round on disability and incapacity and on newly emerging excess female child mortality and gender bias in nutrition, on water markets and agrarian contracts, on sanitation as a development problem and on the increasingly caste-corporatist regulation of the local economy (see Harriss-White and Janakarajan, 2004; Basile and Harriss-White, 2003; Erb and Harriss-White, 2002). The certainty of all this indeterminacy sits ill with mechanical resourcing procedure, and often with the resourcing itself. While the empirical surprise and the re-appraisal of relevance have frequently led to the energising of rural development discourse and practice (Chambers 1983) it cannot be anticipated and is sometimes considered risky to fund, since by its very nature such work fits ill with the pre-established consensus about both 'policy' and 'relevance'.

The findings of VLS may be spread in a great variety of ways through activism, through dialogue with oppressed people, through political representation or mediation and through dissemination, chief among which are teaching and publication, but which now frequently includes film [12] and multimedia. It is a paradox that the choices open to a foreign VLS researcher are politically constrained in the country visited and politically distanced in their country of origin. Local VLS research can escape this trap.

The difficulties in measuring social change in villages and in relating the village to theories addressing rural transformation may lead to the conclusion that VLS have become unfashionable because they are more trouble than they are worth. In our view, this would be an error. We do not deny that VLS are 'troublesome' – practically, intellectually and politically. But VLS have become unfashionable for reasons other than 'trouble'. Chief among these are academic preoccupations with 'discourse', with 'rapid research', and – in applied economics – with techniques requiring large data bases. Even large data bases, however, have micro-foundations. There is no getting around the encounter between investigator and respondent. VLS are an indispensable mode of enquiry into the rural economy, especially in an era when the village is linked to international markets and global politics.

[12]. The third round of North Arcot studies generated a documentary film on rural markets in the reform period; *Meals Ready* for details of which contact 'The Other Media', B-14 Gulmohan Park, New Delhi, 100049, (India) or admin@del3.vsnl.net.in

REFERENCES

Adnan, S 1997 'Class, Caste and *Shamaj* Relations among the Peasantry in Bangladesh', in, Breman, J et al (eds), *loc cit*, pp 277-310

Athreya, V, Djurdfeldt, G and Lindberg, S 1990 *Barriers Broken: Production Relations and Agrarian Change in Tamil Nadu.* Delhi: Sage

Bardhan, P (ed) 1989 *Conversations Between Economists and Anthropologists: Methodological Issues in Measuring Economic Change in Rural India*. Delhi: Oxford University Press

Basile, E forthcoming A Marxist-Institutionalist Analysis of Capitalist Change in S. India D.Phil thesis, QEH, Oxford University

Basile, E and Harriss-White, B 2003 'Corporatist Capitalism: The Politics of Accumulation in South India' in (eds) R.J. Benewick, M. Blecher and S Cook *Asian Politics In Development: Essays in Honour of Gordon Whit,e* London, Cass

Bernstein, H 1977 'Notes on capital and the peasantry', *Review of African Political Economy*, 10, pp 60-73

Bernstein, H 1990 'Taking the Part of Peasants?', in Bernstein, H et al., editors, *The Food Question: People versus Profits?*. London: Earthscan

Bernstein, H and Woodhouse, P 2001 'Telling Environmental Change Like It Is? Reflections on a Study in Sub-Saharan Africa', *Journal of Agrarian Change*, 1, 2, pps. 283-324

Beteille, A 1996 'Caste in Contemporary India', in Fuller, C (editor), *loc cit*

Breman, J 1997 'The Village in Focus', in Breman, J et al (eds) *loc cit*

Breman, J, Kloos, P and Saith, A 1997 *The Village in Asia Revisited*. Delhi: Oxford University Press

Byres, T J 1981 'Agrarian Structure, the New Technology and Class Action in India', *Journal of Peasant Studies*, 8, 4

Cavalcante, M. 2006, La Liberalizzazione nell'India Rurale: uno Studio su Tre Villaggi nel Nord del Tamil Nadu, Tesi di Dottorato, Faculta di Economia, Universita di Roma 'La Sapienza'

Chambers, R, Longhurst, R and Pacey, A 1981 *Seasonal Dimensions to Rural Poverty*. Montclair (NJ): Allenheld, Osmun

Chambers, R 1983 *Rural Development: Putting the Last First*. London: Longman

Chambers, R 1988 *Managing Canal Irrigation: practical analysis for South Asia*. Cambridge: Cambridge University Press

Chambers, R, Pacey, A and Thrupp, L , editors 1989 *Farmer First: farmer innovation and agricultural research.* London: Intermediate Technology

Chambers, R 1997 *Whose Reality Counts? Putting the First Last*. London: Intermediate Technology

Chinnappa, B N 1977 'Adoption of the New Technology' in (ed) *Farmer*

Da Corta, L and Venkateshwarlu, D 1999 'Unfree Relations and the Feminisation of Agricultural Labour in Andhra Pradesh, 1970-1995', *Journal of Peasant Studies*, vol 26, no 2/3, pps 71-139

Djurfeldt, G and Lindberg, S 1975 *Behind Poverty: the Social Formation in a Tamil Village,* Scandinavian Institute of Asian Studies, Monograph Series, no 23. London: Curzon Press

Djurfeldt, G, Lindberg, S and Rajagopal, A 1997 'Coming Back to Thaiyur: Health and Medicine in a Twenty-Five Year Perspective', in Breman, J etal (eds) *loc cit*

Dreze, J and Sharma, N 1998 'Palanpur: Population, Society, Economy', in Lanjouw, P and Stern, N (eds) *loc cit*

Erb, S and Harriss-White, B 2002 *Outcast From Social Welfare: Adult Disability In Rural India* Books for Change, Bangalore

Fairhead, J and Leach, M 1996 'Rethinking the Forest-Savanna Mosaic: Colonial Science and its Relics in West Africa', in Leach, M and Mearns, R(eds) *loc cit*

Farmer, B H 1956 'Land use Lessons Learnt in Madras and Applicable to the Dry Zone of Ceylon', *Bulletin of the Ceylon Geographical Society*, 10, 9-19

Farmer, B H 1957 *Pioneer Peasant Colonisation in Ceylon*. Oxford: Oxford University Press for the RIIA

Farmer, B H, ed 1977 *Green Revolution? Technology and Change in Rice-Grwing Areas of Tamil Nadu and Sri Lanka*. London: Macmillan

Frankel, F 1978 *India's Political Economy 1947-77*. Princeton, N J: Princeton University Press

Griffin, K 1974 *The Political Economy of Agrarian Change: an Essay on the Green Revolution.* London: Macmillan

Guhan, S and Bharathan, K 1984 'Dusi: A Resurvey', *MIDS Working Paper 52*, Madras Institute of Development Studies, Madras

Guhan, S and Mencher, J 1982 'Iruvelipattu Revisited', *MIDS Working Paper 42*, Madras Institute of Development Studies

Harriss, B 1972 "Innovation Adaption in Indian Agriculture: the High Yielding Varieties Programme" in Modern Asian Studies, vol. 6, pp. 71-98

Harriss, B 1981 *Transitional Trade and Rural Development*. Delhi: Vikas

Harriss, B 1987 Regional Growth Linkages from Agriculture and Resource Flows in the Non-Farm Economy. *Economic and Political Weekly*

Harriss, B. 1988.'Government Revenue and Expenditure in an Agrarian District of South India', *Journal of Public Administration and Development*, 8, 4, 437-57

Harriss, B 1991 'The Arni Studies: changes in the Private Sector of a Market Town, 1973-83' in Hazell and Ramasamy

Harriss, B 1992

Harriss B and Harriss J 1984 'Generative or Parasitic Urbanism' *Journal of Development Studies*

Harriss-White, B (ed) 1998 *Agricultural Markets from Theory to Practice: Field Experience in Developing Countries*. London: Macmillan

Harriss-White, B and S. Janakarajan, with contributions from others 2004 *Rural India Facing the 21st Century* , London Anthem

Harriss, J 1980 'Contemporary Marxist Analyses of the Agrarian Question in India' *MIDS Working Paper 1* Madras Institute of Development Studies, Madras

Harriss, J 1982 *Capitalism and Peasant Farming: Agrarian Structure and Ideology in Northern Tamil Nadu*. Bombay etc: Oxford University Press

Harriss, J 1991a 'Agriculture/Non-Agriculture Linkages and the Diversification of Rural Economic Activity: A South Indian Case Study', in, J Breman and S Mundle, eds, *Rural Transformation in Asia*. Delhi: Oxford University Press

Harriss, J 1991b 'The Green Revolution in North Arcot: Economic Trends, Household Mobility and the Politics of an Awkward Class' in (eds) Hazell and Ramasamy

Harriss, J 1992 'Does the 'Depressor' Still Work? Agrarian Structure and Development in India: A review of Evidence and Argument', *Journal of Peasant Studies*, 19, 2 pps 189-227

Hazell, P Rajagopalan V, Aiyasamy P and N Bliven 1991, 'Economic Changes among Village Households (1970s to 1980s)' in (eds) Hazell and Ramasamy

Hazell, P C Ramasamy and V Rajagopalan 1991 'An Analysis of the Indirect Effecgs of Agricultural Growth in the Regional Economy' in (eds) Hazell and Ramasamy

Hazell, P and Ramasamy, C, eds 1991 *The Green Revolution Reconsidered*. Baltimore: Johns Hopkins UP

Janakarajan, S 1997 'Village Resurveys: Issues and results', in Breman, J et al (eds) *loc cit*

Jayaranjan 1993 'A Village Economy in Transition: A Study of the Process of Change in Illuppakkorai, Tamil Nadu 1960-1985', PhD Thesis, University of Madras

Joy, L and Everitt, E 1976 *The Kosi Symposium*. Brighton: Institute of Development Studies

Lanjouw, P and Stern, N 1998 *Economic Development in Palanpur Over Five Decades*. Oxford: Oxford University Press

Leach, M and Mearns, R, eds 1996 *The Lie of the Land: Challenging Received Wisdom on the African Environment.* London: James Currey

Lipton, M 1974 'Towards a theory of land reform', in D Lehmann, ed *Agrarian Reform and Agrarian Reformism*. London: Faber

Lipton, M 1977 *Why Poor People Stay Poor: Urban Bias in World Development*. London: Temple Smith

Lipton, M with Longhurst, R 1989 *New Seeds and Poor People*. London: Unwin

Lockwood, M 1989 'The Economics of Fertility and the Infertility of Economics: Theory and Demographic Reality in Africa', *Development Studies Working Papers no 12*, Luca D'Angliano Centre, Turin and Queen Elizabeth House, Oxford

Mellor, J 1976 *The New Economics of Growth*. Ithaca: Cornell UP

Mencher J 1974, 'Conflicts and Contradictions in the Green Revolution: the case of Tamil Nadu', *Economic and Political Weekly*, Annual Number

Moore, H and Vaughan, M 1994 *Cutting Down Trees: Gender, Nutrition and Agricultural Change in the Northern Province of Zambia 1890-1990*. London: James Currey

Olsen, W K 1996 *Rural Indian Social Relations*. Delhi: Oxford University Press

Olsen, W K 1998 'Village Level Exchange: Lessons from South India', in Harriss-White, B (ed) *loc cit*

Patnaik, U 1990 *Agrarian Relations and Accumulation: the 'mode of production' debate in India.* Bombay: published for the Sameeksha Trust by Oxford University Press

Patnaik, U 2002 'Deflation and *Déjà vu*: Indian Agriculture in the World Economy', in, V K Ramachandran and Madhura Swaminathan, editors, *Agrarian Studies: Essays on Agrarian Relations in Less Developed Countries*. Delhi:Tulika

Pearse, A 1980 *Seeds of Change*. Oxford: Oxford University Press

Pinstrup-Andersen, P and M Jaramillo 1991 'The Impact of Technological Change in Rice Production on Food Consumption and Nutrition' in (eds) Hazell and Ramasamy

Polzin, C forthcoming 'Credit in South India – an empirical critique of competing frameworks of institutional change', MPhil Thesis, QEH, Oxford University

Rahman, M M and van Schendel, W 1997 'Gender and the Inheritance of Land: Living Law in Bangladesh', in Breman, J et al (eds) *loc cit*

Rogaly, B 1994 'Rural Labour Arrangements in West Bengal, India'. DPhil Thesis, University of Oxford

Roman C forthcoming 'Learning and Innovation in Clusters: case studies from the Indian silk industry', DPhil thesis, Oxford University

Saith, A 1991 'Asian Rural Industrialization: Context, Fetures, Strategies', in, Breman, J and Mundle, S (eds) *Rural Transformation in Asia*. Delhi: Oxford University Press

Sen, Abhijit 2002 'Agriculture, Employment and Poverty: Recent Trends in Rural India', in V K Ramachandran and Madhura Swaminathan, editors, *Agrarian Studies: Essays on Agrarian Relations in Less Developed Countries*. Delhi: Tulika

Srinivasan M V forthcoming 'Segmentation of Urban Labour Markets in India: a case study of Arni, Tamil Nadu', PhD Thesis, Jawaharlal Nehru University, India.

Srivastava, R 1997 'Change and Resilience in Proucer Strategies in Uttar Pradesh Agriculture', in Breman, J et al (eds) *loc cit*

Stanley J 2002 ' A Common Cluster in a Crowded Market: the gold ornaments cluster in Arni, Tamil Nadu, India', MPhil Thesis, Oxford University

Thorner, A 1982 'Semi-feudalism or capitalism: contemporary debate on classes and modes of production in India. *Economic and Political Weekly*, 4, 11 and 18 December

Walker, T S and Ryan, J 1990 *Village and Household Economies in India's Semi-Arid Tropics*. Baltimore: Johns Hopkins University Press

Williams, G 1976 'Taking the Part of Peasants: rural development in Nigeria and Tanzania', in Gutkind, P and Wallerstein, I, editors, *The Political Economy of Contemporary Africa.* London: Sage

Wood, G 1999 'From Farms to Services: Agricultural Reformation in Bangladesh', in Rogaly, B, Harris-White, B and Bose, S, eds, *Sonar Bangla? Agricultural growth and agrarian change in West Bengal and Bangladesh*. Delhi: Sage