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Composite Agricultural Policy and its Implications for Agricultural Reform

Barbara Harriss-White*

Abstract

In this paper, India's agricultural policy agenda is deconstructed into three paradigms using evidence from key texts and state-level case material from Tamil Nadu. The implementation of agricultural policy is also found to be not merely the concern of the agriculture department; it also involves several ministries and departments of government. It is therefore suggested that, along with established interest-based explanations for the sequencing of the economic reforms in general, the paradigmatic and administrative complexity of agricultural policy plays an important role in the slow pace of reforms in the agricultural sector.

'The status quo is an option for partial participation in reforms. One wonders if it stands any chance at this juncture?' (Randhawa 1994: 361)

The *status quo* has shown remarkable resistance despite the appearance in the early 1990s of comprehensive proposals for the liberalisation of India's agricultural sector (Pursell and Gulati 1993; Parikh 1993). This paper seeks reasons in the process of development policy for the considerable resilience to reform that agricultural policy has had — for good or ill — throughout the last decade of the twentieth century.

In India, agricultural policy is the responsibility of constituent states. However, both the Planning Commission and the central government ministries in New Delhi influence state policy agendas. They also affect state-level resource mobilisation, allocation and access. The politics of agricultural policy — operating at different scales — may involve different agendas, procedure, resources, and rules of access.[1] The composite nature of the agenda, the regulative framework and the sources of funding may themselves become a resource in the competition over surplus that lies at the heart of development. In this paper we explore these propositions, with special reference to Tamil Nadu state.

Already by the mid-nineties, there were two worked-out policy packages for agriculture with material resources to back them. One, the liberalisation paradigm, had and still has a highly influential reach. This was the paradigm being debated by

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I am grateful to N. Narayanan IAS for helping me locate Budget Speeches and Policy Notes, to Colin Leys for discussions on a draft, and to this Journal's readers for their comments.

administrators and scholars alike in Washington, London, New Delhi and metropolitan India, as though there were no other kind of agricultural policy. It is the one taught to students all over the world. The other paradigm, discovered much later through interviews with local agricultural officials in Tamil Nadu state, and evident in the reports of the Agriculture Department, is grounded in the science-based paradigms of the local state bureaucracy and the politics of patronage. By 2001, however, there were, at the very least, three paradigms. [2] At the risk of some arbitrary simplification, the assumption of just three agricultural policy paradigms helps us understand the role of agendas in the politics of agricultural policy and then the role of composite, interlocking agendas in the politics of reform.

Fast-Track Liberalisation

We start out from the justified and critical statement on policy options for economic liberalisation made from N.S. Randhawa's review of papers to the New Delhi Conference on 'Agricultural Policy in the New Economic Environment', sponsored by FAO and held in September 1993 (Randhawa 1994). 'To be phased over three to four years,' the controls over the agricultural sector needed to be eliminated in order for markets to function efficiently and for the economic distortions caused for reasons of private interest by bureaucrats and politicians to be eliminated. At least 20 major agricultural commodities would be involved, notably foodgrains (whose domestic prices would rise to the level of world markets), together with oilseeds and sugar (should the OECD countries fulfil their treaty obligations under the GATT and reduce their agricultural protection). For India, this was an agenda for the deregulation of commodity and factor markets. It involved the elimination of movement restrictions, the unbiased operation of freight transport, the privatisation of storage, the deregulation of agro-processing from its special (protected or restricted) status as a 'small-scale industry', the dismantling of subsidies on fertiliser and electricity, with increased exports compensating for the production disincentives resulting from the price squeeze from raised costs of production. It also involved either dismantling or privatising most of the activities of the public distribution system, the liberalisation of the land market — starting with land lease deregulation — and permission for corporate investment in 'wasteland' and degraded forest.

The fast-track agenda was far from being a policy for wholesale privatisation. The conception of public goods and services embodied in fast-track policy required investment in port infrastructure for agricultural exports and imports, irrigation infrastructure in the deprived regions of the north-east and east, research and development for the crops of these regions, universal safety nets for the poor, who would get food stamps, a much reduced buffer stock of foodgrains and, more controversially, the protection of targeted and subsidised credit for small-scale agricultural production.

The people who made this input into the agricultural policy agenda were not only national economic policy elites but also international technical advisers able to impose conditions on international loans (Pedersen 2000). Their criteria were based on benefit-cost paradigms and a disembedded conception of efficiency. The discourse was (macro)economic, with the consequence that institutional change was conceived as 'engineerable' — and indeed friction-free. Since then, ongoing debate has concerned means or instruments for such change, rather than its principles. What is excluded is significant. There is practically no concern for the agro-ecological environment; the only concern expressed for the mass of small producers and labourers in agriculture is that they are a threat to the smooth running of the new policies, and to be assuaged with a safety net. Markets are assumed to operate neutrally with respect to society. This agenda is thus crudely 'anti-politics' both in the sense of not arising from party politics or being associated with any single party, and in the sense that it depoliticises development by its discourse. Indeed, it is openly said by economists to 'remove politics from the economy.'

Critical Globalisation

Here the key text is the report of, and comments on, a detailed interview with the agricultural scientist, M.S. Swaminathan, under whose charge HYV seeds were introduced to India. He is an ex-secretary of Agriculture to the Government of India and ex-director of the International Rice Research Institute in the Philippines, who now directs in Chennai a state-of-the-art, private agricultural research institute named after him.[3]

The globalised agricultural trade and investment regime has provoked a new and critical agricultural agenda. Three policies have particular urgency. The first results from the establishment of the World Trade Organisation in 1994, which regulates, *inter alia*, global agricultural trade. Compliance with its rules has been unbalanced: it has been forced on developing countries but resisted by the OECD bloc. For OECD countries, formal exceptions have been created, by the mechanism of policy 'boxes', to protect incomes and even increase farm support. Hence, there needs to be a counterpart 'Livelihood Box' — a set of quantitative restrictions on imports for countries like India in cases threatening the mass of agricultural livelihoods. The second policy proposal results from the proprietary control of the biosphere where international procedure is both inappropriate and inconsistent. Trade Related Intellectual Property Rights (TRIPS) are already at variance with the legally binding provisions of the International Convention on Biological Diversity (their global signatories coming from different domestic ministries). So there needs to be protection for the rights of Indian farmers to retain seed between seasons and to protect new varieties developed by themselves. Third, the genetic modification (GM) of agricultural products poses two further kinds of currently unresolvable policy problems. The first is the relation between GM crops and the environment. On the one hand, GM crops may constitute a technical solution to production in agronomic environments (notably saline and dry land) for which policies of conventional biotechnological change have had little success. On the other hand, GM crops are certain to be biochemically unstable, to create gene pollution and to risk unpredictable and irreversible environmental impacts. The second problem is the relation between the control and goals of GM science and the material practices and outcomes actually associated with it. Although publicly-funded research will always be 'distorted' (i.e., moulded by the agendas of funders, the career interests of scientists, peer pressure, etc, rather than induced by factor scarcities), it may nonetheless have some social goals and long time horizons, whereas privately funded research is first and last for profit and dividends. There is, therefore, an urgent need for a National Commission on Genetic Modification.

Policy makers engaging critically with agricultural globalisation are drawn from the agricultural science elite in state-funded research institutions and the scientific civil service, from NGOs and social movements and certain political parties.[4] Their positions and priorities range from resistance to global capital on both the right and the left (based variously on nationalism, socialism or participative forms of democracy) to a concern for mass livelihoods and/or the environment. All aspects of this agenda presuppose a strong domestic regulative role for a state that is strong enough in turn to alter the global rules for agro-capital.

A State Agricultural Policy Agenda — The Garden in Tamil Nadu

Here we start out from the four Annual Policy Notes and data on Agricultural Department expenditure published under the names of the Tamil Nadu State Agricultural Ministers K.P. Krishnan and V.S. Arumugham from 1994 to 1997 (during a change of ruling party), backed up by the Budget Speeches for this period (GoTN 1994–97). It exemplifies non-metropolitan agricultural development policy.

Tamil Nadu's agenda in the early reform period shows a substantial degree of autonomy, as does its defence of the scope and price parameters of the public distribution system together with the noon meal nutrition scheme. Since it is so different from the liberalisation agenda, from textbook agricultural policy and from the critical agenda [5] and so far less well analysed, we will consider this one at greater length. Tamil Nadu's stated policies for agriculture are as follows:

i) environmental protection, focussing on wastelands, soil conservation and watershed development;
ii) sustainability (organic farming, biofertiliser development, integrated pests

management, bioconversion of agricultural and urban waste);

iii) improved water management at the micro-scale, using a variety of participative, collective and (semi) state institutions and scientific techniques;

iv) 'scientific implements' for agricultural production;

v) seed patenting for biodiversity, focussing on horticulture, oil palm, etc;

vi) diversification in production: an active role for the state via demonstration plots and extension in horticulture, sericulture, dairying, poultry and fisheries;

vii) logistical, technical and financial support to increase exports, particularly of horticultural and floricultural products with upstream production linkages to agro-processing plants;

viii) increased vegetable production;

ix) 'reasonable' prices regulated through the streamlining of marketing infrastructure (extension staff are to shed their inputs-trading activities but agricultural wholesale Regulated Market Committees are to expand the pledge-loan facility based on produce stored on regulated market sites; a continued effort is to be made to systematise quality grades across a wide range of products (a necessary precondition for long-distance trade)) and

x) the creation of new forms of active economic management (direct trading by the agriculture department to be hived off to state corporations; new parastatal trading agencies and seed inspectorates for plantation crops to be created; new laws regulating horticulture to be passed).

This agenda is advanced by politicians and administrators and expressed in a combination of science-derived and triumphalist language greatly at variance with that of fast-track liberalisation. The territorial state is envisioned as a very large garden. The political state is unavoidably engaged in creating the collective preconditions for the 'gardeners' to go to market and in reducing the unequal terms of bargaining they can expect once they get there. Table 1 shows that throughout the period of heavy pressure to cut public expenditure, capital and current expenditure by the Agriculture Department exceeded estimates.[6] Expenditure was on an expansion path and attempts to contain it failed.

Table 1: Agriculture Department Spending, Tamil Nadu (Rs crore (10 m))

		1994–5	1995–6	1996–7	1997–8
Current	Estimated	665	253	744	689
	Revised	717	786	789	719
Capital	Estimated	679	765	754	
	Revised	730	795	802	

Source: GOTN 1995 to 1998, *Policy Notes on Agriculture*.

Much is made of ecological diversity, which implicitly justifies modes of procedure and allocation, which work through a mass of projects and micro-schemes. Their description uses a language of decentralisation, scientific technique and specificity. Huge emphasis is also placed on the category of 'small farmers', with contradictory mixes of individual incentives and rewards (packages of high-tech and green-tech inputs (see Table 2)) and of collective action to enhance economies of scale.[7] Entire districts are selected for special attention, for crop-specific projects, wasteland cultivation, soil conservation or watershed development. Immense possibilities for patronage are generated by configuring agricultural policy in this way. At the same time, the proliferation of small schemes for small producers depends in part on the political interests of project funders from outside India. The agendas and resources of aid agencies have a direct influence upon the state government: the FAO trains farmers in 'biocontrol'; the World Bank trains district-level planners in planning and agricultural professionals in information technology; DANIDA develops the skills of agricultural women and encourages watershed development; SIDA dynamises agro-forestry and dryland agriculture, while the Government of Israel helps to transfer technology for high value crops. The state's capacity to absorb these project funds is saturated. Year by year the policy notes record incomplete uptake and delays. Ecological diversity, external project funding and a politics of patronage are mutually reinforcing here. The result is a striking inertia in both discourse and resource allocation.

Table 2: Patronage of Small Farmers, 1995

Heavily Subsidised or Free Provision of Rationed Goods and Services
Agricultural kits to farm women
Coconut seedlings to children
Storage Bins
Tarpaulin
Tyred Bullock Carts
Power Tillers, Threshers, Trailers
Micro minerals
Green manure seeds
Bio-fertiliser packs
Power pesticide sprayers
Raticide
Petromax light traps

Source: Government of Tamil Nadu, 1995. *Policy Notes on Agriculture*, Madras, pp. 18–22.

Over precisely the kind of time span in which the fast-track liberalisers expected deregulation to penetrate the entire economy, the Tamil Nadu Agriculture Department showed how little it needed to change. At the margins, in fact, a populist form of agricultural patronage was exchanged for corporate patronage in 1996 when Jayalalitha's AIADMK regime was replaced by Karunanidhi's DMK. Grants for temple gardens and for the beautification of the Ooty Lake for film sets; and prizes to exemplary extension officers and farmers were suddenly stopped (GoTN 1996: 16, 46, 96). Instead, new resources were made available to subsidise corporate capital to develop wastelands for floriculture and undertake joint ventures in agro-processing. Infrastructure for agro-processing and specialised physical market sites (for jaggery, for flowers) was promised, along with subsidised transport for farmers (GoTN 1997: 68–78, 96). Above all, the state agenda expresses continuity, complexity and expansion. It reflects solid bureaucratic interests, a nexus structured around patronage and the application of scientific techniques, together with the needs of a diverse but powerful political constituency. [8]

Major parts of the agricultural economy are strikingly marginalised on this agenda. The foodgrains economy of rice and groundnuts, in which a state with fabled grain bowls has lost rank and where growth has faltered (Srivastava 1998: 224–5), are not the central concerns of local agricultural policy.

Indeed, not only is the local policy agenda different from fast-track liberalisation but also the main policies that affect agriculture are not administered through the agriculture department. They are administered through a range of other departments (Public Works for road and irrigation infrastructure; Food and Civil Supplies for food; Industry for fertiliser; Social Welfare for labour; Co-operatives and Finance for credit) and parastatal corporations (Electricity Boards; the All-India Food Corporation and the State Civil Supplies Corporation for food; Cotton Corporation, Storage and Warehouse Corporation, etc). The regulation of agrarian markets is administered through combinations of state and central government departments and corporations. Most of these departments and corporations are also doing non-agricultural things. As a result, the priorities of the agricultural agenda and the ranking of agricultural policy as a whole in the priorities of each institution implementing agricultural policy will be quite specific. In implementation as well as in theory, agricultural policy will be affected by non-agricultural policy. Agricultural policy (as is the case with other kinds of policy[9]) is also supported by non-agricultural justifications. A new parastatal for agro-engineering services is justified not only for agriculture but also as a component in the state's policy to give livelihoods to unemployed engineers. The state does not simply — and conventionally — sectoralise agriculture. It splits agriculture up into micro sectors and distributes it across almost all formal institutions of government. Only in the year 2000 did bureaucratic co-ordination appear in the state's agricultural policy notes.[10] No acknowledgement of the idiosyncrasy of what is labelled agricultural has ever appeared there.

Although three quite separate policy agendas can be discerned, each with its history — fast-track liberalisation, creative globalisation and Tamil Nadu's garden programme — all of them intertwine not just because they co-exist in time but because of overlapping institutions and interests. Although far from exhaustive, our description of them is detailed enough to show the influence of agricultural research on the idioms of both the global and the state agenda, and of macroeconomic context on liberalisation and globalisation policy. Both the global and state agendas are also characterised by a paternalistic populism. The interests of international aid agencies pervade all three agendas, financial aid in the first case, social movements in the second, and bilateral and multilateral development agencies in the third. While the global and state agendas each embody contradictory positions on capital (and by implication on labour and petty production), the first agenda encourages capital while depoliticising it discursively. The agendas are also at different stages of formation, that at the state level being most deeply settled while the other two are in contention. Agricultural policy vividly illustrates the dynamic nature of this political process.

Interpretations

Agriculture is slow to be reformed. The state's involvement in agriculture expanded, not reduced, in the first phase of liberalisation. By the mid-nineties fertiliser had been partially decontrolled and subsidies had been rapidly restored. Agricultural credit had not been touched. Product prices were moving towards world market levels: the price of rice rose while that of groundnuts sank. Movement restrictions on agricultural trade were lifted in 1993 (but lorry drivers still had to bribe checkpost guards to let them through, and Indian Railways still favoured public corporations over private trade). The structure of subsidies (on credit, agricultural co-operatives, fertiliser, food, electricity, and irrigation) was intact and remained so throughout most of the 1990s (Table 3). The redistributive operations of the Food Corporation of India supplying the Public Distribution System were lethargically revamped so as to reach targeted areas as well as low income categories. The movement of groundnuts had not been deregulated. Local states still regulated markets in order to enable state procurement of a range of commodities. Agro-processing was still reserved for 'small-scale industry' until 2001 (Randhawa 1994; Patnaik 2001).

The low relative priority given to agricultural reform can be explained in a number of persuasive ways. In Pranab Bardhan's political economy for instance, where policy is the outcome of clashes between three proprietary classes, the relative speed of reform is dictated by the nature of the costs and benefits to interests in

Table 3: Agricultural and Welfare Subsidies

All-India	Fertiliser	Electricity	Irrigation [1]	Credit	Food	Total Ag.+Non-Ag.
1993–94	2.7	3.5	2.6	1.8	3.0	127
(Rs bn crores)						
Tamil Nadu	(Rs. crores)	Electricity	Social Security	Noon Meal	PDS	
1990–91		175.7		235.3	257.8	
1991–92		4.3		255.6	332.2	
1992–93		826.3		272.3	473.1	
1993–94		890.2	62.4	282.5	359.0	
1994–95		653.8	66.5	365.2	440.0	
1995–96		354.8	85.9	356.9	800.0	

Sources: Randhawa 1994: 368; Bardhan 1999: 147; Government of Tamil Nadu raw data.
[1] Including the annualised cost of the book value of capital costs.

Note: Agricultural subsidies as a percentage of total government subsidies: 13 per cent.
Agriculture as percentage of total GDP (1990): 32 per cent.
PDS: Public distribution system (Food).

opposition to it (Bardhan 1998). In the case of agriculture, we have to explain why states have been so reluctant to acquiesce to fast-track liberalisation. A massive array of political forces have interests opposed to liberalisation. First, while agro-commercial capitalist elites and potential exporters could be expected to be the main downstream beneficiaries of agricultural liberalisation, in practice these are the powerful interests that have for decades benefited from rents derived from the structure of state regulation of the agricultural sector. So these elites have contradictory interests. Second, the price structure of basic wage goods for the agrarian workforce — including people selling foodgrains after harvest and buying some back before the next — is at stake. A substantial part of the electorate has an interest in low and controlled prices for essential commodities. Third, the agro-engineering sector exerts heavy pressure on policy elites (and exploits the physical proximity in New Delhi of its lobbying organisations to these elites, sharing all but the last digit of the latter's postal codes). This is also an interest that has profited from the structure of partial regulation, or state control, of intermediate goods to agriculture (Pedersen 2000).

Rob Jenkins' controversial hypothesis that successful reform has occurred by stealth —whatever its relevance to industry — carries the powerful implication for agriculture that since reforms touching mass livelihoods cannot under any circumstances be stealthy, they will be delayed (Jenkins 1999). Bardhan's depiction of the Central Government 'chipping away', piecemeal, but not necessarily by stealth, has had little purchase on agricultural policy in the nineties (Bardhan 1998: 128; see also Corbridge and Harriss 2000: 284). Even though one sure way in which the central state has 'chipped away' is through reducing its subsidies to states, states have borrowed heavily so as not to disturb their agricultural policies — a 'mere' transfer of the financial burden from the Centre to the states, rather than a set of policy responses. Even the argument about the need to reduce the contribution of total subsidies to the fiscal deficit may work curiously in favour of agricultural subsidies, since they are not the largest element. Total food and agricultural subsidies in 1993 were about 13 per cent of total government subsidies while agriculture was 32 per cent of GDP (Table 3). Until bankruptcy requires a response, agricultural policy can be predicted to resist reform.

In addition to these several explanations based on material interests, the analysis of the agricultural agenda presented here reveals another simple and obvious reason for delayed reform. Agricultural policy is complex. It operates simultaneously in several policy paradigms. The range of interests in it is justified in many ways. Policy is inconsistent, path-dependent and contested. It involves most departments of government and links the jurisdictions of centre and state. Laws and administrative procedure mirror this complexity. Agricultural development turns out to be regulated by project and patronage as much as by price and subsidy. Organising the dismantling of existing agricultural policy would require the co-ordination of most departments of government. Not only is this bureaucracy an interest in itself, but the interlocking complexity of policy for this sector defies reform.

Although the Indian state sector is about half the size of its western counterparts in terms of its share of GDP,[11] it permeates agricultural production and is the only institution of any significance engaged in redistribution. Policy is revealed to be a thickly tangled skein of power. Together with the interests involved in the sheer size of the agricultural subsidies, interests which also derive rents from the nexus of partial interventions, the composite nature of agricultural policy may be an additional important factor delaying liberalisation.

Notes

1. There are, for instance, four separate regulative frameworks governing domestic financial institutions (industrial development banks) and two regulating corporate governance.
2. For a fourth, well resourced and written in the language of management studies, in which 'participation' has been further transformed into a mode of access of corporate capital to 'small farmers,' see www.natp.org.
3. Interviews in *Frontline*, 18(3), February 3–16, 2001, 112–20. The M.S. Swaminathan Institute has also generated a powerful agenda, which involves decentralised food security.
4. See also the Rajya Sabha's CPM Member, Biplab Dasgupta's accounts of structural adjustment and the environment, 1998, chapters 3 and 5.
5. Taking Ellis (1992) as a good example of the latter's scope.

6. Table 3 also shows that all state subsidies on electricity and the social sector increased from 1991 to 1996.
7. For instance, selective subsidies are given for well boring and digging while participative water management groups are organised and surface water resources are said to be exhausted (GoTN 1996: 64; 1997: 78).
8. It was not possible to study how the Department of Agriculture's agenda is implemented in villages because our field project had not anticipated such a radical policy disjuncture, being led by the national-level policy literature in economics and by the themes acceptable to funders, one of which was structural adjustment.
9. Tamil Nadu's Noon Meal Scheme was justified not only as a nutrition intervention, but also as an education, employment and social welfare intervention (Harriss 1991).
10. www.tn.gov.in/economy/eco-may.htm 2001.
11. See Harriss-White and Janakarajan, forthcoming, for a set of village studies of development policy.

References

Bardhan, P. (1998). *The Political Economy of Development in India* (Expanded Edition). Delhi: Oxford University Press.

Corbridge, S., and J. Harriss (2000). *Reinventing India*. London: Polity.

Dasgupta, B. (1998). *Structural Adjustment, Global Trade and the New Political Economy of Development.* London: Zed Press.

Ellis, F. (1992). *Agricultural Policies in Developing Countries*. Cambridge: Cambridge University Press.

Government of Tamil Nadu (1994 to 1997). *Policy Note on Agriculture, 1994–5 to 1997–8*. Madras: Department of Agriculture.

Harriss, B. (1991). *Child Nutrition and Poverty in South India*. New Delhi: Concept.

Harriss-White, B., and S. Janakarajan (1997). From Green Revolution to Rural Reaction, Heavy Agriculture and Light Industry in South India. *Economic and Political Weekly*, 32 (25): 1469–77.

Harriss-White, B., and S. Janakarajan and others (forthcoming). *Reforms and Rural Development.*

Jenkins, R. (1999). *Democratic Politics and Economic Reform in India*. Cambridge: Cambridge University Press.

Parikh, K. (1993). 'Economic Reforms and Food Policy.' Working Paper. Bombay: Indira Gandhi Institute of Development Research.

Patnaik, P. (2001). The Poverty of Theory. *Frontline*, 18(6), March 30.

Pedersen, J.D. (2000). Explaining Economic Liberalisation in India: State-Society Perspectives. *World Development* 28(2): 265–82.

Pursell, G., and A. Gulati (1993). *Indian Agriculture: An Agenda for Reform.* Washington: World Bank /New Delhi: NCAER.

Randhawa, N.S. (1994). Liberalisation and Implications for Agricultural Policy. In G. S. Bhalla (ed.). *Economic Liberalisation and Indian Agriculture*, 353–78. New Delhi: Institute for Studies in Industrial Development.

Srivastava, R. (1998). Processes: An Analysis of Some Recent Trends. In Satyamurthy, T.V. (ed.). *Industry and Agriculture since Independence*, 219–47. Social Change and Political Discourse in India: Structures of Power, Movements of Resistance, Vol.2. Delhi: Oxford University Press.

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Professor M. N. Srinivas Memorial Prize

The Indian Sociology Society and the Indian Council of Social Science Research have jointly set up Professor M. N. Srinivas Endowment Fund. This Fund has instituted a prize for young sociologists/social anthropologists for publishing the best sociological/social anthropological paper in any of the social science journals, in English, in India. The prize will carry a sum of Rs.1000.

Papers published during 01 January 1999 – 31 December 2001 are eligible for consideration. The author must be 35 years or less in age on 31 December 2000. A reprint of the paper along with a photo-copy of the title page of the journal must reach the office of Indian Sociological Society (Institute of Social Sciences, 8 Nelson Mandela Road, Vasant Kunj, New Delhi 110 070) on or before 31 August 2002. Besides the authors, others are also welcome to bring suitable papers to the notice of the selection committee for consideration.

Environmental and Social Conflicts of Aquaculture in Tamilnadu and Andhra Pradesh

I. Emerson Kagoo* and N. Rajalakshmi*

Abstract

The damage wrought by aquaculture to the surrounding ecosystem has led to serious socio-economic and environmental conflicts in coastal Tamilnadu and Andhra Pradesh. If the interdependence between the ecosystem and industry is not recognised, aquaculture will be limited by the impacts of its actions on the environment. This paper focuses on the environmental and social conflicts of aquaculture in Tamilnadu and Andhra Pradesh, which was confirmed by environmental analysis of soil and water samples collected from the problematic areas at varying distances (1–5 kms). The paper discusses the impact on water quality, coastal ecosystem, surface water and groundwater. Further, it discusses the various types of social conflicts arising due to aquaculture, and stresses the need to implement fiscal and market-based instruments to promote an eco-friendly industry for sustainable development.

Introduction

Aquaculture is a highly profitable venture in India. Also, it has increased the availability of nutritive food for the growing population. The advent of aquaculture is mainly due to depletion or standstill of capture fishery since the seventies, and availability of vast stretches of brackish water lands (1.2 million sq. km). The industry has grown enormously, leading to purchase of agricultural and fallow lands by entrepreneurs for setting up small and large-scale aqua farms in Tamilnadu and Andhra Pradesh. However, the rapid expansion of intensive aquaculture in Tamilnadu and Andhra Pradesh has severely damaged the adjoining ecosystems, leading to socio-economic and environmental problems in the coastal areas of Tamilnadu and Andhra Pradesh. The environmental impact of aquaculture includes eutrophication, oxygen depletion and pollution of the surrounding waters and their biota, which have made these waters and the associated ecosystems less suitable for other purposes like further culture and harvesting of natural stocks.

Many aquaculture units have been managed in a sectorial fashion, focussing on the rearing site, yield and growth directed by market demand. However, the capacity of the ecosystem to support the expanding industry with resources and by

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processing its waste has rarely been taken into account in the optimistic economic projections. It is claimed that the rapidly expanding aquaculture industries may presently repeat the pattern of conventional resource exploitation (as opposed to sustainable resource use) described for several other resources and ecosystems. The success of this type of resource exploitation is judged by immediate economic results. It ignores either its impact on the structure and function of the ecosystem supporting the production of the exploited resources, or the knowledge of the original communal resource users, who are often displaced or marginalised by technically more effective exploiters moving into the area (Berkes 1985).

Although intensive aquaculture practices provide foreign exchange from exports, one may strongly question whether it benefits the country and its indigenous population in terms of sustained socio-economic benefits (Meltzoff and Lipuma, 1986; Goodland and Ledec 1987; Bailey 1988; Primavera 1991). The switching from food to cash deletes the social / cultural experience of sustainable resource use. The progressive exploitation of the ecosystem to expand the economy has made it necessary to redevelop the ecosystem in order to maintain the economy (Regier and Baskerville 1986). Fisheries and aquaculture are facing similar problems, which need to be tackled from an integrated societal-environmental systems perspective, where interrelations between sectors and their dependence on the processes and functions of coastal seas need to be explicitly recognised.

The expansion of aquaculture is limited not only by what is happening in the market or in other parts of the economy, but also by an increasing demand for environmentally produced goods and services, sustained by intricate ecological connections. These are more easily disrupted as the scale of aquaculture grows relative to its supporting ecosystems (Folke and Kautsky 1989). This also means that there are physical limits to aquaculture. It should be emphasised that environmental support is seldom accounted for in aquaculture production and generally not perceived in aquaculture management, although it is basic to the survival of the industry. Hence, if the ecosystem–industry interdependence is not recognised, aquaculture will be limited by the impact of its actions on the environment, as in the case of intensive shrimp farming.

Therefore, objectives such as sustainable utilisation of species and ecosystems, as well as recognition and evaluation of the benefits derived from ecological processes and the life-supporting ecosystems must play a significant role in aquaculture development.

Objectives

- To evaluate the environmental impact of aquaculture in Tamilnadu and Andhra Pradesh.
- To assess the social conflicts associated with aquaculture farms in Tamilnadu

and Andhra Pradesh.

- To analyse the extent of conflicts of common property resources for multiple uses.

Study Areas

The following zones were selected to study the economic and environmental impacts of aquaculture in Tamilnadu and Andhra Pradesh:

Tamilnadu

Zone 1	-	Chennai	-	Ponneri, Minjur, Kancheepuram
Zone 2	-	Pondicherry	-	Cuddalore, Parangipettai, Chidambaram
Zone 3	-	Nagapattinam	-	Sirkazhi, Poompuhar, Thanjavur
Zone 4	-	Ramnad	-	Pattukottai, Thondi, Mimisal,

Andhra Pradesh

Zone 1	-	Nellore	-	Ongole, Gudur
Zone 2	-	Vishakapatnam	-	Thimmapuram, Palmanpet
Zone 3	-	Machilipatnam	-	Bheemavaram, Akivedu,
Zone 4	-	Kakinada	-	Narasapore

Information was collected from agriculturists and aquaculturists through land surveys and questionnaires. Soil and water samples were collected from problematic zones in the areas concerned and analysed for their environmental conflicts.

Status of Aquaculture

Most of the aquafarmers in Tamilnadu and Andhra Pradesh have taken up shrimp culture mainly for export. Shrimps cultured in these farms are sold to agencies and exported. Aquaculture is a financially lucrative venture, yielding profits ranging from 20 to 50 per cent per annum, much beyond the returns that can be expected from any other activity. Unemployed coastal folks and agriculturists are offered jobs in the aqua farms for wages that far exceed those in other farming activities. The increased profits and wages are responsible for the overall improved economic activities and better standard of living of the people in the region. However, the advancement of shrimp farming is reported to have led to pollution of drinking water, imposing additional costs on society. These costs incurred are external costs, which are not included in the cost of shrimp production.

As per NEERI's estimate, environmental costs exceed the value of shrimps produced and exported. For Andhra Pradesh, the report estimated annual earnings at Rs.1,500 crore, against annual value of the damage caused by aquaculture at Rs.6,300 crore. Thus, for each rupee of gain, there would be four rupees of damage.

For Tamilnadu, the estimated annual earnings of Rs.280 crore are outweighed by damage cost estimated at Rs.430 crore.

Environmental Analysis in Problematic Zones

To assess soil and water quality in the agricultural fields near the aquaculture farms, water and soil samples were collected from various locations in problematic zones and analysed for deterioration in quality. The samples were collected from agricultural areas at distances of 1 km, 3 km, and 5 km from the aquaculture farms. The following are the data of their chemical composition obtained from the analysis of the samples collected from prime locations of aquaculture industries in Tamilnadu and Andhra Pradesh. The data are compared with those obtained from the analysis of the sample collected from agricultural areas free from aquaculture. The tables below show averages of all the parameters at varying distances in Nagapattinam, Vishakapatnam and Nellore.

Results

The closer the aqua farm the lesser the content of DS/pH/Co_3/HCo_3/Cl/ Ca/Mg/Na. This reveals that the intrusion of saline water has led to a decline in the optimum contents of the fresh water quality. Agricultural fields located at a distance of 3 km and 5 km are less affected by the changes in their content. Slight changes in their contents are noted in the case of paddy fields located away from the aqua farm. This shows that there is little influence on the quality of water in the agricultural fields. However, it could be authenticated by analysis of the water samples collected at distances of 1 km, 3 km and 5 km from the aqua sites that aquaculture does not cause any marked changes in the agricultural fields and in water quality.

Soil samples collected closer to aqua farm sites, ie., (1–3 km), reveal a light brown colour, whereas samples collected at a distance of 5 km reveal the natural grey colour. But changes in soil texture are not definite since the pattern is not the same in all the aquaculture areas. A uniform pattern occurs in the lime status of the soil samples collected 5 km away from the aqua farm. These reveal profuse lime status, whereas other samples collected 1 – 3 km away from the aqua farm show nil lime status.

In short, agricultural farms located in the vicinity of the aqua farms (1–3 kms) are more influenced by the increase in chemical contents than those located far away (5 km) from the aqua farms.

Water Quality Deterioration

Waste water from shrimp farms is high in nitrogen, phosphorous, carbon compounds, organic matter, shrimp excretory products, plankton and some chemical and antibiotic residues. Most of the shrimp farms do not have water treatment systems ;

Table 1: Analysis of Water and Soil in Areas Close to Aquaculture Farms

Composition	Nagapattinam (TN)	Vishakapatnam (AP)	Nellore (AP)
Water			
Dissolved matter	2.7 - 7.6	2.4 - 6.9	2.8 - 6.9
PH	7.6 - 8.2	7.3 - 8.2	8.0 - 8.2
Carbonate (Co_3)	Uniform	0.1 - 0.3	0.1- 0.3
Bicarbonate (HCo_3)	6 - 18.5	7.0 - 16.1	6.0-16.8
Chloride (Cl)	18 - 58	16.2 - 56.0	20.8 - 58.0
Sulphate (So_4)	0.4 - 0.18	0.04 - 0.14	0.04 - 0.14
Calcium (Ca)	6.0 - 13.8	6.1 - 10.1	6.0 - 13.8
Magnesium (Mg)	5.3 - 12.3	6.2 - 57.6	4.5 - 16.2
Sodium (Na)	14.24 - 44.24	7.24 - 46.24	14.24-46.13
Potassium (K)	1.70 - 2.51	1.51 - 2.51	1.41-2.51
Type of water	Sodium Chloride	NaCl (8); MgCl(1)	NaCl (all)
Soil			
Dissolved water	.07 - 1.60	0.07 - 0.71	0.11 - 0.50
PH	6.2 - 9.5	6.6 - 7.9	6.6 - 7.5
Av nutrients			
N	14 - 36	14 - 25	14 - 28
P	2.08 - 4.16	2.08 - 4.42	2.08 - 4.16
K	65 - 115	65 - 95	65 - 95
Colour	Grey (1) and light brown (8)	Light brown (5) Grey (3)	Light Brown (7); Grey (2)
Texture	Sandy loam (4); Sandy clayey (3); Loamy sand (1); Sandy (1)	Loamy sand (7); Sandy loam (2)	Loamy sand (4); Sandy loam (5)
Lime status	Nil lime (8), Profuse lime (1)	Nil (7); Profuse (2)	Nil lime (8); Profuse lime (1)

Table 2: Analysis of Water and Soil in Areas without Aquaculture Farms

Composition	Nagapattinam (TN)	Vishakapatnam (AP)	Nellore (AP)
Water			
Dissolved matter		-	-
pH	7.8	7.2	7.7
Carbonate (Co_3)	-	-	-
Bicarbonate (HCo_3)	1.0	6.0	1.5
Chloride (Cl)	95.4	11.8	11.5
Sulphate (So_4)	0.24	0.14	0.12
Calcium (Ca)	8.9	2.8	4.0
Magnesium (Mg)	47.5	5.7	3.2
Sodium (Na)	49.5	4.0	4.7
Potassium (K)	2.51	0.29	0.48
Type of water	NaCl	MgCl	NaCl
Soil			
Dissolved water	-	-	-
pH	7.8	7.4	7.1
Av nutrients			
N	31	42	39
P	16.1	13	9.1
K	45	125	35
Colour	Light brown	Light brown	Light brown
Texture	Sandy loam	Sandy loam	Sandy loam
Lime status	Non-Calcareous	Non-Calcareous	Non-Calcareous

they discharge the drain water directly into public water courses of the sea. If the waste water is discarded without dilution of treatment, it pollutes the environment. The discharge of pond effluent is found to have led to deterioration of water quality in irrigation canals and coastal areas. The effluent water from shrimp ponds includes what is released during rearing to control the quality of water in the ponds, as well as the discharge during harvesting of pond preparation for a new crop. This effluent comes from the high volumes of low-concentration effluent and concentrated releases during harvest and cleaning of shrimp ponds. The loadings are substantially more in the final stages of harvesting and cleaning of ponds when there is a high concentration of both nutrients and organic matter.

The discharge of dissolved organic matter from metabolites and decomposition of uneaten food and shrimp faeces into the sea from intensive shrimp farming operations have resulted in fish death and foul-smelling water in many wetland areas. Therefore, it is inferred that water treatment facilities are compulsory for farms.

Water management and quality control in aqua farms can be subdivided into three phases, viz., (i) inlet water management (ii) daily water management (iii) control discharge water management. Frequent exchange of water helps to maintain its quality. It also prevents the accumulation of waste products, trace metals, depletion of organic compounds and accumulation of waste products that increase the Biological Oxygen Demand (BOD) and Chemical Oxygen Demand (COD) levels in the pond. Thus, the characteristics of the discharged water directly reflect the internal process involved in water quality management at all three stages, viz., inlet water, daily pond water, and discharge water. It is therefore sought to be highly essential for maximising prawn production.

The aqua farm discharge needs to be regulated in order to protect both the industry and the environment. Further, regulations governing discharge from aqua farms need to be developed. It is suggested that environmental deterioration could be overcome using a closed water recycle or recirculation system so as to overcome adverse conditions, like pollution, which lead to outbreak of diseases. The real challenge for aquaculture is to find ways to redirect the industry’s present behaviour towards a path where development and environment go hand in hand.

Impact on the Coastal Ecosystem

Aquaculture effluents discharged into the marine environment are reported to threaten the survival of coastal resources. The effects on coastal habitats are mainly due to improper saline water released as pond effluents, which have a pronounced effect on both marine and freshwater organisms. However, this appears to be incorrect since the effluents of aquafarms consist of only biological wastes like feed remains made up of soyameal and other fishery products. Further, salinity remains constant since the water is pumped in from the natural source of the same salinity, which is maintained for successful growth of the culture.

Impact on Surface Water and Groundwater

The salinization of surface water is another impact from shrimp farms to the receiving waters. It is reported that shrimp farm construction can potentially alter surface water flow patterns and water quality. Water flows were found to be affected by the temporary blockage of permanent division of canals. Discharge of untreated pond effluents into the natural system were known to hinder the quality of water. Further, seepage of saline water from the ponds into the ambient areas also leads to salinization of groundwater. There are cases of stratification occurring on the surface of fresh water zone as it mixes with the deeper saline water that will affect agricultural land when farmers unknowingly pump salinised water into farm land. The shrimp farmers directly discard untreated waste water into the public canal or coastal area or river and inshore areas, causing general pollution and public health hazards.

Effective pumping of saline water, in the case of bore water-dependent farms, and fresh water, in the case of coastal farms, lowers the groundwater table. The salinized groundwater also affects the drinking water sources of coastal villages.

Shrimp farming causes dispersion of salt into land around the shrimp farms, thereby affecting paddy fields and other plantations. The soil salinization further devalues marginal agricultural land. Abstraction of fresh water from underground aquifers for intensive shrimp farming has also resulted in salt-water intrusion and salinization of freshwater aquifers. While freshwater aquaculture has little negative impact on groundwater and aquifers, brackish water aquaculture is detrimental to subterranean water resources.

Common Property Resources and Rights

Creeks and coastlines have been used to set up shrimp farms along the east coast as they are common property resources. These resources as well as the sea have been, since time immemorial, the means of livelihood of the local fishermen, who are now being denied access to the sea. This has resulted in conflicts and clashes, leading to protests and threats to destroy the shrimp farms in Tamilnadu.

Types of Conflicts

A number of shrimp farms have been set up in violation of many rules, with no proper systems for their supervision and monitoring. This has resulted in conflicts in the use of common property resources. The shrimp farms fenced their area without prior notice and did not allow the public, especially the fishermen who were using the beaches for years together because of lack of proper rights to use the common property resource. The shrimp farms have been set up without considering the hardships of the local fishermen from open access to the seashore. Open access system has given rights to the fishermen to use the seafront for their livelihood.

Likewise, the owners of shrimp farms purchased the cultivable lands from agriculturists and converted them into aqua ponds. This has resulted in conflicts with the users of land for agricultural activities. Some of the farms have not shown any concern when the groundwater sources turned brackish. Very few farms have made arrangements for supply of potable water to the local people. Such conflicts have triggered severe protests from the local people against the shrimp farms.

Conflicts Between Fishermen and Aqua Farms

A major issue observed by this study was the conflict between the shrimp farmers and the fishermen over accessibility of fishing areas. The shrimp farms do not provide access to the beach for traditional fishermen who have to reach the sea from their villages. As aqua farms are located on the seafront and entry is restricted, the fishermen have to take a longer route of 4–5 kms to sea. The traditional, local fishermen, who have been fishing for years, are subjected to such hardships because of the newly emerging aqua farms. The accessibility of fishing areas / beaches through larger aqua farms is a major source of conflicts between aqua farmers and the local people. It can be resolved through negotiations among themselves on provision of suitable approach roads. While such large farms do help by providing advanced aquaculture know-how, and supply of aquafeed, hatchery-produced seed, etc., to small farmers, coastal communities in general seldom benefit directly from such aquacultural development.

The conflict described above is restricted to a few farms near Nagapattinam district and in Kandleru creek in Andhra Pradesh. It is not a major issue in many shrimp farm areas since the big farms, of more than 20 ha, especially those in the corporate sector, do not hinder accessibility of the fishing areas. Moreover, the problem can be easily solved through negotiations.

Conflicts in the Land Use Pattern

Indiscriminate conversion of fertile agricultural lands into aqua farms in the initial stages of aquaculture development was found to have led to many conflicts prevailing till today. This practice aggravated the landlessness among farmers. Absentee landlords sold their lands to aqua enterprises for a high price. Those who were working or cultivating under tenancy farming lost their livelihood, and crop production was also affected. In the earlier years, vast areas of mangroves were destroyed for agriculture. Though mangroves have legal protection, they were initially destroyed to make way for aqua farms. The utilisation of mangrove area for shrimp farming was minimal, and restricted to traditional aquaculture practice by only those who take up cost-intensive systems of shrimp farming. However, this activity has been completely curtailed in the mangrove ecosystems of Tamilnadu and Andhra Pradesh since 1996.

Conflicts between Aquaculture and Agriculture

In the early nineties, when aquaculture began, entrepreneurs acquired lands from agriculturists who were incurring tragic losses in agriculture. As this continued, conflicts arose with the support of NGOs against aquaculture. With a view to avoiding such conflicts, the commercial farms that developed subsequently were constructed on fallow wastelands, unsuitable for agriculture. These lands are registered in the revenue records in the agricultural category, and have therefore led to criticism that aqua farms are constructed on agricultural lands. Depending on the soil texture, soil salinization may take place on neighbouring agricultural land where coastal aqua farms are set up. It is a well-established fact that the aqua farms, having higher percentage of sand particles, are causing salinization of agricultural lands, the major conflict that led the coastal aquaculture to legal disputes. Similarly, where coastal aqua farms exist on clayey soils, soil salinity could not exceed the permissible limits in adjacent agricultural farms.

The salinization of groundwater and agricultural lands depends entirely on soil texture and fabrication. Even where there are no shrimp farms, the lands and groundwater are saline because of the nearness of the sea and regular tidal flushing, seepage, humid climate, and meagre and narrow freshwater tables in the coastal belt. That is why the area not only around shrimp farms but also of the coastal plains in Tamilnadu remains devoid of agricultural activity. However, salinization around shrimp farms is not a problem in Andhra Pradesh because most of these farms have been set up on coastal plains away from the sea (0.6 – 22 km) with relatively less tidal flushing. Moreover, tidal creeks and canals in Andhra Pradesh are regularly flushed with the fresh water of perennial rivers, namely Krishna and Godavari. This is why shrimp farms co-exist with paddy fields, and mango orchards or horticulture crops in coastal Andhra Pradesh. It is interesting to note that good quality drinking water was available from borewells installed in the middle of some of the shrimp farms in Andhra Pradesh.

Use of groundwater for aquaculture activities is a disputed issue. Use of ground freshwater for inland aquaculture can reduce the groundwater table, further limiting the future of aquaculture. Similarly, in the coastal areas, use of ground freshwater (abundant in sandy soils) can reduce the water table and possibly promote salinization due to intrusion of saline water. However, some experts believe that salinization of land and drinking (borewell) water may be attributed to various other factors too like proximity to the sea, frequency of the tides, nature of soil, climatic conditions, groundwater table, and geomorphological characteristics of the area.

Human Health Impact

The social movements against shrimp culture in Sirhazhi, Tamilnadu, have alleged that shrimp culture activities have resulted in various diseases, which pose a threat to the local population. However, only one or two cases have been reported in Tamilnadu, and none in the shrimp culture areas of Andhra Pradesh. Further, the public has maintained that shrimp culture industry is the only viable alternative to agriculture, particularly in the context of the present water scarcity, which has been a disaster to agriculturists. In such circumstances, aquaculture has come to their rescue by providing better employment opportunities to the local labour including womenfolk. The public has also pointed out that they are comfortable with the development of the industry, and that any move to destroy it will make them homeless.

Socio-Cultural Impact

Shrimp culture is essentially a human activity with varying socio-cultural and economic impacts on human communities involved. An appreciable number of rural people have found employment as owner operators or wage earners in shrimp farms, and their economic standard has risen. The State Government is leasing out sites to co-operatives or to the poor, with a view to helping them earn cash benefits. Since shrimp commands a high price in the market, the overall socio-cultural and economic standards of marginal and small-scale farmers will certainly improve.

Shrimp farming suffers from lack of social acceptability. Indiscriminate conversion of agricultural lands into shrimp culture farms has aggravated landlessness among farmers, changing land use patterns in the coastal areas.

The ownership pattern has radically changed for various reasons. About 20 per cent of the coastal landholdings were sold as they were small (less than one ha), 40 per cent were sold due to high price, 30 per cent due to inadequate profit from crop production, and 10 per cent because of shortage of labour. The traditional agriculturists in the coastal areas have profitably utilised the sale proceeds to purchase fertile interior farms for shrimp farming.

The statement of the Sarvodaya leader, Mr. Jagannathan, against unemployment in aquafarms has proved to be false since many employment opportunities are being offered to the local people and the agriculturists. Further, his statements that the land used for prawn farming is unusable after 10 –12 years have also proved to be wrong since many farmers are converting their paddy fields to aquaculture farms in Tamilnadu. Certain areas in Bheemavaram, Andhra Pradesh, that were used for aquaculture were reconverted to agriculture to maintain crop rotation and high yield both in aquaculture and agriculture, and to prevent diseases.

Also to be noted is that only fallow lands and cultivable waste areas have been converted into prawn farms in Tamilnadu. Besides, on account of the persisting Cauvery water issue, farmers harvesting only one crop in Poompuhar area have given up agriculture, and prawn farm companies / investors purchased fallow lands from them. In fact, these companies came to the rescue of the farmers.

Positive Impact of Aquaculture

Aquaculture has a positive impact on the environment, and biodegradable wastes provide nutrition for agricultural production; otherwise it is mineralised by bacteria. The environmental effects of aquaculture include change in resources such as water and land, and competition between users. Aquaculture can contribute positively to the environment in many ways, but this is seldom recognised in environmental forums. Hence, more analysis is called for by social scientists.

Human Impact

Human impact encompasses the social, cultural and economic impact of aquaculture. Though aquaculture, like agriculture, is included in the primary sector, its social impact is significant. Local fishermen as well as agricultural farmers have found jobs in shrimp farms, though most of the owners of big farms have been from the urban areas. It has resulted in a good relationship between management and workers. Employees of aquafarms are of the opinion that they get better wages in the shrimp farms. Though India has a vast area that is well-suited to introduction of aquaculture, only a fraction of it is being used for such activities, which are a promising agent of economic welfare and a good source of foreign exchange.

Aquaculture is making it possible to rear various types of fish, especially shrimps, in India, thereby increasing the availability of food for the ever increasing population, which reached the one-billion mark, on May 11, 2000. It is unwise to depend on agriculture, especially wheat and paddy alone, to meet the food requirements of this huge population. Moreover, we have surplus agricultural production. It is necessary to look into commercial as well as export-oriented products.

The depletion or standstill of capture fishery since the seventies and availability of vast stretches of brackish-water lands (1.2 million sq. km) in India have resulted in the development of shrimp farming in the country. Owing to high profits and financial viability it has rapidly expanded. In Tamilnadu also, the aquaculture industry developed rapidly and is still being practised despite the Supreme Court's ban on aquaculture farms set up within 500 metres from the sea landward. Agricultural lands were purchased for the setting up of aqua farms. In Sirkali taluk, more lands have been purchased at high prices, but most of them are now idle on account of opposition from all walks of life.

Economic Aspects

Shrimp farms are highly profitable ventures, provided no viral diseases attack the prawns. Their unique taste makes them a culinary delight all over the world. They are cultured in many of the Southeast Asian countries, since the captured production remains at a standstill. In India too, shrimp culture is being encouraged, as there is ample space available. Shrimp farms have been set up in Tamilnadu but only in meagre areas, compared with Andhra Pradesh, though the potential is bright. The country earns nearly Rs.5,000 crore of revenue from aquaculture production and export. Thus, it is important to consider expansion of this industry on a still larger scale, waiving the environmental aspects, which are common on either side of the establishment of a flourishing industry.

Since the opportunity cost is favourable to aquaculture producers in place of agricultural producers, the shift is obvious. Any activity is to be considered an industrial or agricultural activity that will depend on the technology being used and the way the surplus so generated by such technology is distributed within the community dependent on it. Aquaculture, as a commercial activity, should be combined with concern for both the natural and the human environment. Otherwise, the first casualty would be aquaculture itself.

Conclusion

For the shrimp industry to thrive, conflicts between aquaculture and agriculture and between aquaculture and other uses of the coastline should be minimised. If fishermen and landless agricultural labourers were encouraged to practice shrimp culture, clashes and conflicts would be avoided. Though shrimp aquaculture is polluting the surroundings, measures could be introduced to minimise pollution. This is not the only polluting industry; dyeing and leather processing industries also cause pollution, but are allowed to function under the necessary controls. Similarly, the aquaculture industry may be permitted to operate with appropriate safeguards.

If the societal value of the life-supporting environment is not recognised, there is a grave risk that a short period of prosperous growth of the aquaculture industry, based on intensive ecosystem exploitations, will turn into severe ecological, economic and social problems and conflicts. In addition, it will disrupt cultural traditions of significance for sustainable resource use. The management of sectorial aquaculture for short-term profits does not recognise the interrelations between resource use, environmental impacts and the working of ecosystems. There is huge potential for recycling of resources and reduction of waste and pollutants in aquaculture. This means that there is potential for economic growth of aquaculture based on development. Such efficiency-increasing development is very different from the throughput-increasing growth witnessed in the unsustainable shrimp farming in recent decades.

Sustainable food production via aquaculture can be achieved by carefully combining different types of aquatic and terrestrial cultivation systems (Yan and Ma 1991). An integrated culture may help to curtail environmental hazards by using the wastes to increase production further and at the same time reduce the environmental impact.

It is inferred that environmental effects can be considerably reduced by rearing the commercial species, by creating recycling and other feedbacks between the ecosystem and the cultured species.

On the basis of this study it is felt necessary to promote aquaculture development in Tamilnadu and Andhra Pradesh through various policies that will benefit the farmers. But it is important that aquaculture and environmental preservation are achieved as a motto for sustainable development.

References

Bailey, C. (1988). The Social Consequences of Tropical Shrimp Mariculture Development, *Ocean and Shoreline Management*, 11: 31–44.

Berkes, F. (1985). The Common Property Resource Problem and the Creation of Limited Property Rights, *Human Ecology*, 13: 187–208.

Folke, C., and Kautsky, N. (1989). The Role of Ecosystems for a Sustainable Development of Aquaculture, *Ambio,* 18: 234–43.

Goodland, R., and G. Ledec (1987). Neoclassical Economics and Principles of Sustainable Development, *Ecological Modelling*, 38:19–46.

Meltzoff, S. K., and E. Lipuma (1986). The Social and Political Economy of Coastal Zone Management: Shrimp Culture in Equador, *Coastal Zone Management Journal*, 14: 349–80.

Primavera, J.H. (1991). Intensive Prawn Farming in the Philippines: Ecological, Social and Economic Implications, *Ambio,* 20: 28–33.

Regier, H. A., and G. L. Baskerville (1986). Sustainable Redevelopment of Regional Ecosystems Degraded by Exploitative Development. In Clark, W.C., and R.E. Munn (eds.). *Sustainable Development of the Biosphere,* 75–101. Cambridge: Cambridge University Press.

Yan, J., and S. Ma (1991). The Function of Ecological Engineering in Environmental Conservation with Some Case Studies from China. In C. Etnier and B. Guterstam (eds.). *Ecological Engineering for Waste Water Treatment*, 80–94. Gothenberg, Sweden: Bokskogen Publishers.

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Occupational Diversification and Rural-Urban Migration in India: A Review of Evidence and Some Issues for Research*

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Abstract

This paper attempts to review some of the existing theoretical and empirical studies on occupational diversification and rural-urban migration. Theoretically, the changing occupational structure has come to be explained from both the developmental and the distress angles. Empirical studies suggest that forces of development and distress are influencing rural occupational structure simultaneously. However, the extent of their influence is difficult to judge from the available evidence. The paper emphasises the need for a new focus in diversification studies to explain the phenomenon not only in terms of the micro-level dynamics but also from a broader perspective considering various macro processes. As regards rural-urban migration, given its peculiar nature, the phenomenon needs to be understood separately from the general process of diversification.

Introduction

Occupational diversification in an economy is usually considered to be a positive development as it is an important component of growth. The various population censuses and National Sample Survey (NSS) rounds in India suggest a slow but growing trend of diversification in rural areas in recent decades by way of an increase in the share of rural non-agricultural sector in the total workforce (Basant and Kumar 1989). A clear understanding of the phenomenon of occupational diversification can help to address better the following issues:

i) What drives demand for non-agricultural employment by different types of rural households? How are different forms of employment influenced by levels and forms of agricultural development? What are the terms of employment for non-agricultural rural work, and how do these terms relate to social and

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political relationships within and outside the rural areas? Under what conditions is diversification in rural areas a fundamentally positive factor in the survival of the poorest groups? (Koppel and Hawkins 1994).

ii) What has been the role of various natural resources like land, forests, and water in supporting and determining the livelihood of different sections of the rural community? How do changes in the natural resource base bring about changes in the occupational structure? In what way and to what extent are interventions for regeneration of natural resources likely to have a positive impact that can strengthen the occupational base?

iii) When diversification has a strong urban linkage, studies focussing on the linkage would help address the impact of urbanisation on rural poverty, investment, savings behaviour and labour market development in rural areas. Further, one would also be able to get an insight into the nature of urban informal labour markets, which are dominated by migrant rural workers (Breman 1996). The question of bringing about balanced rural-urban growth also depends upon an understanding of such a linkage.

iv) What are the directions of impact of policies aimed at bringing about rural diversification and development? What are the best strategies, short-term and long-term, that can bring about balanced and equitable growth particularly in the context of distress rural diversification?

The present paper attempts to critically review some of the available theoretical and empirical studies on occupational diversification and rural-urban migration both in order to answer some of the above questions and to identify issues for further research.

Theoretical Perspectives

The process of changing rural occupational structure in developing countries is viewed in the development literature from two perspectives (Koppel *et al* 1994, Unni 1996). The first is the development perspective, wherein forces of economic growth such as agricultural modernisation, urbanisation, etc., have led to creation of job opportunities, leading to the emergence of a diversified occupational structure. This growth process, first analysed by Kuznets (1966), is mediated by agricultural transformation, attendant upon the mechanisation of agriculture accompanied by a rise in the productivity of agricultural labour and its surplus. The notion behind the argument is that growth of agricultural production and productivity may create a surplus, which may be invested in non-agricultural enterprises, where an increase in rural incomes due to agricultural prosperity may alter the pattern of demand for goods and services. Generation of agricultural surplus and a changing pattern of consumption demand could lead to an increase in demand for labour in the non-agricultural sector (Unni 1994). In the course of development, increase in demand for services from both the primary and secondary sectors leads to growth of the tertiary sector. The expansion of the non-farm sector is, in Kuznets' scheme, prosperity-induced. Alternatively, it is also plausible that such agricultural prosperity (crop output per capita of agricultural population) will lead to an increase in demand for labour in agriculture, leading to better absorption of labour therein and there would be less spillover of excess labour into non-agricultural employment (Vaidyanathan 1986).

In sharp contrast to the development perspective is the distress perspective. McGee's (1971) thesis is sceptical of the growth prospects offered by agricultural labour and industrial transformation. McGee sees agricultural labour surplus more as a consequence of agrarian distress — a surplus that finds no ready absorption into productive employment in the industrial sector. The surplus labour then has no other option but to settle into a low-productivity tertiary sector. This expansion of the non-farm sector, from McGee's perspective, is distress-induced. Seasonal migration of the poorer households to urban areas in search of unskilled employment in the informal sector can be considered a typical case of such distress diversification. The deterioration trajectory is caused by factors inimical to growth and prosperity such as degradation and depletion of the natural resource base, agricultural stagnation and rapid population growth, compelling livelihood diversification of a distress nature.

This distress diversification has been alternatively put forward as residual sector hypothesis (Vaidyanathan 1986), which occurs when labour is not fully absorbed in the agricultural sector and the non-agricultural sector acts as a sponge for the excess labour. In this context, Bhalla (1989) identifies two kinds of distress diversification in which non-agricultural rural activities become residual labour force absorbers. The first is the case of supplementary workers who have no main occupation, but engage in some subsidiary work to supplement household income. The second is the case of persons with a main occupation who also engage in secondary activity.

Thus, two types of phenomena contribute to the growth of the non-agricultural sector: those representing development, captured by variables such as agricultural productivity, growth of income, infrastructure development, urbanisation and commercialisation; and others relating to distress, reflected in variables such as unemployment and poverty.

Some Empirical Studies

Unni (1994) and Dev (1994) have done empirical work supporting the development trajectory. They show that there exists a positive relation between agricultural development and the proportion of rural non-agricultural workers. Their analysis is based on NSS data, and the relationship appears stronger when the share of rural non-agricultural workers is regressed on per hectare agricultural productivity.

This evidence supports the hypothesis of Vaidyanathan (1986), who shows a significant positive relationship of the share of rural non-agricultural workers with rural prosperity, by taking agricultural output per capita of agricultural population as an indicator. Further, analysing the rural non-agricultural employment in India based on the NSS and Census data, Basant and Kumar (1989) suggest that during the last three decades, the share of the rural non-agricultural sector in the total rural workforce has increased. They show that it is primarily casual workers who shift from agricultural to non-agricultural activities during slack seasons. Emphasising the seasonality aspect, their study provides evidence to suggest that the involvement of labour in non-agricultural activities occurs countercyclically to the demands of the agricultural calendar and results in labour flows between the rural agricultural and non-agricultural sectors.

Jayaraj (1992), using Census data for 1,171 villages across 11 talukas of Tamilnadu, tries to identify the determinants of the level of non-agricultural employment. The author adopts a broad framework, which includes the development and distress perspectives. The basic focus is on spatial variations in the incidence of non-farm employment, which are both internal and external to the rural economy. The study shows that the phenomenon of non-agricultural employment is as much a function of agrarian prosperity as of agrarian distress, and that prosperity, like distress, could either promote or inhibit the growth of the agricultural sector.

Much of the evidence on growth of non-agricultural employment in India is at the macro level, based on NSS and Census data, which fail to capture the real nature of non-agricultural employment prevailing in different regions as they are highly heterogeneous. Further, the activities also differ according to the levels of agricultural growth in different regions, and these complexities cannot be captured or observed at the macro or meso level.

Another issue that has been identified in regard to the analysis based on secondary data is the apprehension about its reliability and adequacy. Bhalla (1996) cautions about use of NSS data as the sample size of the NSSO surveys is perhaps inadequate to capture secular changes in the structure of the workforce. In addition, Bhalla points out that the employment questions were introduced into the demographic block of a questionnaire on consumption expenditure. Thus, in order to understand the dynamism that exists in rural areas with regard to the nature of diversification, one has to look more towards micro-level studies.

Basant (1993), in a micro-level study of 30 villages in five districts of Gujarat, examines diversification among different households across various income groups. For households that did not operate any land, income from non-farm activities (72 per cent) seemed to be the major source compared with the case of those who also operated land (40 per cent). Diversification by households involved their participation in different activities, and also involvement in multiple economic activities by a single worker. Diversification into different activities by the households was influenced by factors such as their access to land, family size, and nearness of the village to a town.

Basant and Joshi (1994) provide micro-level evidence of diversification of the development kind, where the agriculturists invest their surplus in non-agricultural activities, especially processing and trade, in the agriculturally developed six villages of Kheda district in Gujarat. The study basically establishes the linkage between agricultural prosperity, commercialisation and urbanisation, on the one hand, and growth of rural non-agricultural employment on the other.

The study further shows that growth of the rural non-agricultural sector is linked to agricultural prosperity and commercialisation mainly in large villages because of the relatively large internal market. The analysis also shows how distress and development factors can operate simultaneously in the same region. At the same time, the study reveals that the identification of distress diversification is complicated at the micro level because shifts to non-agricultural activities out of distress may take various forms. The data show that both households with large landholdings and the landless contribute to the non-agricultural workforce in the region. This means that diversification takes place at both ends of the spectrum; with landed households diversifying into productive non-agricultural activities like trade and agro-processing, and the poor into less productive non-agricultural activities, like casual wage labour.

Jayaraj (1996), in his micro-level study in the North Arcot district of Tamilnadu, observes that households with access to land enjoy relatively better access to non-agricultural employment. He develops a framework where development of the rural non-agricultural sector is viewed as one of the components of the overall socio-economic transformation, and analyses spatial and temporal variations in the incidence of rural non-agricultural employment. He finds that gender, caste, and land limit access to employment in the non-agricultural sector, while education improves access to employment in the non-agricultural sector.

Occupational diversification of the development kind is observed in yet another micro-level study. Kumar (1996) argues that with economic growth, there has been a relative shift away from agriculture towards industry and services in Bhuvel, a village in the developed pocket of Kheda district in Gujarat. Occupational diversification has occurred even among landless households, such as artisans and Scheduled Castes who have diversified into various economic activities such as government services and other odd jobs in factories and shops. Sharan and Dayal (1996) also observe this kind of occupational diversification of the marginalised sections of society among the Ghasis of Ranchi.

A micro-level study by Unni (1996) in two talukas, irrigated and semi-arid in Mehsana district of Gujarat, indicates that non-agricultural activities have a positive impact on rural livelihoods in various ways. Besides enhancing the income of households in general, they enable agricultural households to survive year-to-year weather fluctuations. She observes that non-agricultural employment strengthens the base of rural livelihoods, through increase in incomes, but also increases the degree of inequality in the distribution of rural income.

The studies reviewed above reveal that as agricultural growth takes place and its base expands, the linkage effect results through increased demand for farm inputs, farm services and consumer goods, which are strong enough to raise non-farm employment. This results in a positive relation between the level of agricultural development and non-farm employment. Further, these studies have observed that diversification of the development kind could also be due to higher levels of education and increasing accumulation of capital. However, these studies have focused mainly on the developed pockets. Hence, the strong evidence in support of the development phenomenon. One needs to also look at how the expansion of non-agricultural employment in backward areas reflects the inability of agriculture to adequately support the rural population and forces many, the rural poor in particular, to diversify their employment channels for sheer survival (Shylendra and Thomas 1995).

Understanding Diversification: Need for a New Focus

Macro-level studies are concerned mainly with the description and explanation of inter-regional and inter-temporal variations in the participation of households in non-farm activities. Further, the available evidence on occupational diversification shows a complex pattern of activities undertaken in rural areas, with varying degrees of emphasis on farm and non-farm work. What is also important in understanding the determinants of economic diversification in rural areas is the impact of the structure and functioning of the labour markets. The economy functions in an integrated way wherein the agriculture and non-agriculture sectors are interlinked, and rural and urban areas are closely interdependent (Bharadwaj 1989; Unni 1994). Most of the empirical studies at the macro and micro levels mainly indicate that occupational diversification is a result of changes in the agrarian processes. Further, they attribute it to either seasonality of agrarian operations or declining agricultural surplus resulting from declining yield or declining per capita land availability, or to linkage effects created by commercialisation of agriculture by way of demand for activities like supply of inputs and services, marketing and processing of agricultural produce. In the current debate this view is considered narrow from the point of view of capturing the total reality of the rural labour processes as it ignores the broader structural changes influencing rural labour differentiation (Koppel and Hawkins 1994).

Hence, studies trying to explain the phenomenon of diversification must incorporate perspectives that go beyond the narrow agrarian differentiation process (Koppel and Hawkins 1994; Vaidyanathan 1997). It is important to not only develop a comprehensive analytical framework that captures the demand and supply-side factors in non-agricultural employment but also to look at outcomes in terms of level of non-agricultural employment and wage rates, incomes (Vaidyanathan 1997) and impact of diversification on poverty (Unni 1998). In this context the perspective to be considered could be a derivative of a broader social, economic and political process closely correlated both with local processes involving changing social significance of the family, community and rural enterprises with wider processes involving the changing relationship between the State and the economic organisation of rural areas (Koppel and Hawkins 1994).

Natural Resources and Occupational Diversification

In the literature on diversification not much of an attempt has been made to relate clearly the process of occupational diversification to changes in the status of the natural resource base. Natural resources such as land, water, and forests, which could be either common or private property resources, play a crucial role in determining the nature of livelihood strategies adopted by the rural households and the resultant occupational structure. At the same time, outside interests and interventions in natural resources are likely to bring into play the local livelihood system with external factors that are either inimical to or supportive of the existing livelihood system (Koppel and Hawkins 1994).

The existing studies on occupational diversification and natural resource management have tried to focus on the role of the changing resource base in bringing about occupational diversification, the impact of such diversification on the management or development of local natural resources and how interventions in natural resources regeneration can affect diversification, particularly of a distress nature. Occupational diversification or distress migration from rural areas can sometimes result from environmental degradation. Breman (1985) observes that in the semi-arid areas of South Gujarat, forestry work was a major source of employment for the tribals during the slack agricultural seasons. However, since this source of income and employment has become much less significantowing to deforestation during the last few decades, outmigration fromthese villages to urban areas for alternative sources of employment during the slack agricultural seasons has increased over the years.

Chopra and Gulati (1997) address the question of regenerating the natural resources by defining common property rights in the arid and semi-arid regions of Western India where outmigration stems largely from push factors such as environmental degradation and decrease in common land. They establish, through a simultaneous equation system, that a higher extent of outmigration depicts a higher level of environmental degradation. Regeneration of the natural resource base, therefore, would help to reduce migration. The authors emphasise that in the case of common resources like land, if property rights are well defined through proper institutional arrangements and outside intervention, labour would move towards creation of common assets. This would bring about an improvement in the environment, leading to a decrease in outmigration. Hence, the same resources support higher levels of population.

Further, Chopra and Gulati (1998), in their micro-level study, show how institutional creation in common property resources influences distance migration. Basing their analysis on the work of two NGOs in Rajasthan, the authors observe that creation of common property rights significantly slows down distance migration. Outmigration and participation in Common Property Resource (CPR) management are interrelated. Institutional build-up improves participation in management of commons, helping to reduce distress migration.

Similarly, the study by Balooni and Singh (1994), in the Panchmahals districts of Gujarat, also shows how intervention by outside agency can help to revers e seasonal migration. The study shows that intervention by an NGO in a lift irrigation scheme in 1976 and later in a farm forestry programme in 1982 helped to transform the tribals of a semi-arid backward village from a resource-poor to a highly productive area. This intervention not only provided the tribals with additional income from trees and crop output but also increased their number of days of local employment, which lowered the rate of seasonal migration from 75 per cent in 1976 to 5 per cent in 1993.

The above finding shows the importance of understanding clearly the role of natural resources in supporting rural livelihoods and in determining the demand for non-agricultural employment. Another critical question, particularly from the point of view of policy is, what is the likely impact of regeneration of natural resources like forests and land on the livelihood strategies of different sections of the rural community?

Rural-Urban Migration

The last few decades have observed massive seasonal or permanent migration of peasants from rural to urban areas in the Third World countries. This has been extensively documented, and there has also been an enormous growth of theoretical literature and empirical evidence towards an understanding of the realities of rural-urban migration (de Haan 2000). The phenomenon has also led to a considerable debate on the process of capitalist penetration into rural areas and its role in influencing the existing socio-economic differentiation in the countryside.

One of the prominent theoretical arguments on rural-urban migration views it as individual utility maximisation behaviour (Todaro 1969; Hariss and Todaro 1970), where wage differentials between the urban and rural sectors are considered to be the prime determinant of migration. The neoclassical expected income model of Todaro, with its numerous variants, seems to focus on individual potential migrants, and argues that holding much less constant, people will migrate if they expect to do better than they would if they did not move. The neoclassical theory of migration is largely based on the Lewis model, where the institutionally given urban wage rate and the wage differential between the urban and rural sectors form the basis of framework. This implies that migration from the rural to the urban sector results when the actual rural wage rate falls short of the expected urban wage rate. However, the neoclassical model, which is the most dominating framework in the context of rural-urban migration, assumes that rural migrants are a homogeneous category of poor people, ignoring the fact that their migration is not always based on a strategy of maximisation, but of survival. The circulation of labour or migration from rural to urban areas is at times a response to economic necessity. The Todaro model does not consider non-economic factors such as pressure of population, inequalities in the distribution of land-owning and other institutional mechanisms that lead to migration from rural to urban areas. However, an application of Todaro's model of rural-urban migration for all-India and three major states, Maharashtra, Tamilnadu and West Bengal, did not provide enough evidence to support the hypothesis that rural-urban migration takes place primarily in response to expected income differentials (Sundaram 1986).

Breman (1985) also criticises the Todaro model by taking the case of large-scale displacement of labour in the tribal hinterland of South Gujarat. His study shows how the migrants who find work in the cotton ginning factories in Bardoli (migrant place) earn a lower daily wage than the laboursstaying behind in Valod (originating place) to work on roads or canals there. Breman's study concludes that seasonal migration is a matter of survival or, at best, of consolidation, and hardly ever results in accumulation or re-investment in the home area.

Alternatively, inter-temporal family contract models of migration also have been constructed (Stark 1980; Stark and Bloom 1985; Stark and Lucas 1988). These emphasise risk spreading (Stark and Levari 1982) by families in the presence of imperfections in rural capital markets (Stark 1982) as a strategy to overcome constraints on production and investment activities as a result of missing or incomplete credit and insurance markets in rural areas. The basic premise of these alternative models, which are based on household utility maximisation, is that the decision to migrate is not taken by an individual; the family members also have a role to play. Stark and Lucas (1988) suggest that labour migration by one or more family members can be an effective mechanism to self-finance local production activities and acts as self-insurance against local income risks. Stark and Levari (1982), and Taylor (1986) also argue that migration plays a risk-reducing and insurance-enhancing role in production and investment decisions. Hoddinott (1994) models migration as an outcome of a joint utility maximisation by the prospective migrant and the other family members. These models of behavioural decision-making thus emphasise that circulation of labour is a form of risk reduction by spreading the risk spatially and occupationally while maximising consumption.

Apart from testing the validity of the above developed models, the discussion on rural-urban migration in India seems to have focussed on determining the relative importance of push and pull factors in inducing migration. Income differentials are seen as the major pull factors, while seasonality risk, market failures, erosion of assets and landlessness are seen as push factors. Most of these studies have also tried to address the demographic aspects of migration (Gupta 1984, Kundu 1986, and Oberai and Singh 1980). Their analysis is based on NSS and Census data at regional as well as national levels, depicting the extent and magnitude of rural-urban migration. However, a major limitation of studies based on secondary data is that they do not throw any light on changes in economic conditions, including consumption and lifestyle, that migrants undergo in urban areas in adapting to their new environment. Besides, such studies also fail to capture the problems that migrants face in leaving the security provided by the family, the community, well-established work patterns, economic and social relationships, to live and work in a harsh and hostile environment and among people most of whom are strangers.

Dasgupta and Laishley (1975) have tried to identify the social, economic and demographic factors in village life associated with migratory movements and who really are the migrants. Their work reveals that factors related to both village base and urban relations induce migration. The factors that they identify at the village base are land shortage and low fertility and skewed distribution of land, and the resulting high proportion of landless agricultural workers. The two major urban-related factors that they identify are commercialisation of agriculture and access to towns.

A major study on migration has been that of Connell *et al*. (1976), which tries to understand migration as an imbalance in access to resources that exists between regions, families and villages. It examines the conditions that influence the decision to migrate, the destination, occupations pursued, income from migration and other socio-economic characteristics of the migrants. The study shows that it is inadequate access to income generating land in the village and the hope of improving living conditions in the village that encourage households or individuals to migrate. The migration that they document is seasonal, circular and permanent in nature.

The study also documents in detail the benefits of remittances, the expenditure pattern of the migrants and their preferences over the use of the remittances. According to the study, the expenditure pattern of remittances reflects the poverty and resultant lack of investment opportunities that migrants are faced with. They observe that remittances are utilised mainly for meeting everyday household needs, and when basic requirements are met, remittances often flow into conspicuous consumption. It was observed among several agricultural labour migrants from Eastern Uttar Pradesh to Punjab in 1973 that income from remittances is mainly used to defray consumer debt in their home villages so as to avoid the need to sell land. In many villages the level of investment in agriculture was found to be very low. The pattern of investment shows that some households invested their remittances in education, thus stimulating further migration. Another major use of remittances is for payment of bride price, which exists in some villages. The study also revealed that remittances are not an economic phenomenon alone but also involve a social angle in that they become an instrument for migrant households to seek a continued stake in the village economy and social hierarchy.

As regards the impact due to absence of migrants, the study observes that the negative impact of male emigration on agricultural production is reduced if women normally do farm work or can move into it easily; but a large emigration can produce a drastic shortage of men. This would lead to a shift to easy crops of low value, at least until the migrants return with more favourable adaptations or remittances.

Breman (1985), based on his study of seasonal migrants in South Gujarat, observes that for the tribal population, seasonal migration is more of a 'holding operation,' which enables them by and large to maintain their relative position in the village and to avoid alienation of land as far as possible. The continued migration for the past few decades has hardly improved the quality of tribal life, particularly for the large and growing underprivileged. Yet the cash income derived from labour outside the home area is not in itself enough protection from social and economic deterioration. In this context, one could try and probe the question that Connell *et al.* (1976) poses, viz, that labour migration stems from inequality, but are the existing socio-economic differences also increasing as a result of this?

Seasonal migration of the kind referred to by Breman represents diversification, particularly of the distress nature. Diversification by way of seasonal migration has certain peculiar dimensions both in terms of the causal factors and its impact, making it necessary to understand the phenomenon separately from the general process of diversification. Apart from the foregoing questions about seasonal migration, there is also the issue of migrants working and living in inhuman conditions (Breman 1996), raising questions about the desirability of the whole process. Such concerns have led to arguments for arresting or reversing the phenomenon. In fact, developmental agencies working in areas where such seasonal migration is widely prevalent normally aim at reducing migration through appropriate interventions. Though such a policy stance goes against the general notion of migration as a positive phenomenon, it is precisely such policy arguments that call for a better understanding of seasonal migration (Shylendra and Rani 2000). In what context does migration need to be reversed and in what context may a proactive stance be taken?

Conclusion

The phenomenon of occupational diversification, given its potential for alleviating rural poverty and unemployment, has thus been examined in the literature quite extensively in terms of its nature and magnitude, causal factors and impact on the household economy. The phenomenon in rural India at the macro level is characterised by an increase in the share of non-agricultural workforce engaged mainly in the tertiary sector and having casual status. Theoretically, the changing occupational structure has come to be explained from two perspectives. First, from a developmental angle, the changing workforce composition is attributed to factors like agricultural prosperity and growing urbanisation with their attendant positive linkages, enabling the labour force to diversify in order to tap new income and employment opportunities. Diversification under such conditions is more a growth or prosperity-induced one. The second perspective is of the distress kind where poverty, population growth and depleting resource base compel the labour force to diversify under duress, including resorting to seasonal migration to distant places. The empirical studies reviewed suggest that the phenomenon can be seen operating at both ends of the spectrum. In other words, the changing occupational structure in India is being influenced simultaneously by forces of development and distress. However, the extent of influence of these two forces is difficult to judge from the evidence provided by existing studies owing to their limitations. The empirical studies, which focus on the macro or regional level, relying only on secondary sources of data, have failed to capture the micro-level dynamics of diversification. On the other hand, those studies with a micro or village-level focus, by confining themselves mostly to a specific area, are limited by their inability to relate the local labour processes to the broader context and change. It is here that the need is felt for studies that not only explain the phenomenon in terms of its local nature and dynamics but also provide a broader perspective that is a derivative of political, social and economic processes. In terms of broadbasing the studies on diversification, another important dimension is the relation between diversification, particularly of the distress type, and natural resource management. Even though the evidence is very limited, distress diversification seems to be having clear links with the changing natural resource base like degradation of forests. The studies suggest that improving the local resource base and its management can potentially reverse the trend of distress diversification.

As regards rural-urban migration, the studies reviewed suggest that widespread labour migration in India is explained more by structural factors like inequality in land ownership, poverty and agricultural backwardness than by models dealing solely with motivations of maximising the family's income and employment. Hence, rural-urban migration might help the rural poor to overcome their problem of survival, but may not lead to their real economic consolidation. Again, given the prevalence of distress migration, there is a need for studies that can help understand the phenomenon better, particularly for addressing policy initiatives aimed at reversing the trend of distress migration.

References

Balooni, K., and Katar Singh (1994). *Economics of Farm Forestry: A Case Study in Shankerpura Village, District Panchamahals, Gujarat.* Working Paper No. 61, Anand: Institute of Rural Management.

Basant, Rakesh (1993). *Diversification of Economic Activities in Rural Gujarat: Key Results of a Field Survey.* Working Paper No. 53, Ahmedabad: Gujarat Institute of Development Research.

Basant, R., and B. L. Kumar (1989). Rural Non-Agricultural Activities in India: A Review of Empirical Evidence. *Social Scientist*, 17(1–2): 13–71.

Basant, R., and H. Joshi (1994). Employment Diversification in an Agriculturally Developed Region: Some Evidence from Rural Kheda, Gujarat. In Visaria P. and Rakesh Basant (ed.). *Non-Agricultural Employment in India: Trends and Prospects*, 222–57. New Delhi: Sage Publications.

Bhalla, S. (1989). Employment in Indian Agriculture: Retrospect and Prospect. *Social Scientist*, 17(5-6):3–21.

——— (1996). Workforce Restructuring, Wages and Wants: Recent Events, Interpretations and Analysis. *Indian Journal of Labour Economics*, 39(1): 1–12.

Bharadwaj, K. (1989). *On the Formation of the Labour Market in Rural Asia*, World Employment Programme Research Working Paper 98. Geneva: International Labour Organisation.

Breman, Jan (1985). *Of Peasants, Migrants and Paupers — Rural Labour Circulation and Capitalist Production in West India*. Delhi: Oxford University Press.

——— (1996). *Footloose Labour: Working in India's Informal Economy*. Cambridge: Cambridge University Press.

Chopra, Kanchan, and S.C. Gulati (1997). Environmental Degradation and Population Movements: The Role of Property Rights. *Environmental and Resource Economics*, 9: 383–408.

——— and S. C. Gulati (1998). Environmental Degradation, Property Rights and Population Movements: Hypothesis and Evidence from Rajasthan (India). *Environment and Development Economics*, 3: 35–57.

Connell, John, Biplab Dasgupta, Roy Laishley, and Michael Lipton (1976). *Migration from Rural Areas: The Evidence from Village Studies*. Delhi: Oxford University Press.

Dasgupta, B., and R. Laishley (1975). Migration from Villages. *Economic and Political Weekly*, 10 (42): 1652–62.

de Haan, Arjan (2000). Livelihoods and Poverty: The Role of Migration — A Critical Review of the Migration Literature. *The Journal of Development Studies*, 36 (2): 1–47.

Dev, M. (1994). Some Aspects of Non-Agricultural Employment in Rural India: Evidence at a Disaggregate Level. In Visaria P. and Rakesh Basant (ed.). *Non-Agricultural Employment in India: Trends and Prospects*, 258–88. New Delhi: Sage Publications.

Gupta, S. K. (1984). Role of Migration in the Urbanisation Process of Assam. *Social Action*, 34 (1): 67–76.

Harriss, J. R., and M. P. Todaro (1970). Migration, Unemployment and Development: A Two-Sector Analysis. *American Economic Review*, 60: 126–42.

Hoddinott, J. (1994). A Model of Migration and Remittances Applied to Western Kenya. *Oxford Economic Papers*, 46(3): 459–76.

Jayaraj, D. (1992). Determinants of Rural Non-Agricultural Employment: A Village-Level Analysis of the Data for Tamilnadu. In S. Subramanian (ed.). *Themes in Development Economics: Essays in Honour of M. Adiseshiah*, 284–306. Delhi: Oxford University Press.

——— (1996). *Structural Transformation of the Rural Workforce in Tamilnadu: An Analysis of the Impact of Sociological Factors*. Mimeo, Madras: Madras Institute of Development Studies.

Koppel, B., and John Hawkins (1994). Rural Transformation and the Future of Work in Rural Asia. In Bruce Koppel, John Hawkins, and William E. James (ed.). *Development or Deterioration: Work in Rural Asia*, 1–46. Boulder: Lynne Rienner Publishers.

Koppel, B., John Hawkins, and William E. James (ed.). (1994). *Development or Deterioration: Work in Rural Asia*. Boulder: Lynne Rienner Publishers.

Kumar, B. L. (1996). Changes in the Composition of Rural Labour Force: Some Evidence from a Village Resurvey. *Indian Journal of Labour Economics*, 39 (4): 809–16.

Kundu, A. (1986). Migration, Urbanisation and Inter-Regional Inequality: Emerging Socio-Political Challenge. *Economic and Political Weekly*, 21 (46): 2005–8.

Kuznets, S. (1966). *Economic Growth of Nations: Total Output and Production Structure*. Cambridge: Belknap Press of Harvard University Press.

McGee, T. G. (1971). Catalysts of Careers? The Role of Cities in Asian Society. In Jakobson L. and V. Prakash (ed.). *Urbanisation and National Development*, 157–83. Beverley Hills , California : Sage Publications.

Oberai, A. S., and H. K. M. Singh (1980). Migration Flows in Punjab's Green Revolution Belt. *Economic and Political Weekly*, 15 (13): A2–12.

Sharan, R., and H. Dayal (1996). Migration and Occupational Changes of a Scheduled Caste Community: A Case Study of Ghasis of Ranchi. *Indian Journal of Labour Economics*, 39(4): 865–72.

Shylendra, H.S., and P. Thomas (1995). Non-Farm Employment: Nature, Magnitude and Determinants in a Semi-Arid Village of Western India. *Indian Journal of Agricultural Economics*, 50(3): 410–16.

——— and Uma Rani (2000). *Sustainable Rural Livelihood in the Context of Growing Occupational Diversification and Rural-Urban Linkages*. Mimeo, Anand: Institute of Rural Management.

Stark, O. (1980). On the Role of Urban-to-Rural Remittances in Rural Development. *Journal of Development Studies*, 16 (3): 369–74.

——— (1982). Research on Rural-to-Urban Migration in Less Developed Countries: The Confusion Frontier and Why We Should Pause to Rethink Afresh. *World Development*, 10(1): 63–70.

Stark, O., and D. Levari (1982). On Migration and Risk in Less Developed Countries. *Economic Development and Cultural Change,* 31(1):191–96.

——— and D. E. Bloom (1985). The New Economics of Labour Migration. *American Economic Review,* 77(2): 173–75.

——— and R. E. B. Lucas (1988). Migration, Remittances and the Family. *Economic Development and Cultural Change,* 36(3): 465–81.

Sundaram, K. (1986). Rural-Urban Migration: An Economic Model and the Indian Evidence. In M. S. A. Rao (ed.). *Studies in Migration,* 163–82. New Delhi: Manohar Publications.

Taylor, E. J. (1986). Differential Migration, Networks, Information and Risk. In O. Stark (ed.). *Research in Human Capital and Development,* Vol.4, 147–71. Greenwich: JAI Press.

Todaro, M. P. (1969). A Model of Labour Migration and Urban Unemployment in Less Developed Countries. *American Economic Review,* 59(1): 138–48.

Unni, J. (1994). Inter-Regional Variations in Non-Agricultural Employment in Rural India: An Exploratory Analysis. In Visaria P. and Rakesh Basant (ed.).*Non-Agricultural Employment in India: Trends and Prospects,* 289–329. New Delhi: Sage Publications.

——— (1996). Non-Agricultural Employment and Rural Livelihoods: Macro Vis-a-Vis Micro View. *Indian Journal of Labour Economics*, 39 (4): 795–807.

——— (1998). Non-Agricultural Employment and Poverty in Rural India: A Review of Evidence. *Economic and Political Weekly,* 33 (13): A36–44.

Vaidyanathan, A. (1986). Labour Use in Rural India: A Study of Spatial and Temporal Variations. *Economic and Political Weekly*, 21 (52): A130–46.

——— (1997). Report on the Workshop to Evolve an Agenda of Research on Rural Non-Agricultural Employment. *Indian Journal of Agricultural Economics*, 52 (1): 152–57.

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Globalisation and the State: Interrogating the Farmers' Movement in India*

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Abstract

The 1980s mark the beginning of a new trend in the farmers' movements in India. A spate of new movements, from Shetkari Sangathana (SS) in Maharashtra to Karnataka Rajya Raitha Sangha (KRRS) in Karnataka and Bharatiya Kisan Union in Uttar Pradesh, began challenging the wider exploitative relations between the agrarian society/system, on the one hand, and industrial/international/western capital on the other. Over the past decade two issues have been in focus in the discourse of the farmers' movement in India: globalisation and the Indian state. This paper traces the reasons for the farmers' movement's formulation of its own perspectives on globalisation and the state. Finally, it analyses the effect of two kinds of politics, Politics of Apologia and Politics of Placing, on the farmers' movement in India.

In the present context of post-colonialism, globalisation has become a fuzzy word for two important reasons: The first is the difficulties involved in locating the actual process (Hirst *et al*. 1995) and the subsequent semantic confusion. The second reason is the larger myths/euphoria and the notions that globalisation has created and perpetuated over the years. The myths are that it is a western liberal project (Greider 1997) to modernise (Appadurai 1997) the Third World, overlooking the fact that the western agenda of modernisation has historically failed to solve a host of problems afflicting the Third World (Kiely and Philmarsheet 1998). The other myths are that it would introduce uniform social relations based on homogeneous interests and tastes, bring in new cultural practices (Thomson 1999), introduce 'borderless situation' (Hilton 1998), and bridge the gap between the rich and the poor. It is in this context that globalisation has been viewed vividly (Dibaja 1998): 'dissemination of the economy, polity, and culture of one sphere to another'; 'increasing homogenisation of world culture'; 'a society without borders'; 'a loose combination of free trade agreements, the internet and the integration of financial

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markets that is erasing borders and uniting the world into a single lucrative but brutally competitive market place;' 'compression of the entire world on the one hand and a rapid increase in consciousness of the world.' All these arguments recognise that globalisation[1] is a new phenomenon, a new phase, a process, a situation. Thereby, the 1990s have been called the decade of 'Globalisation.'

Two important issues have become controversial in the discourse of the new farmers' movement in recent years: globalisation and the Indian state. The new farmers' movement [2] (Brass 1995), which is seen as a part of the larger new social movements, emerged much before the debate on globalisation took root. It all began in the eighties when farmers of Karnataka, under Karnataka Rajya Raitha (KRRS), of Maharashtra under Shetkari Sangathana (SS), of Uttar Pradesh under Bharatiya Kisan Union (BKU), and of Tamil Nadu under Tamiliga Vyavasaigal Sangam, began agitating in various parts of the country on a number of issues. These farmers' movements were called 'new' for various reasons: first, unlike the earlier struggles, which were about land, market and prices became the most important issues. Second, the struggle was directed against external agencies such as the state, and industrial capital/international capital. Third, unlike the earlier farmers' movements, the 'new' movements 'bring together entire rural populations, past and present, irrespective of the economic, ethnic, caste, religious, and political differences.' Fourth, they believed in discoursing on a large number of issues. Thereby, they placed emphasis on creating a rational farmer within the larger framework. Finally, they believed in retrieving the communitarian life in the context of capitalism, both western and indigenous, threatening the identities, communitarian life and cultural practices.

One can discern two phases in the discourse on farmers' movements vis-à-vis globalisation and the state. In the first phase, spanning 1980–90, although globalisation never became an important issue, the issues of western capitalism, strategy of western world/imperialist countries, colonialism/neo-colonialism, and the Western paradigm of development did come up for discussion quite often, and were mediated through the internally linked issues. Generally, the farmers' discourse during this decade centred on the issues of 'urban vs rural,' 'Bharat vs India', remunerative prices, writing off of loans, agrarian backwardness, industry-oriented policies, etc. It was during the 1980s that the movements largely retained their ideological cohesion.

Broadly, the farmers' movement during the 1980s believed that India's prevailing structural backwardness was mainly due to external linkages, i.e., capitulation of India to western capitalism. It was a deliberate ploy and a larger strategy to perpetuate subjugation of the Third World countries, including India (Assadi 1997a). It is in this context that Third World countries have not been able to escape or delink themselves from the western world. Moreover, the working class of the western world is deliberately pampered so as to checkmate the possible broader coalition taking place between the working class of the Third World or ex-colonial countries and that of the western world. During the colonial period, the former colonial countries exploited the colonies through methods ranging from extortionate land taxation to slavery, bonded labour, establishment of religious institutions, terms of trade, etc. This legacy continues even in the post-colonial present in various forms, which have given space for 'neo-colonialism' or 'internal colonialism' to operate. The latter, internal colonialism, is ensured through 'procurement levies' in periods of scarcity at prices well below open market prices, dumping in domestic markets of products imported at prices exceeding the internal market prices, restricting the movements of goods, etc.' It is here that one can locate the discourse on conflict between Bharath and India operating—the native and traditional nomenclature of the country. This discourse /argument came largely from Maharashtra, which does not mean that other movements were hesitant to use the language of Maharashtra. For example, the Karnataka movement used the concepts *halli* and *pattana*, representing rural India and urban India respectively. Nonetheless, the argument of 'Bharath vs India' is obvious in the following argument[3]:

> 'India corresponds to that notional entity that has inherited from the British the mantle of economic, social, cultural and educational exploitation while Bharath is that notional entity which is subject to exploitation for the second time ever since the termination of the external colonial regime. In brief, the Black Britishers have replaced the white ones to the benefit of Bombay rather than that of Manchester.' (Joshi 1981).

Here lies the radicalism of the movement, especially in the construction of an idea about linkages and subsequent exploitative relations. This radicalism, however, became very ambiguous when the farmers' movement combined several ideological streams such as Gandhism, Nehruvian command economy, Marxism, and dependency theory. The ambiguity became a fact as globalisation took centre stage during the 1990s. This decade also saw a vertical split in the farmers' movement in India. This division has made the movement refashion its tools and strategies to address the issues emerging from globalisation; it also made the farmers' movement defend opposite ideological streams — liberalism/capitalism on the one side and Gandhism/dependency theory on the other; third, it made the farmers' movement form larger collectives at the international level and thereby helped them to address the issues; finally it helped them to construct new discourses/debates about the identity, paradigm of development, cultural practices, etc. However, it had one adverse effect: it diluted the militancy of the farmers' movement at the all-India level.

Globalisation, the State and the Farmers' Movement

At the outset, the concern of the farmers' movement stemmed from the larger implications of globalisation on the agricultural/agrarian economy, including different categories. Two perspectives are quite evident from within the farmers' movement. One perspective saw in globalisation the larger threat and strategy of western world/western capitalism to trap the Third World, including India in 'neo-colonialism'. The second perspective saw in globalisation 'the birth of the Indian village into an integrated world where the Indian farmer will have a fighting chance despite longstanding suppression by the State' (Joshi, n.d).

Three important issues in agriculture became a major concern of the farmers' movement, especially during the GATT negotiations, as the latter was conceived as part of the larger strategies of western capitalism/globalisation: the market-oriented agricultural trading system, which means opening up Indian agriculture to the larger market; substantial progressive reductions in agricultural support, which is nothing but rolling back the state; and the agreement on sanitary and phytosanitary issues. The latter issue combined other issues such as intellectual property rights, burden of proof, and patent rights. Here, questions were raised from within: what would happen to community rights of the peasants/farmers? Who would hold the IPR? What would happen when 'imperial jurisprudence' under the garb of 'burden of proof' was introduced? How should the farmers react when globalisation introduces 'aggressive capitalism' in different forms such as technical, bio-technological (terminator seed, golden rice, etc)? Finally, how are the farmers' suicides in recent years to be understood—as a consequence of globalisation or related to personal issues / land issues of the farmers concerned[4]? All these led to different discourses/arguments, strategies and perspectives, which have had an effect on the farmers' movement in India.

The Maharashtra movement advanced the most important argument on globalisation and liberalisation. While countering the argument that liberalisation / globalisation is a new phenomenon, the Maharashtra movement argues that liberalisation largely belongs to the swadeshi tradition of India: 'Liberalisation/ globalisation is not an iniquitous import from the west. Liberalisation is in fact a worldview of Vedanta.' This argument was advanced on the premise that 'in ancient times, the Vedanta tradition of Indian philosophy articulated essentially a liberal worldview based on the identity between the unitary and the holistic and, consequently, on the rejection of the possibility of a superior and wiser intermediary'. Further, this trend 'holds that an individual fulfilling his own personal rights is in harmony with his surroundings and with the world' (Joshi 1994a). What is noteworthy is the simile that the Maharashtra movement advanced for liberalisation/ liberalism: 'Liberalism is as swadeshi as the saree and curry.' Here lies the attempt to disregard liberalisation/globalisation as alien concepts. Meanwhile, the Maharashtra movement is not averse to the notion of liberalisation/globalisation coming from the western world.

It was during the debate on GATT/Dunkel draft that its arguments in favour of liberalisation became very clear. The reasons why the Maharashtra movement supported the GATT/Dunkel Draft are that it stresses the importance of rural-urban balance as a structural precondition for free trade; its market economy benefits everybody — in other words, the trickle-down argument is reinforced; 'the withdrawal of the state from all economic activities would automatically translate into autonomy (*swayatta*) for peasants'; it prepares the peasants for global competition and can help transform India from 'weak capitalism' to 'competitive capitalism'; the proposal to lift all the levy and compulsory procurement from the farmers will help the latter; reduction of the surplus labour in agriculture, removal of all restrictions on export of farm produce, reduction of subsidy, etc, will benefit the farmers. Towards this end, the Maharashtra movement supported the patent regimes or rights on food, chemicals, biotechnology, etc, as this would benefit the Indian farmers. The strategy that the Maharashtra movement employed was different: undertaking rallies in support of globalisation or becoming part of the Indian state[5].

However, there are spaces for contestation too: The issue of extending support prices for agricultural produce, or what is called Aggregate Measurement of Support, which was contested on logical and empirical grounds. In the latter case the movement claimed that the Product Specific AMS was not merely –2.3 per cent, but calculated that it is –72 per cent in the aggregate. Specific to the produce concerned, it varied from (-) 206 per cent in the case of cotton to +14.85 per cent in the case of sugarcane (see Table - 1). Further, it derived its logic from the experience of other western countries: 'The AMS in Japan is 70 per cent, which means the Japanese farmers earn about 70 per cent more than what they would have earned in a market free from State interventions. The AMS stands at around 50 per cent in the EEC countries, 30 per cent in the US and 10–20 per cent in the CAIRN group of countries that includes Australia and New Zealand.' It is on this ground that it formulated two arguments: that Indian farmers are the world's highest tax payers and that WTO regimes should also be concerned about the 'Aggregate Measure of Extortion' resorted to by the countries concerned and the western world.

Nonetheless, the bias of the Maharashtra movement was reinforced when it preferred foreign enslavement to indigenous enslavement on the ground that the former is composed of 'competent people.' It is in this context that it tried to downplay Indian intellectuals and scientists, as they are given to plagiarism rather than innovation. This shows the complete shift in the discourse and the inherent ambiguity in the movement.

One more shift is discernible in the debate on capitalism. Unlike the Karnataka and Uttar Pradesh movements, the Maharashtra movement declines to equate liberalism with capitalism, even though it had a clear-cut notion about capitalism. For the Maharashtra movement, capitalism is a phase where surplus was used for further production rather than for feudal war and ostentation.

Table 1: Aggregate Measurement of Support: Market Price Support, 1986 to 1988–89

Crop	Total Value Mill Rs 1986–89	Av.Value Base Per Year Mill Rs	Product AMS as Specific AMS Mill Rs	Percentage of Total Value
Rice	429737.40	143245.80	-61873.00	-43.19
Wheat	252466.60	84155.53	-41839.00	-49.72
Maize	29674.30	9891.43	-10496.00	-106.11
Millets	64915.00	21638.33	-22024.00	-101.78
Tur	24286.00	8095.33	-4523.00	-55.87
Gram	39883.50	13294.50	-49993.00	-35.56
Urad	13884.50	4628.17	-1394.00	-30.12
Moong	12533.00	4177.67	-1752.00	-41.94
Groundnut	86109.00	28703.00	2850.00	9.93
Soya bean	10122.20	3374.07	-962.00	-28.51
Cotton	21198.00	7066.00	-14543.00	-205.82
Rapeseed & Mustard	45857.50	15285.83	-7955.00	-52.04
Jute	8491.00	2830.33	-3833.00	-135.43
Tobacco	3423.40	1141.13	11.00	0.96
Sugarcane	48575.85	16191.95	2405.00	14.85
	1091157.25	363719.08	-170921.00	-46.99

Source: Joshi (1994b: 99)

'It is an era where capital was the most critical factor of production.' It is here that the Maharashtra movement treated Soviet Union/China and the US on an equal footing, calling the former 'capitalist-centred socialism' and the latter 'capital-centred capitalism' (*Business India,* September 22, 1997):

> 'In the history of human civilisation, early civilisation sprang up on fertile land around bends in big rivers, so humans could take advantage of the country of nature. This is the epoch of land-based river valley civilisation. The second stage of civilisation was marked by the rise of farmers, artisans, and soldiers when man became important as a factor of production. This era could be identified as labour-based civilisation with the combination of land and labour. There came a surplus. The surplus was over centuries wasted on feudal luxuries, temples, wars, etc, until it came to be deployed for production purposes. Capital — a combination of

surplus and technology — became a decisive instrument in human progress. Both capitalism and socialism correspond to this stage.'

In the present context of globalisation/liberalisation the Maharashtra movement had one more interesting observation to make: that neither land nor labour nor even capital becomes important. Rather, it is the combination of all that the movement calls 'entrepreneurism' (interview with Sharad Joshi, November 4, 2000, in Delhi). In other words, in the present context capitalism has no meaning, nor its larger agendas. It is here that the Maharashtra movement becomes an apologist of capitalism/globalisation. This politics can be conceptualised as the 'politics of apologia.'

The second important issue in the farmers' movement during this decade was the Indian state. Unlike their Karnataka and Uttar Pradesh counterparts, the Maharashtra movement clearly differentiated the state from other organs of government. The latter is one of the machineries of the state. The state is a larger whole, covering structures, and is controlled by a set of classes, basically the industrialists and capitalists. The Maharashtra movement criticised the state as being anti-farmer/anti-agriculture by arguing that the 'state has sought to put at the disposal of the industrialists inexpensive raw materials, labour force which can be hired at very cheap rates on account of the vast hordes of the unemployed moving from villages to the cities and of the cheapness of wage goods (Sharad Joshi, n.d)'. Further, the movement argues that the state adopts such strategies as 'procurement levies at uneconomic price during the period of shortages, grossly inadequate price support operations during the period of relative abundance, unjustified imports of key agricultural products at inordinately high prices prevailing in the international markets, reckless dumping of domestic markets with produce secured abroad (PL 480, food grains, milk product/powder, butter, oil palm, etc), severe restrictions coupled with unpredictable vacillation as regards exports of even surplus farm produce. Artificial devaluation of the rupee is amongst the major weapons used for denying the farmers legitimate compensation.' Despite these criticisms, the Maharashtra movement never repudiated the existence of the state. Meanwhile, two tactics of the movement vis-à-vis the state are visible: tactics to become a part of the state apparatus and attacking the state from outside.

In the first case of being in the state apparatus, especially when the protagonist became part of the state, he advanced a series of suggestions, including debureaucratisation, delicensing, reducing the direct/indirect taxes, liberalisation of import of capital and raw materials, withdrawal of subsidies, dismantling of the Nehruvian command economy, freeing agricultural trade from bureaucratic bottlenecks, abolition of all licences for agriculture-related industries, and abolition of restrictions on the export of agricultural goods. It is here that it sought the withdrawal of the state. However, here lies the famous dictum of the Maharashtra movement: 'In India the state cannot help solve any problem because it is the problem' (*Business India,* April 1, 1993). In this argument one finds the notion of anarchism running. This is once again reinforced by the fact that the Maharashtra movement began to question the validity of the state in accentuating agrarian development/rural development or on issues such as subsidies. It is here that one finds the peculiarity of the Maharashtra movement — supportive of the western agenda of liberalisation as a programme for the future; but as an ideology — its origin— it is indigenous or swadeshi. This notion of swadeshi — locating it in Vedanta — is not vibrant, unlike the New Hindutva. If the latter is meant for establishing a gendered, masculine state and a strong economy vis-à-vis the western one, the Maharashtra movement, on the contrary, stood for a weak state and saw the state as 'problematiques.' At the same time it stood for a strong economy so as to be 'competitive' vis-à-vis western capitalism. Here lie the anarchist ideas and paradox of the movement, which incidentally came during the decade of globalisation.

On the contrary, the farmers' movement of Karnataka and partly of Uttar Pradesh developed a fairly clear-cut idea of the state only during the 1990s. Until the late 1980s it understood the state in terms of functions of the government, and treated the latter as an instrument of the industrial class and as 'necessarily exploitative.' Towards this end, it demanded the replacement of one government by another, mainly by farmers vis-à-vis the industrial class. However, a clear-cut conceptualisation emerged during the 1990s —that of 'Mridu Rajya' or 'soft state.' The latter has two designs within the discourse of the farmers' movement: a) countering the neo-colonial design mediating through western capitalism/ globalisation, and b) countering the political inability of the state vis-à-vis western dictates. This includes countering the specific issues mediating through the symbolism of cultural industry, fast-food chains, terminator seeds, etc. Nonetheless, the movement is implicitly suggesting that the state is very weak too. In this context is the demand for a strong state to be located. This strong state ultimately meant displacing the industrial /commercial capitalist class as a ruling class, opposing the entry of global capital, capacity to withdraw from the global negotiations or to uphold the national sovereignty, etc. What is most important is that the strong state ultimately meant retrieving the place of the peasantry in the state as a ruling class. This politics can be termed 'politics of placing.'

However, there was vehement opposition to globalisation largely from two farmers' movements in India — Karnataka and Uttar Pradesh — as globalisation carries the larger agenda of the western world including the trinity, World Bank, WTO, and the multinationals. The methods that the western world/trinity adopts vary: introducing the cultural industries, symbols, images, media, fast food companies, patenting, new seed technology (terminator technology), etc. This has had larger consequences on the Third World, particularly on India, where its impact is very severe: increasing unemployment, elimination of indigenous knowledge/ culture, perpetual bondedness to the western world/capitalism, displacement of categories from their land, loss of lifestyles, superimposition of culture, and subsequently cultural alienation, violation of basic human rights, of freedom, and liberty, loss of individual dignity and conversion of India into a neo-colony. While making a case against globalisation, the movement tries to establish the nexus operating between the trinity and the larger agenda of globalisation. This is discernible in the following arguments (Assadi 1997b):

> 'Multinationals are here to destroy our food security and sovereignty. The Dunkel text is trying to give the status of international law to what the MNCs have been doing in many developing countries. The so-called structural changes forced by the World Bank on developing countries have resulted in impoverishment and bankruptcy of these countries.'

In fact, this kind of discourses have made the farmers' movement critical of the western paradigm of development /globalisation. Meanwhile, the strategies that the movement employed to counter globalisation varied. Unlike the Maharashtra movement, the Karnataka (and to some extent Uttar Pradesh) movement largely believed in directly confronting the multinationals, either by undertaking huge rallies or satyagrahas. The latter has been termed 'Bij or Seed Satyagraha'. Most important are the tactics of destroying the properties of the multinationals, conceptualising them as 'Gandhian violence', as Gandhi also justified the destruction of lifeless property during the nationalist movement. Three multinationals—Kentucky Fried Chicken (KFC), Cargil India, and Monsanto—were attacked in Karnataka, as MNCs symbolise the larger design of globalisation. In all these cases, the attack was precipitated by a critical analysis of each company in particular and globalisation in general. KFC came under attack because 'the animals that the company reared contain ingredients which are carcinogenic and cause typhoid, fatal fever, obesity, etc.' Further, the operation of the company would lead to 'alienation of lands by the peasantry, depletion of natural resources and, as a consequence, the destruction of environment.' The reasons for the attack on Cargil were that it is establishing patent regimes in its areas of operation, eliminates the traditional varieties of seeds, creates myths about miracle seeds, etc.' Finally, 'Cremating Monsanto' was resorted to as 'Monsanto symbolises the terminator technology by a system of monopolising totally the seed system and the entire food system.' (Interview with Prof. Nanjundaswamy, August 1, 1999). Further, 'Monsanto not only terminates seeds' germinating capacity but also terminates soil fertility, biodiversity and food technology.

However, all these attacks were centred on Karnataka alone; other movements that were opposing globalisation in principle were not keen on attacking the multinationals as there were two practical problems: no multinational had made its presence felt by way of experimenting on agriculture; and the problem of defining the immediate contradictions within the framework of an ideology. Uttar Pradesh, for example, lacked sophisticated ideological arguments[6]. Most of the time it collaborated with the Karnataka movement, and its arguments were largely derived from the experience of the Karnataka movement. Yet, the Uttar Pradesh movement often tried to dominate the farmers' movement in India on the basis of its proximity to Delhi or to the power centre.

In the present context, the farmers' movement of India, especially those opposing globalisation but not the state, have formed a broad coalition of social movements — National Fishermen's Movement, Navadanya, Mukti Sangharsh, Timbuktu Collectives, Indian People's Front, Rajasthan Kisan Sanghatana, Alternative Communication Mukti Sangarsh, etc. Meanwhile, their strategies and struggles have gone beyond national boundaries. They have become part of the larger collectives at the global level; these collectives are Via Campensia and People's Global Action. The former is a collective of farmers, small and medium peasants, agricultural labourers, rural women, and the indigenous community of Asia, Africa, America and Europe. It was formed in 1992 when peasants from North America and Central America met in Managua. The first conference was held in Belgium, where it was translated into a global organisation. Via Campensia, other than critiquing the consequence of globalisation on food security and national sovereignty, is also concerned about challenges that the respective continents are facing, including the brutal violations of human rights elsewhere at the global level — against Zapatista, against the Mexican army's presence in the midst of the indigenous population. It is due to this kind of interaction with Via Campensia that the Indian farmers' movement, chiefly Karnataka, Uttar Pradesh, and, to some extent, Punjab, could accommodate the issues of indigenous people, human rights violations, immigration, refugees, militarization of rural areas, non-democratisation of regimes, etc.

The second important collective at the international level is the People's Global Action, which is an 'evolving co-ordination of groups of organisation of fishermen, greens, indigenous people, landless, human rights, environmentalists, black community, etc.' PGA was formed in 1999 to 'serve as a global instrument for communicating and co-ordination of those fighting against the destruction of humanity and the planet by the global market, building local alternatives, and people's power.' (People's Global Action 1999). In fact, PGA believes in a 'clear-cut rejection of the institutions — WTO, EU, NAFTA, etc — that multinationals and speculators have built to take power away from the people, believes in a confrontational attitude and a non-violent civil disobedience movement.' Its ultimate agenda is essentially 'to take back control of the means of production from the hands of both transnational and national capital in order to create free, sustainable and community-controlled livelihoods, based on solidarity and peoples' needs and not on exploitation and greed.' It is with the help of such collectives that the Indian farmers were able to protest against WTO/globalisation in Seattle, Geneva, Prague, Washington D.C., as also undertake a caravan in Europe during 1999 highlighting the consequences of globalisation. During the caravan they resorted to unconventional strategies such as critical participation in human chains, walking along with anti-nuclear groups, demonstrating before the headquarters of multinationals (Nestle, Cargil, etc), destroying genetically modified crops, staging sit-ins, etc. All these strategies or discourses were aimed at rejecting the western paradigm of development mediating through globalisation (Intercontinental Caravan 1999):

> 'We do not want western money, technologies or experts to impose their developmental model on us. We also refuse to be used as political tools to ask the elites for reforms that we never demanded. We only want to organise our strength and combine it with the strength of other movements in the north and the south in order to regain control over our lives. We are not working for a place on the global table of negotiations nor for a bloody revolution; we are just making one more step in the long-term process of construction of a different world; a world which will come about from the local to the global, from a shift in the values and everybody's choices of millions of persons.'

The above discourses / arguments show that globalisation has been addressed differently: one section of the farmers' movement, while welcoming globalisation, tries to locate its roots in the Vedanta or Swadeshi tradition and, in the process, negates the argument that it is basically a western project. On the contrary, another set of farmers' movements not only vehemently opposes globalisation, but in the process selectively attacked the MNCs and went on to join the anti-globalisation collectives elsewhere at the international level. Thus, two forms of politics are seen operating: Politics of Apologia and Politics of Placing. These politics have divided the farmers' movement in recent years, and, in the process, failed to establish a strong anti-globalisation resistance in India. This is the paradox of the farmers' movement and the civil society (Chandoke 1995) in India in recent years.

Notes

1. There are counter-arguments too. Dibaja (1998) would locate the process of globalisation in the failure of the project of modernity. On the contrary, Held (1999) would find three tendencies, calling them Hyperglobalist, Sceptics and Transformationalists. Further, he divides globalisation into four forms: a) Premodern Globalisation b) Early Modern Globalisation, circa 1500–1850 c) Modern Globalisation 1850–1945, and d) Contemporary Globalisation. Samir Amin and other Marxists would locate the process of globalisation in the colonial past (Amin 1995). Elsewhere, I have argued that globalisation can be understood in terms of two larger projects operating: Earlier Project

of Globalisation (EPG), which is identified with colonialism, and Recent Project of Globalisation (RPG). The latter is identified with post–colonialism. This is done on the basis of three factors — changing nature of the state, culture, and nature of capital (Assadi 2001a, 2001b).

2. There has been a debate on conceptualising the farmers' movement as 'new' in *Journal of Peasant Studies* (1994). [This was later brought out as a book by Prof. Tom Brass (1995)]. Lindberg, Omvedt and Brass accepted the 'new'ness of the farmers' movement. Gill and I had taken an opposing view. (All in Brass 1995). For the purpose of argument I have used the term 'new.'
3. Further, it argued that 'India' could exist inside 'Bharath' also. A bureaucrat or an industrialist operating in the middle of the village economy (e.g., a sugar factory owner) belongs to 'India'. However, when a farmer joins the co-operative sector he will not be seen as belonging to 'India'. Here lies the paradox of the argument (Joshi 1981).
4. The Karnataka movement viewed the deaths as a consequence of liberalisation. In Karnataka alone more than ninety farmers have committed suicide. In Andhra Pradesh more than three hundred farmers have committed suicide. This has been repeated in Punjab, Maharashtra, and other parts of India. Most of the farmers who committed suicide were market-oriented farmers, producing cotton, tobacco, and *tur dal*, and those suicides were precipitated by a huge crop loss and subsequent loans. In recent times, one more dimension has been added, with weavers in Andhra Pradesh committing suicide.
5. For instance, Shri Sharad Joshi has become Chairman of the Agricultural Task Force. He is appointed by the NDA government to advise it on agricultural issues.
6. This was apparent in the Meerut struggle of the late eighties when the movement raised more than thirty demands. Its politics of vacillation have taken away a big chunk of its support bases.

References

Action, Peoples' Global (1999). Second Conference of People's Global Action against 'Free' Trade and the WTO. Bangalore.

Amin, Samir (1995). Fifty Years is Enough. *Monthly Review*, 46(11), April.

Appadurai, Arjun (1997). *Modernity at Large: Cultural Dimensions of Globalisation*. University of Minnesota, US.

Assadi, Muzaffar (1997a). *Peasant Movement in Karnataka*. New Delhi: Shipra.

——— (1997b). 'Response to Globalisation: The Current Attack on Multinationals in India.' Paper presented at the Chicago Humanities Institute, University of Chicago, as part of the 'Globalisation Project and The Rockfeller Programme in Public Spheres and the Globalisation of Media,' USA, February 27.

——— (2001a). 'Dialogue or Clash of Civilisation: (Re)presenting Third World in the Context of Globalisation.' Paper presented in the international seminar on 'The

Place of the Persian Gulf in the Global Arrangements,' Institute of Politics and International Studies, Tehran (Iran), January 7–8.

——— (2001b) Globalisation, Civil Society and Question of Administering the Challenges in India. In Shastri Sandeep (2001). *State, Civil Society and Administration* (forthcoming).

Brass, Tom (ed.). (1995). *New Farmers' Movements in India*. London: Frank Cass.

Bulletin, ICC News (1999). 500 Activists from India and Other Countries of the South Arrive in Europe. No. 1, May 30.

Campensia, La Via (1996). *Proceedings from the II International Conference of the Via Campensia, Mexico.*

Caravan, Intercontinental (1999). Europe, May 21–June 20, 1999 (pamphlet).

Chandoke, Neera (1995). *State and Civil Society*. New Delhi: Sage.

Dibaja, Zuhair (1998). Globalisation: The Last Key. In Held, *Globalisation, Competitiveness and Human Society*. London.

Greider, William (1997). Who Governs Globalism? *The American Prospect*, No.30, January–February.

Held, David *et al*. (1999). *Global Transformations: Politics, Economics and Culture*. Cambridge: Polity Press.

Hilton, Robert J. (1998). *Globalisation and the Nation State*. U.K.: Macmillan.

Hirst, Paul, and Thomson Graham (1995). Globalisation and the Future of the Nation State. *Economy and Society*, 24(3), August.

Joshi, Sharad (1981). *'Bharat' Speaks Out*. Bombay: Build Documentation.

——— (1994a). *Selection from Sharad Joshi's Writings on Agriculture and Economic Freedom*. Pune: Shetkari Sangathana.

——— (1994b). *Answering Before God*. Project for Economic Education, Friedrich Naumann Foundation, Pune.

Kiely, Ray, and Philmarsheet (ed.) (1998). *Globalisation, (Post-) Modernity and the Third World*. London: Routledge.

Thomson, John (1999). *Globalisation and Culture*. UK: Polity Press.

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Identifying Patterns of Socio-Economic Development Using Self-Organizing Maps

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Abstract

This paper investigates the multifaceted nature and complexity of the socio-economic development process of world economies. Using economic development indicators, poverty and social welfare indicators, as input variables, the artificial intelligence technique of self-organising map (SOM) algorithm is applied to project the multidimensional data onto a two-dimensional SOM surface. SOM projection provides a mapping of the multidimensional input space onto a two-dimensional surface, preserving the complex non-linear relationship among the indicators. The various socio-economic maps constructed in this paper provide easy visualization of the important features of the recent socio-economic development and poverty patterns. The results of the study reveal interesting aspects of the pattern of socio-economic development in the world and facilitate stratification of world economies according to the level of socio-economic development.

Introduction

Economic development is a complex and multidimensional process. Although it is commonplace to equate economic development with a high level and/or growth of per capita income, there is a growing consensus among economists and policymakers that development is muc!h more than that. As a recent textbook describes it, *'it (economic development) is access to sanitation, clean drinking water, and health services, it is the reduction of infant mortality, it is increased access to knowledge and schooling, and literacy in particular, thus there is an entire multitude of yardsticks'* (Ray 1998: 8–9).

Availability of such a 'multitude of yardsticks' brings in its wake the problem of characterization of an economy as developed or otherwise. This characterization exercise is neither methodologically trivial nor merely pedantic from the policy makers' perspective. Stratification of various countries in terms of their locations on a well-calibrated measuring rod of development, broadly

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understood, helps to identify the policy environment that is conducive to ushering the developing countries on a path of sustainable development.

In fact, several agencies like the World Bank and the United Nations, and many researchers have been classifying countries according to their levels of development using various methodologies. Using conventionally measured income, several aggregate blocks of countries have been identified in the World Bank reports and in various research studies. For example, *World Development Report 2001* (World Bank 2001a) has identified three blocks of countries in different geographical regions of the world, namely, low-income (GNP per capita $755 or less), middle-income (GNP per capita $756-9,265), and high-income (GNP per capita $9,266 or more) countries. The middle-income group is subdivided into lower middle-income and upper middle-income subgroups. The high-income group has been further subdivided into two blocks of OECD and non-OECD countries. Similar income-based classification of countries has also been done by researchers like Stern (1991). The well-known problem with income-based classification has been that it has led to bracketing of disparate countries of various levels of social development in terms of a number of well-accepted indicators of human development into the same group. Use of exchange rate based on purchasing power parity (PPP) instead of official exchange rate to convert national currency-based income measures into a common currency-denominated measure (Kravis *et al.* 1978) has not really helped to overcome this problem.

The standard response to this problem has been to construct a single index of development based on a multivariable vector of socio-economic indicators, using standard dimension reduction techniques like principal component analysis, projection-based methods, and statistical clustering techniques. The objective of such an index of development has been to rank or classify world countries on the basis of index values. The United Nations Development Programme (UNDP) has been constructing the Human Development Index (HDI) since 1990, to arrive at an average deprivation index, giving a composite measure of progress of human well-being in various countries. The latest HDI, released in the *Human Development Report (2001)* of the United Nations, is based on three basic dimensions of human development—longevity, knowledge, and a decent standard of living. It is measured by life expectancy, educational attainment (adult literacy and combined primary, secondary and tertiary enrolment) and adjusted income per capita in purchasing power parity (PPP) US dollars. Apart from the HDI, the United Nations also calculates Human Poverty Index (HPI), Gender-related Development Index (GDI), and the Gender Empowerment Measure (GEM). The World Health Organisation (WHO) also recently initiated development of a composite index to measure the performance of the health system of various countries, with a view to classifying/stratifying countries based on the composite health index (WHO 2000).

Although such indices have their own use and acceptability as they are relatively simple to construct, such dimension reduction techniques suffer from several shortcomings both in terms of methodology used and interpretation of results. First, the commonly used techniques fail to appropriately account for complex non-linear relationships that are known to exist among underlying variables. Second, such techniques fail to identify, in an intuitively recognised way, the variables that define the characterizing features of a cluster. Thus the UNDP Human Development Report (2001) remarks, '…*the search for further methodological and data refinements to the human development indices continues….*'

The artificial intelligence technique of Self-Organizing Map (SOM) provides an alternative approach to such analysis of large multidimensional data and has been extensively used in recent times. The SOM algorithm can be used to visualize the most central property of high-dimensional data, namely, its cluster structure on a projected graphical map display, by representing the multidimensional data on a two-dimensional lattice grid map. SOM provides clustering and visualization of multidimensional data, capturing the nonlinear relationships governing the data. The projected multidimensional data onto the two-dimensional SOM surface, which preserves topology and the complex non-linear relationship among the indicators, provides an excellent way of visualising the various clusters of the data. A SOM display not only gives information about formation of clusters, cluster boundaries, and degree of compactness of clusters, but also helps in identifying the driving variables for each cluster, simply through visual examination. Applications of SOM can be found in stock picking, selection of mutual funds and investment managers, analysis of consumer behaviour, analysis of consumption patterns, and valuation of real estate properties (see Deboeck and Kohonen 1998). Kaski and Kohonen (1996) made the first attempt to use SOM for classifying world economies on the basis of development indicators. Deboeck (2000) has used it for creating self-organised patterns of world poverty using multiple indicators of poverty, repression and corruption. More recently, Nag and Mitra (2001) used SOM algorithm for creating economic development maps of the world countries.

In this paper, we construct a socio-economic development map of world economies, and stratify countries according to their overall socio-economic development pattern under various scenarios. First, we select a cross-section of fundamental economic indicators and indicators of social welfare and poverty. Using these socio-economic development indicators as input variables, we construct a number of socio-economic development maps under different scenarios. The SOMs reveal novel patterns of recent socio-economic development in the world.

Self-Organising Map: Methodology

The SOM algorithm, initially proposed by Teuvo Kohonen in the early 1980s, is a feed forward neural network that uses an unsupervised training algorithm, and through a process called self-organization, configures the output units into a topological representation of the original data (Deboeck and Kohonen 1998, pp.xxxiv).

SOM is a topology-preserving mapping from the high-dimensional input vector space $(\Re^n)$ onto a two-dimensional lattice (rectangular or hexagonal) grid. The topological relationships among patterns are preserved in the sense that related (similar) patterns in the input space are mapped to nearby units in the grid. The input vectors are organized on the lattice grid through unsupervised competitive learning. Each unit in the SOM lattice grid is uniquely characterized by an n-dimensional model vector $m_i \left(m_i \in \Re^n\right)$, components of which are synaptic weights. When an input vector x_k (chosen at random) is presented to the network, the distances between x_k and all the m_i s are calculated. The best-matching unit (denoted by *c*) is the map unit whose weight vector is closest to x_k, i.e.,

$$\|x_k - m_c\| = \min_i \|x_k - m_i\| \tag{1}$$

This unit in the map space is declared as the 'winner' unit and is allowed to adapt to represent the input even better by modifying its reference (weight) vector towards the current input. Furthermore, the neurons of the map are connected to adjacent neurons by a neighbourhood function. During the weight updation process, the winning unit propagates the information about winning through the neighbourhood function, and the winner unit as well as its topological neighbours get their weight vectors updated. The neighbourhood function is given by

$$h_{ij} = h(r_i, r_j; t) \tag{2}$$

which is defined over the lattice points. Usually,

$$h_{ij}(t) = h(\|r_i - r_j\|, t) \tag{3}$$

$r_i, r_j \in \Re^2$ are the radius vector locations of *i* and *j* respectively in the array. Furthermore,

$$\begin{aligned} &\text{as } \|r_i - r_j\| \uparrow \; h_{ij} \to 0 \\ &\text{and } \; t \to \infty \quad h_{ij} \to 0 \end{aligned} \tag{4}$$

The weight vectors are adjusted according to the equation

$$m_i(t+1) = m_i(t) + h_{ci}\left(x(t) - m_i(t)\right) \tag{5}$$

The most widely used neighbourhood function is the Gaussian function,

$$h_{ci} = \alpha(t) \exp\left(-\frac{\|r_i - r_c\|^2}{2\sigma^2(t)}\right), \tag{6}$$

where $0 < \alpha(t) < 1$ is the learning rate parameter and $\sigma(t)$ corresponds to the width of the neighbourhood function. Both of these decrease monotonically as iteration goes on. As the process of iteration goes on, the m_i s tend to be ordered in a meaningful way such that grid neurons having similar reference vectors are placed as neighbours on the map (Kohonen 1997).

Interpretation of the SOM results

Once the training process of winner selection and weight updation is over we look for appropriate visualization of the topology of the map and interpretation of the results. The result obtained through the SOM algorithm is the weights between the input vectors and the output neurons that represent a typical or prototype input pattern for the subset of inputs that fall into a particular cluster. A weight vector associated with a grid on the output layer gives a unique identification of the unit. The distance between two mapped units on the projected plane is determined through their respective weight vectors. The Unified distance matrix (U-matrix) (Ultsch 1993, Iivarinen *et al*. 1994) method facilitates visualization of the SOM results. The U-matrix method computes the distances between weight vectors of adjacent map units. Details of the computation of U-matrix for various types of lattice grids are discussed in Iivarinen *et al*. (1994). The computed U-matrix is usually visualized through a grey-level image. The resultant grey-level image is a hexagonal grid map with different shades of grey-scale for the grids. The grey-scale map also carries input pattern identification labels (i.e., names of input patterns, e.g., countries in our case). The formation of clusters in the data, concentration of units inside a cluster, cluster boundaries and location of outlier observations become visible from such grey-scale image. Through the computed U-matrix and the corresponding grey-scale representation, map units with similar weight vectors are placed at nearby map units on the output layer. Furthermore, the grey-scale colour of grid points between these units signifies relative distance between their weight vectors. Thus, patterns with similar weight vectors located in the neighbourhood are connected with grids having lighter shades of grey. The cluster locations in the projected map are easily detected through formation of lighter shade patches. Darker shade areas surrounding the lighter shade patches mark the cluster boundaries. Darker shade areas represent regions where members are dissimilar and have high relative mutual distance between their weight vectors. Another way to interpret the results of SOM is through the so-called hill-valley surface plot of the distance matrix. The hill-valley surface plot of the distance matrix reveals 'hills' and 'valleys' of the multidimensional data. Valleys are lighter shade, flat areas in between hills and signify location of clusters where members of similar nature reside. Members on different sides of hills are dissimilar in nature. Unique or outlier members in the data set are located on dark shade hill-tops and are unique in some sense.

Furthermore, component plane visualizations provide a way of interpreting various clusters and deriving interrelationships between various components of the multidimensional data. Component plane visualizations are obtained by projecting the input component values on the SOM plane. The resultant projected two-dimensional SOM, the hill-valley surface plot of the distance matrix, and the component plane visualizations thus give us an opportunity to visualize distinct clustering of the multidimensional input data, compactness of members inside a particular cluster, cluster boundaries, and relative distance between clusters. From these, we can infer the characteristic features of various clusters.

Development Indicators and Data Source

The main source of data for the study has been *World Development Indicators (WDI) 2001* (World Bank 2001b). The 2001 CD-ROM on WDI contains time series data on 149 indicators of world countries covering 1970–99. From these indicators, we have selected those that are expected to capture some crucial aspects of economic development such as income level, growth of economy, level of investment, inflation, structure of output, dependence on the external sector, role of government, financial development pattern, and international financial position. The non-economic dimensions of the development process have been captured through various social indicators like health, education, gender equality, and urbanity. Finally, societal corruption is commonly perceived to be the bane of most developing countries — a factor largely responsible for attenuating the beneficial effect of resource transfer to the poor and efficiency of investments. We have therefore included corruption index as a separate indicator to examine its ability to discriminate between countries at different levels of development. The Corruption Perception Index (CPI) was obtained from Transparency International, a non-government organization. The 1999 CPI relates to perceptions of the degree of corruption as seen by business people, risk analysts, and the general public. The CPI ranges between 10 (highly clean) and 0 (highly corrupt). The full details on the methodology of its construction may be found in http://www.transparency.de/ website. The world countries corresponding to which data are collected are given in the Appendix. The selected set of economic indicators and the aspect of economic development it indicates are given in Table 1. The list of social indicators considered in this study is given in Table 2. The data correspond to the latest year, 1999, for which development indicators are available. Countries with few missing values are retained in the construction of the map as SOM is capable of handling missing data, simply by considering at each step of learning only those indicators that are available (Kaski 1997, Deboeck 2000). This is another advantage of using the SOM algorithm, as against classical statistical techniques in which missing data would need to be deleted. However, countries with too many missing data have been deleted from the analysis.

Table 1: Selected Set of Economic Indicators

Aspect of economic development	Indicator and abbreviation
Income level and growth	GNP per capita at PPP (GNPPER) GDP growth rate (GDPGR)
Rate of investment	Gross domestic investment as percentage of GDP (DOMINV)
Inflation	GDP deflator (GDPDFL)
Structure of output	Agriculture value added as percentage of GDP (AGRVLAD) Industry value added as percentage of GDP (INDVLAD)
Dependence on external sector for demand and supply of goods and services	Export of goods and services as percentage of GDP (EXP) Import of goods and services as percentage of GDP (IMP)
Financial development	Domestic credit provided by the banking sector as percentage of GDP (DOMCRDT) Credit to private sector as percentage of GDP (CRDTPRV) Interest spread (INTSPRD)
International financial position	Resource balance as percentage of GDP (RESBL) Ratio of gross international reserve to imports (GRIIMP) Number of months of import cover (IMPCOV)
Role of government	General government consumption as percentage of GDP (GOVCON)

Table 2: Selected Set of Social Indicators

Sl. No.	Indicator and abbreviation
1.	Fertility rate, total (births per woman) (FERTIL)
2.	Life expectancy at birth, total (years) (LIFEXPCT)
3.	Mortality rate, infant (per 1000 live births) (MORTAL)
4.	Immunization, DPT (% of children under 12 months) (IMMUN)
5.	Labour force, female (% of total) (LABFC)
6.	Illiteracy rate, adult female (% of females aged 15 and above) (ILLITER)
7.	Urban population (% of total) (URBPOP)

Socio-Economic Development Maps

We have used the SOM algorithm, described earlier, to extract socio-economic development patterns of world economies. Four SOMs have been constructed in the study. The different scenarios considered are: (1) economic development map of 121 chosen countries using only fundamental economic indicators, (2) socio-economic development map of 121 chosen countries using both fundamental economic indicators and social indicators, (3) social welfare map of 121 chosen countries using only social indicators, and (4) socio-economic development map of 121 chosen countries using fundamental economic indicators excluding GNP per capita and social indicators. For scenarios at 2, 3 and 4, we have considered two alternatives—one excluding corruption perception index and the other including it. We discuss below results pertaining to the first alternative, although whenever necessary we allude to results relating to the other alternative too.

In the first step of the analysis, an economic development map is constructed with all the fundamental economic indicators for all the 121 chosen countries. This grey-scale SOM is given in Figure 1. The lighter the shade between two map units, the smaller is the relative distance between them. In the map, areas of lighter shade indicate clusters, the boundaries of which are marked by relatively darker shades. The three-dimensional plot (hill-valley surface plot) of the distance matrix of this map revealing hills and valleys is presented in Figure 2. In this figure, clusters correspond to valleys of lighter shade, hills of darker shade separate the various clusters. Countries sitting on hill-tops indicate that these countries are unique in a certain sense and cannot be associated with the pattern of development of other countries. For example, Malaysia, Singapore, and Hong Kong on hill-top '*a*' are highly developed small countries largely dependent on export (122, 170, and 133 as a percentage of GDP respectively). Botswana, on hill-top '*b*', is the sole representative of a country with an exceptionally low value of domestic credit provided by the banking sector (-70, as a percentage of GDP). Angola, characterised by hyperinflation, (average GDP deflator of 813 over the period 1990–99), on hill-top '*c*' is another exceptional country.

We also look at the component plane representations of the map. These are presented in Figure 3. In the component plane visualizations, values of the indicators are projected over the lattice grid SOM map. Values of the indicators are visualized through grey scale; darker shade indicates high values and lighter shade low values. These help in identifying variables having the maximum effect on formation of various clusters, and extract interrelationships among various indicators in different clusters.

From Figures 1 and 2, we observe the emergence of the following six clusters in the map. The clusters and their distinguishing characteristics are presented below.

Clusters Under Scenario I

Cluster 1. High-income developed countries. This is located at the bottom of the SOM, and includes high-income developed countries: The United States, Canada, Germany, Australia, New Zealand, Austria, Switzerland, France, Spain, Italy, United Kingdom, Sweden, Norway, Finland and Denmark. Dark boundary (Figure 1) and steep hills surrounding this cluster (Figure 2) clearly separate it from the other countries. This cluster of developed countries is characterized by a high level of GNP per capita, low value of agriculture value added, comparatively much higher industry value added, high values of domestic credit provided by the banking sector and credit to the private sector; low level of import cover; moderate level of domestic investment and moderate-to-low level of import and export. On the right boundary of this cluster is Belgium and the Netherlands, with almost identical characteristics as the members of developed countries. The only exception is that the levels of import and export of these two countries are relatively higher than those of the other members of the developed countries cluster.

Many of the characteristics of highly developed countries are well known. What is surprising, however, is to learn that some of the countries that belong to the high-income group in terms of per capita GNP, do not find a place in this cluster. For example, Japan and Saudi Arabia are excluded. This clearly implies that indicators other than per capita income are critical in characterization of a developed economy. Another very interesting observation about this cluster that we may make is the importance of the domestic market in sustaining economic development. This is reflected in the moderate-to-low level of export and import with respect to domestic income for these countries.

Cluster 2. Middle-income State-dominated developing countries. This is a small cluster located at the lower-right half of the map, comprising middle-income countries: Czech Republic, Hungary, Slovenia, Saudi Arabia, Croatia, Slovakia, Estonia, and Namibia. It may be seen that many of these countries are of the former Soviet bloc and this explains the predominant role of government in those economies. Saudi Arabia, being an absolute monarchy, also shares this characteristic. This cluster is mainly characterized by a high level of general government consumption; moderate-to-high level of industry value added, credit to the private sector and domestic credit by the banking sector; moderate levels of import, export and import cover, and low level of agriculture value added.

Cluster 3. Middle-income relatively industrialized developing countries. This is another cluster of developing countries comprising Brazil, El Salvador, Turkey, Greece, Poland, Morocco, and Algeria. These countries are typically characterized by a moderate level of GNP per capita (except Greece, which has relatively high GNP per capita), low values of interest spread, moderate-to-high level of domestic credit by the banking sector; moderate-to-low level of credit to the private sector, and moderate values of industry and agriculture value added.

Cluster 4. Lower-middle income developing countries. The members of this cluster are: Bangladesh, Guinea, Cote d'lvoire, Senegal, Ghana, Vietnam, Dominican Republic, Sri Lanka, Syria and Vietnam. This cluster is located next to cluster 3 with a hill separating the two clusters. The average level of GNP per capita, domestic credit by the banking sector, general government consumption, import cover and credit to the private sector of this cluster is lower than the average level of the members in cluster 3. On the other hand, the average level of export, import, interest spread and agriculture value added of the members in this cluster is more than that of the members in cluster 3.

The remaining two clusters comprise low-income countries and are closely similar to each other in terms of many indicators. In fact, for all practical purposes, these two clusters may be considered a single cluster. The main features of the countries of this cluster are their low per capita income, agrarian nature of the economy, and low level of financial development.

Cluster 5. Low-income underdeveloped countries-I. This cluster, located at the top of the SOM, contains low-income countries, the majority of which are African countries, namely, Malawi, Tanzania, Cameroon, Chad, Madagascar and Kenya. Non-African countries in this cluster are Lao PDR, Cambodia, Guatemala, Haiti, and Pakistan. This cluster is mainly characterized by low GNP per capita, low domestic investment, very low industry value added, high agriculture value added, low export, and generally low value of domestic credit provided by the banking sector.

Cluster 6. Low- income underdeveloped countries-II: This cluster is closely related to cluster 5 and is located next to it. This cluster too is again dominated by low-income African countries: Burundi, Central African Republic, Rwanda, Ethiopia, Nigeria, Togo, Mali, Benin, Uganda, Nepal, and Albania. Its characteristics are almost the same as those of cluster 5. However, the average level of general government consumption and import cover is marginally higher for cluster 6 than for cluster 5. On the other hand, the average level of interest spread and import of cluster 6 is lower than that of cluster 5.

The ultimate objective of development is to percolate the fruits of development to all levels of society and to obtain a generally good level of social well-being. In the next step of the analysis, we thus include the set of social indicators (given in Table 2) for construction of the SOM.

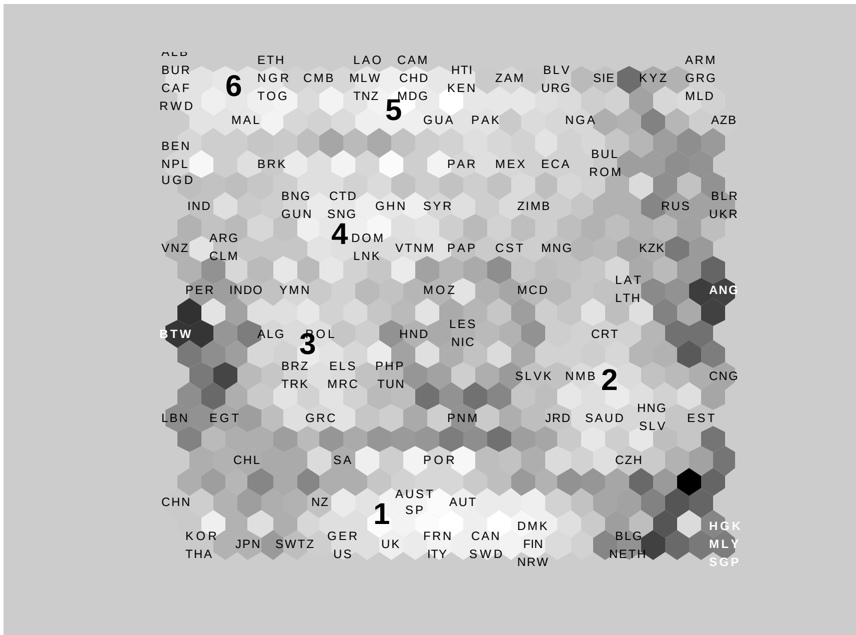

Figure 1: Economic development map of all the countries

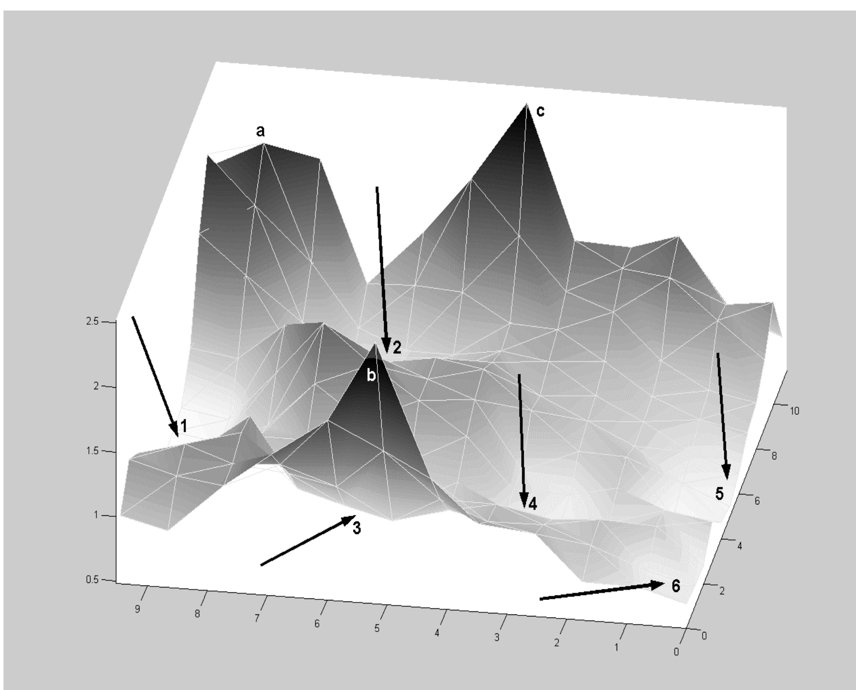

Figure 2: Hill-valley surface plot of the distance matrix of the map given in Figure 1

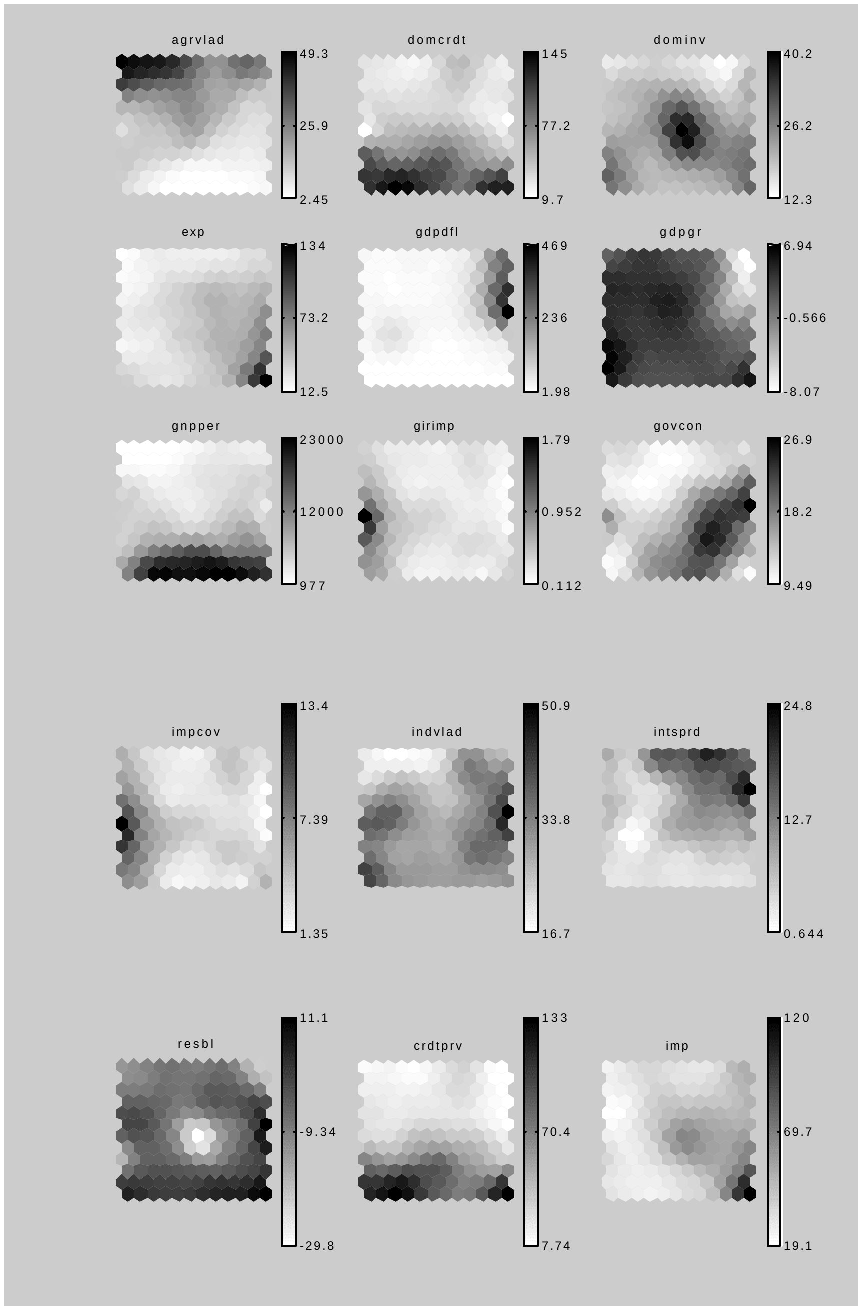

Figure 3: Component plane visualisation of the SOM presented in Figure 1 SOM

The SOM and its three-dimensional hill-valley surface plot are given in Figures 4 and 5. The component plane visualizations are presented in Figure 6. Incorporating social indicators gives a picture of the overall socio-economic developmental patterns. We observe merging of smaller clusters and the resultant SOM has three major clusters: a cluster of high-income developed countries (cluster 1), a cluster of middle-income developing countries (cluster 3) and a cluster of low-income (mainly African) underdeveloped countries (cluster 4). Among the developing countries, we observe separate clusters for Latin American countries and a small cluster of some neighbouring countries in East Europe (cluster 2). No other geographical locationwise clustering is observed. In addition to the three hill-top countries of the SOM in Figure 1, we observe the emergence of a fourth hill-top country. Lesotho, on hill-top 'd' of this map, is characterized by a peculiar combination of the highest level of domestic investment (78, as a percentage of GDP) and the lowest level of resource balance (-82, as a percentage of GDP). The clusters of this map are now more distinct and with more well-defined cluster boundaries than those of the previous analysis. Newly formed clusters and their patterns of socio-economic development are now presented.

Clusters Under Scenario II

Cluster 1. Developed countries. This is again the cluster of high-income developed countries with almost the same membership as obtained in the SOM given in Figure 1. However, there are some notable differences. Belgium and the Netherlands have moved inside this cluster, having favourable values of social indicators. Japan, previously not in the developed countries cluster, has now clearly moved inside it. The countries in this cluster have very good values of social indicators; low levels of illiteracy, fertility and infant mortality, high levels of immunization, life expectancy at birth, and percentage of women in the labour force. The characteristics of this cluster with respect to economic indicators remain the same. It is interesting to note that inclusion of corruption perception index in the analysis alienates Italy and Spain (having a high level of perceived corruption level) from this cluster.

Cluster 2. East European developing countries**.** This is a small cluster of some East European (neighbouring) countries, namely, Czech Republic, Hungary, Slovakia, Estonia, Slovenia, Croatia, and Lithuania. The socio-economic development pattern of these countries indicates that they have moderate levels of GNP per capita, which is lower than that of the developed countries cluster (cluster 1) but higher than the average level of cluster 3 of developing countries. Further, these countries are characterized by high levels of general government consumption; moderate-to-high levels of domestic investment, export and import; moderate-to-low levels of domestic credit by the banking sector and credit to the private sector. The average industry value added for these countries is higher than their agriculture value added. The pattern of social indicators of these countries is similar to that of

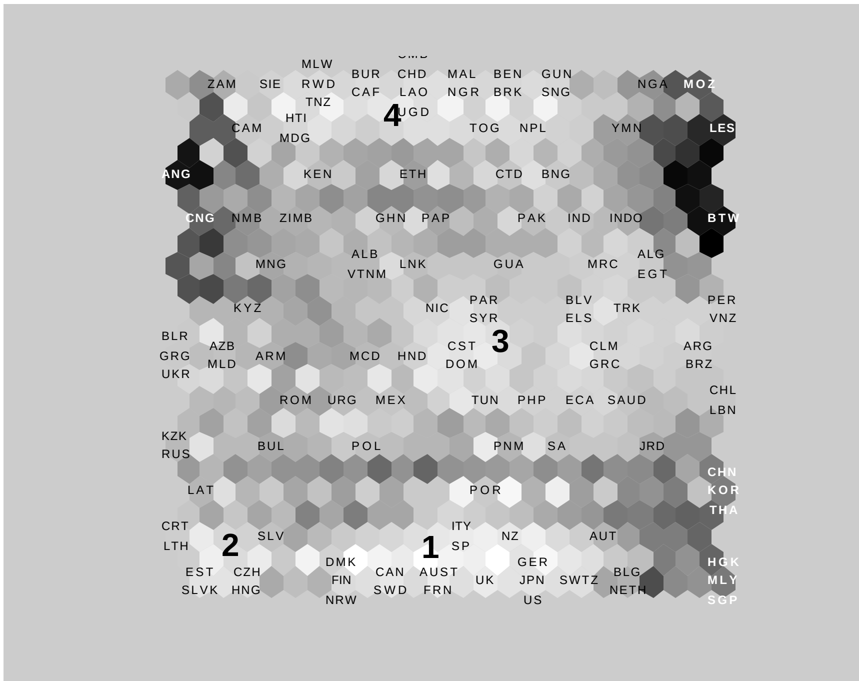

Figure 4: Socio-economic development map of all the countries

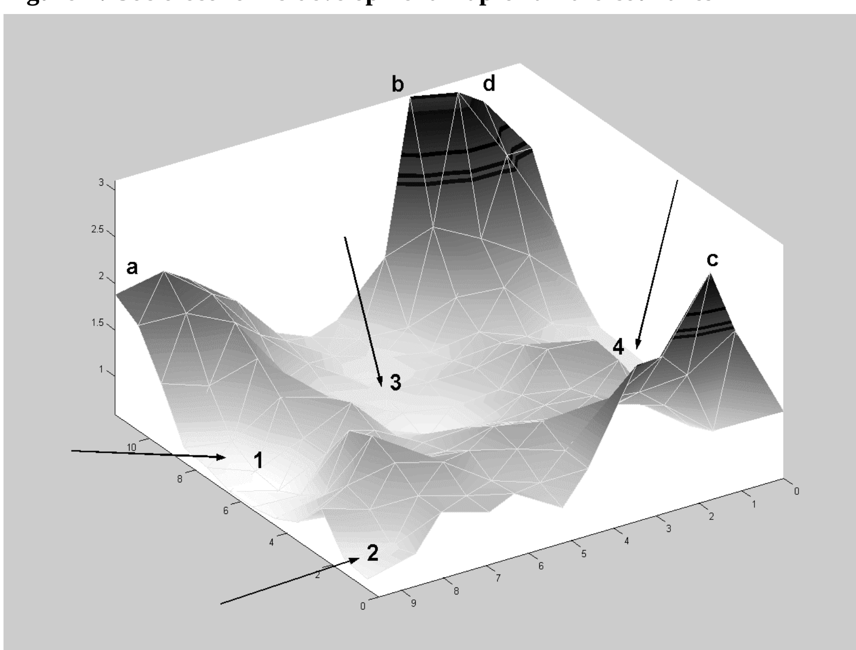

Figure 5: Hill-valley surface plot of the distance matrix of the map given in Figure 4

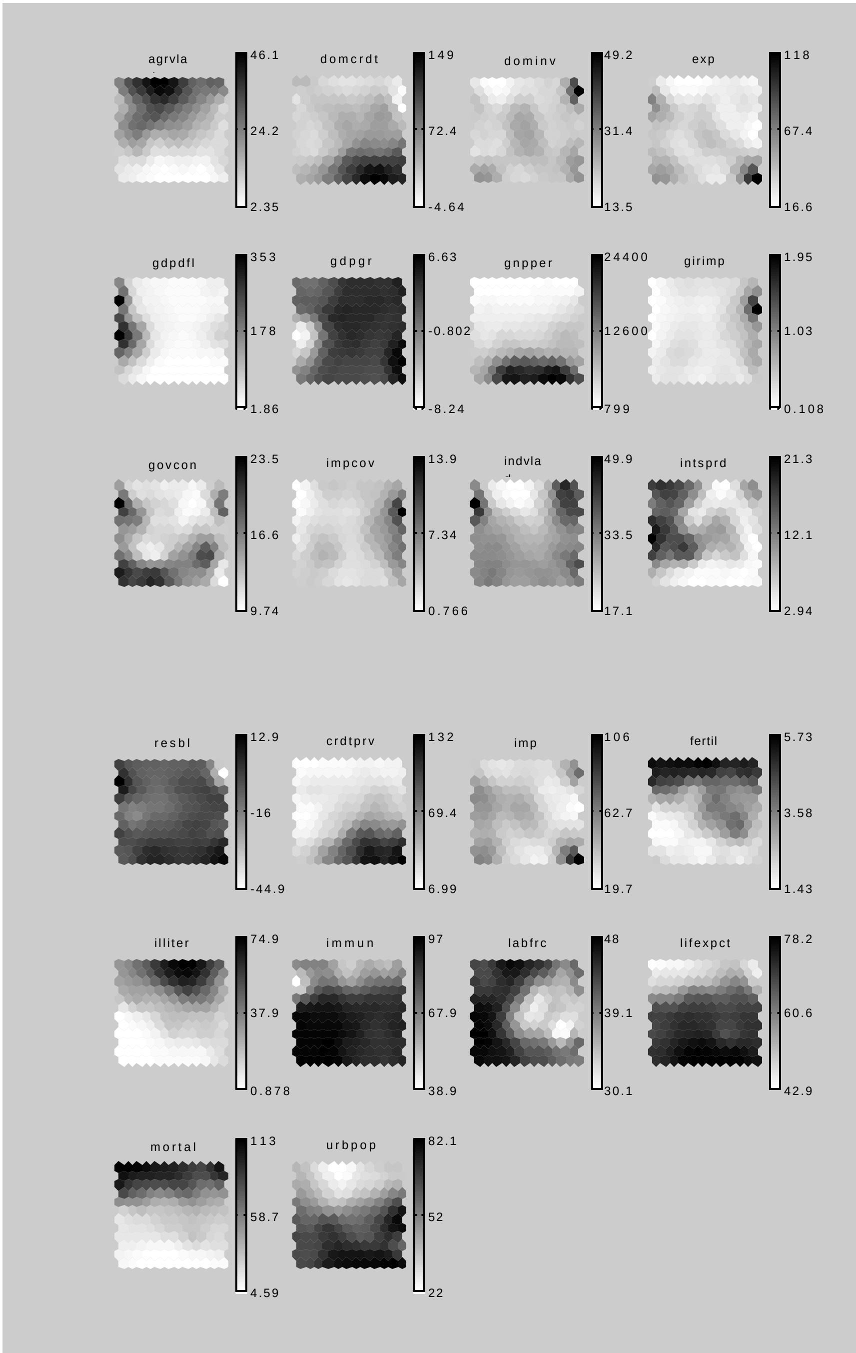

Figure 6: Component plane visualization of the SOM presented in Figure 4 SOM

the developed countries cluster. All countries except Slovak Republic and Czech Republic have moderate-to-high levels of inflation.

Cluster 3. Latin American and some other developing countries. This is a large cluster at the centre of the map comprising developing countries. The cluster has fairly well-defined boundaries with developed as well as underdeveloped countries. The members of this newly formed cluster are Peru, Venezuela, Argentina, Brazil, Chile, Lebanon, Algeria, Egypt, Turkey, El Salvador, Bolivia, Colombia, Greece, Saudi Arabia, Ecuador, Philippines, Morocco, Guatemala, Paraguay, Nicaragua, Syria, Costa Rica, Dominican Republic, Tunisia, and Honduras. Of the twenty-five countries in this cluster, fifteen are Latin American countries, five are Mediterranean, three North African neighbours, one Middle-East, and one South Asian. Although all the countries fall in one cluster, there are certain notable differences between segments of this cluster, which will be highlighted below. The countries in this cluster are basically middle-income countries with moderate levels of GNP per capita. However, countries in the right side of the cluster, such as Greece, Argentina and Saudi Arabia, have higher GNP per capita than the rest. The countries in this cluster are characterized by moderate levels of domestic credit by the banking sector, credit to the private sector (average levels in both are lower than in the developed countries but much higher than in the underdeveloped countries), agriculture value added (countries in the right side of the cluster have low values, e.g., Argentina (6), Venezuela (5), Peru (8), Brazil (9), and Saudi Arabia (7)), industry value added, and domestic investment, moderate-to-high level of general government consumption and import cover, moderate-to-low level of export and import (countries in the right side of this cluster have lower values than the countries on the left). Except for a few countries in the right side of the cluster, other countries have moderate levels of interest spread. These four countries, namely, Brazil, Turkey, Algeria, and Argentina, have low levels of interest spread, -13.72, -4.9, 2.5 and 3 respectively. The countries have, in general, good values of social indicators with respect to average level of life expectancy and immunization, which are fairly high. The average levels of illiteracy and infant mortality are moderate. Another distinguishing feature of these countries is a pretty low percentage of women in the labour force.

Cluster 4. Low-income underdeveloped countries. This is the cluster of low-income, mainly African countries, comprising Zambia, Cameroon, Sierra Leone, Haiti, Madagascar, Rwanda, Tanzania, Malawi, Burundi, Central African Federation, Cambodia, Chad, Lao PDR, Uganda, Mali, Niger, Benin, Togo, Burkina Faso, Ethiopia, Senegal, Guinea and Nepal. As far as economic indicators are concerned, these countries are generally characterized by the lowest level of GNP per capita and industry value added (except Guinea and Senegal, which have moderate levels —36 and 25 respectively); low level of domestic credit by the banking sector (except

Zambia and Sierra Leone, which have moderate levels—63.5 and 50 respectively), credit to private sector, export and general government consumption (countries located in the left side of the cluster have marginally higher values than the rest), moderate-to-low levels of domestic investment (countries located in the right side of the cluster have marginally higher values than the rest) and moderate level of import cover. The social indicators of these countries indicate that they have, on an average, high levels of fertility, illiteracy, infant mortality and percentage of women in the labour force. Further, the average levels of life expectancy at birth and immunization are very low.

In the above analysis, we have been able to detect major socio-economic development patterns, wherein five major clusters have emerged. In order to test whether the social development process in these clusters is in accordance with their economic development patterns, we may want to see whether the same sort of clustering pattern exists when we consider only social welfare measures for map formation. We observe from the computed SOM (Figure 7 and Figure 8) that there now exists only one major cluster in the map. This contains all the developed countries, some East-European countries, mainly erstwhile Soviet Union countries, some Communist countries, and four Asian countries, Japan, Singapore, Hong Kong, and South Korea. Developed countries having already reached a high level of economic development, show a similar and generally high level of social welfare measures. The other countries in the cluster of the map also show a fairly high level of social development, which may be attributed to long Communist type of society in these countries. However, it is interesting to note that incorporating corruption index as an additional input variable alienates almost all the erstwhile Soviet Union countries and most of the East-European countries from the developed countries. These countries have fairly high perceived levels of corruption. There is now formation of two clear clusters, one containing these countries and the other containing the developed countries of cluster 1 of the previous map.

The rest of the countries in the map do not show much resemblance and are generally scattered, indicating that for the rest of the world countries, economic development has not yet translated into raising the level of social well-being uniformly across all facets of social development.

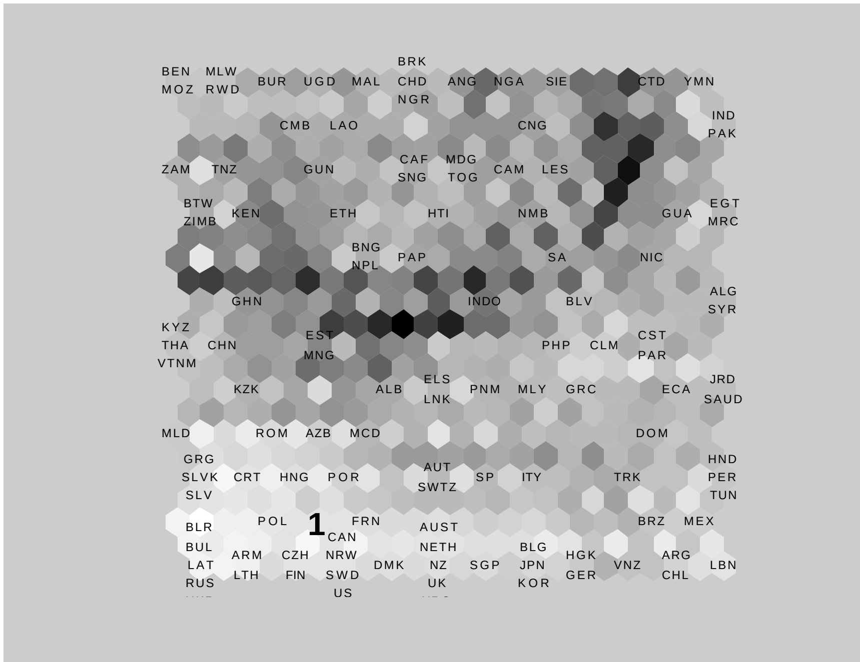

Figure 7. Social welfare map of world countries

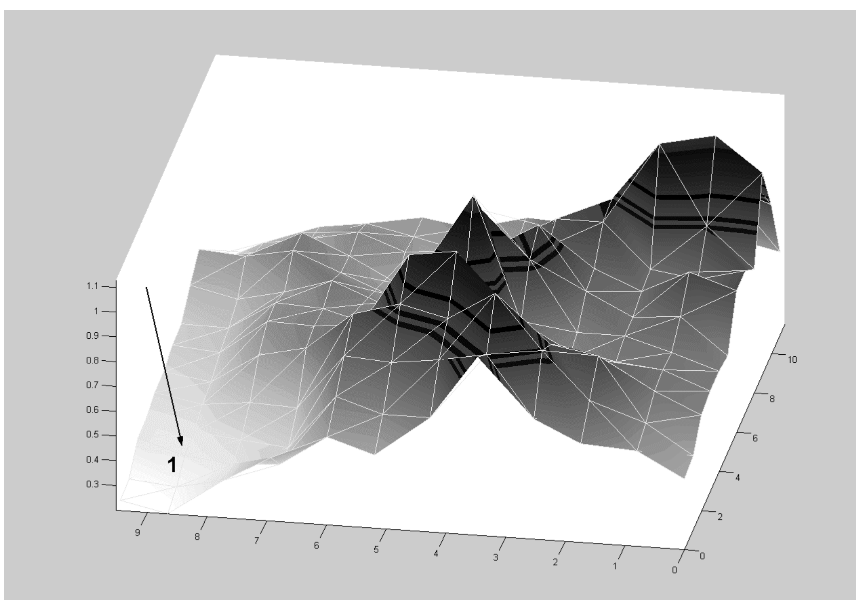

Figure 8: Hill-valley surface plot of the distance matrix of the map given in Figure 7

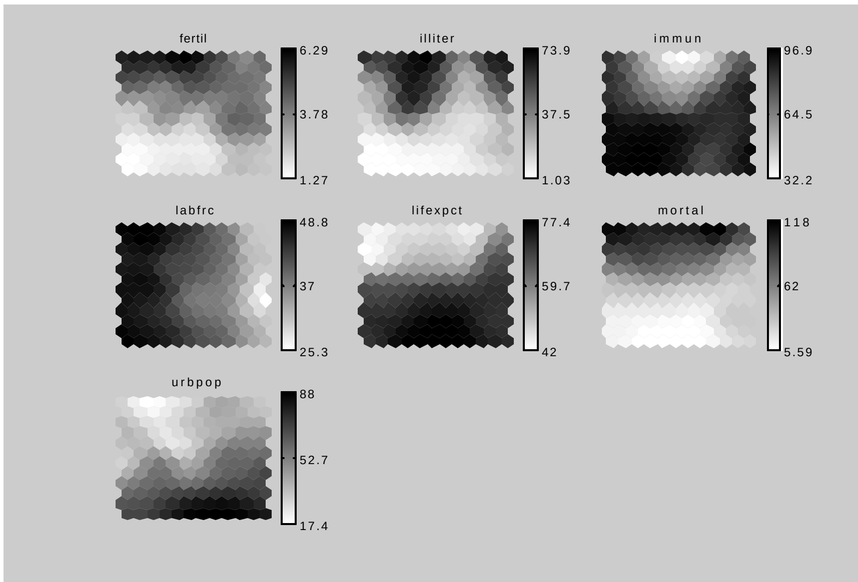

Figure 9: Component plane visualization of the SOM presented in Figure 7 SOM

In accordance with the exploratory nature of our empirical exercise, we have examined also the impact of the single most dominating variable on the development map pattern, namely, the GNP per capita at PPP, by excluding it from the next part of our analysis. The resultant SOM is presented in Figure 10, the corresponding three-dimensional distance matrix surface plot is given in Figure 11. The component plane visualizations of the SOM given in Figure 10 are presented in Figure 12.

It is observed that the basic structure, cluster positions and characteristics of the previous pattern are preserved in the present map, except for some notable differences. While Portugal now finds a place in the cluster of developed countries, Japan has again moved out of the cluster (as in Figure 1 SOM). This indicates that Japan shares much less structural affinity with other developed countries. The Latin American countries-dominated developing countries cluster is almost the same as in the previous map. But the cluster now is divided into two closely related sub-clusters, a hint of which was observed in the previously formed SOM (Figure 4). The average levels of domestic investment, export, import, and interest spread of the members of cluster 3a are lower than those of cluster 3b. On the other hand, the average levels of inflation and import cover of the cluster 3a members are higher than those of cluster 3b.

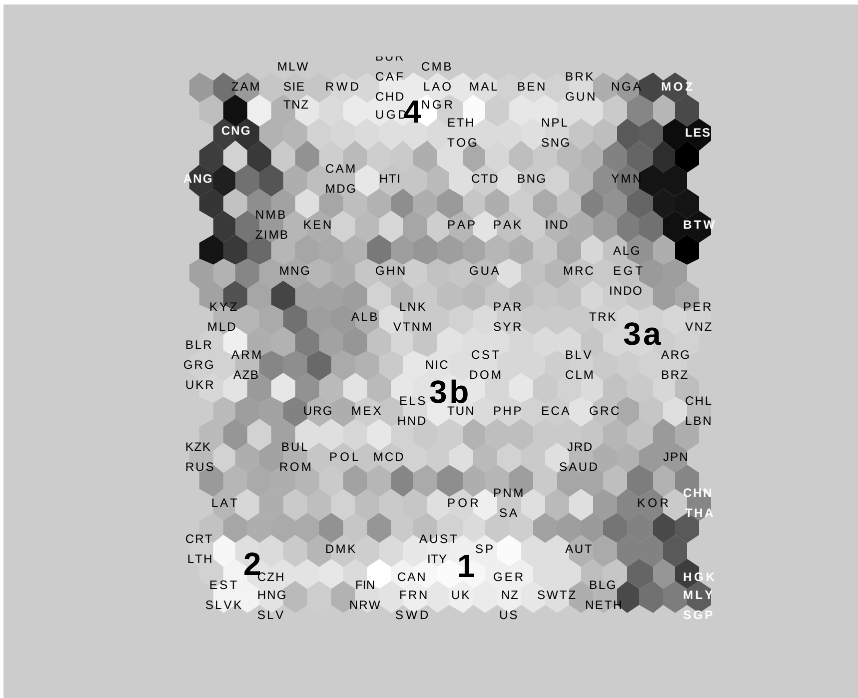

Figure 10: Socio-economic development map excluding GNP per capita

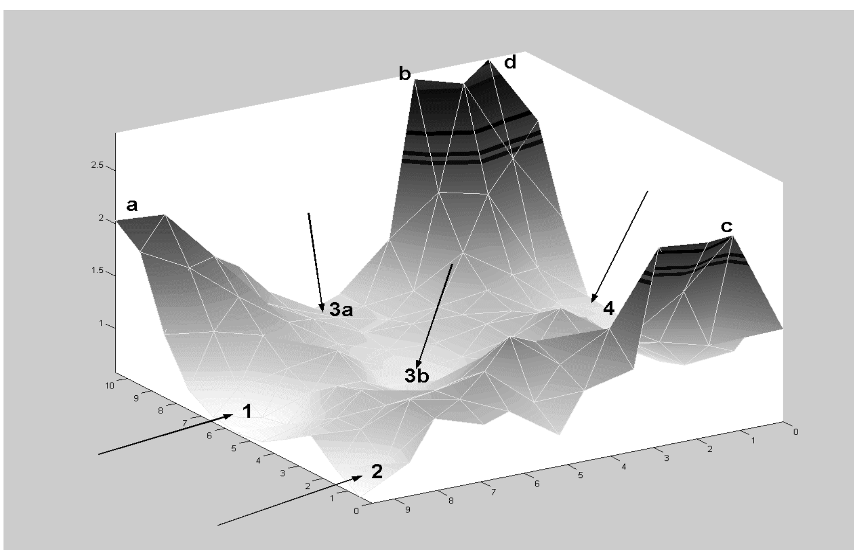

Figure 11 Hill-valley surface plot of the distance matrix of the map given in Figure 10

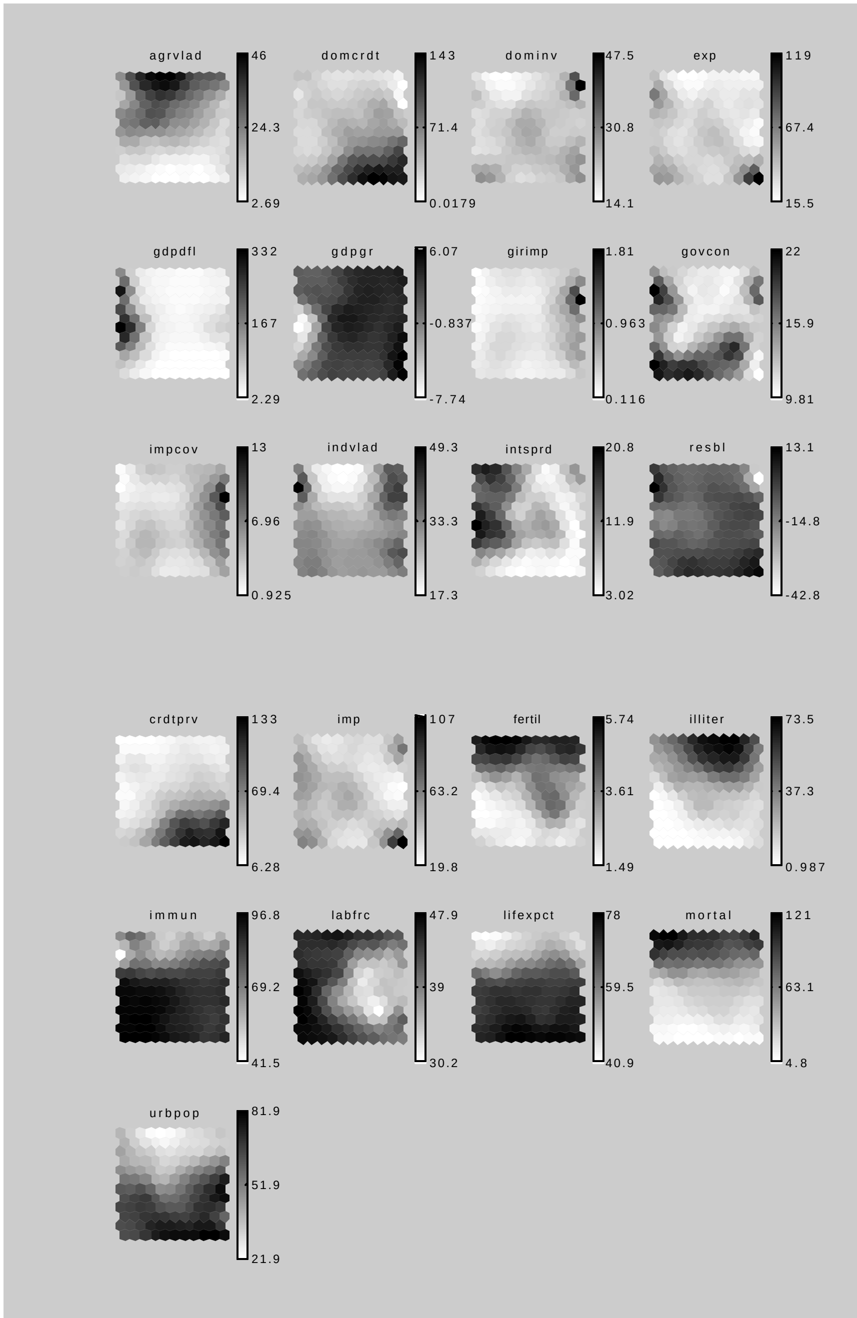

Figure 12: Component plane visualization of the SOM presented in Figure 10 SOM

The clusters of underdeveloped African countries and East-European countries are intact. The SOM analysis also revealed the same four hill-top countries as in the SOM shown in Figure 4.

We also observe the emergence of another small cluster on the left boundary of the map (just above cluster 2). This cluster contains some of the countries that were previously part of the Soviet Union — Kazakhstan, Russia, Belarus, Georgia, Ukraine, Armenia, Azerbaijan, Kyrgyz Republic and Moldova. They are characterized by high inflation and interest spread; very low GDP growth rate (even lower than some of the countries in the African countries cluster), and credit to the private sector. As far as the social indicators are concerned, these countries have high levels of immunization, life expectancy at birth, percentage of women in the labour force, and percentage of urban population. The levels of infant mortality and illiteracy are low. All these indicators have values almost like those of the developed countries cluster.

Conclusion

In this paper we have used self-organizing map algorithm as a self-organizing pattern recognizer to extract novel patterns of recent socio-economic development of world countries and clustering of world economies based on the overall level of socio-economic development. Using most recent data on economic development indicators, interesting features of socio-economic development have been detected. The main advantages of using self-organizing maps for analysis of such complex multidimensional data are that the method is simple, readily explainable, totally data driven and free from any theoretical assumptions. In contrast to the classical statistical methods, the results obtained from such analysis are highly visual, making it easy to interpret large multidimensional statistical data sets. The main conclusions and observations emerging from the present exercise are summarized below.

- **Social welfare characteristics**. In terms of the level of social welfare measures, the world countries are clearly subdivided into two segments. One contains all the developed countries, some East European countries (mainly erstwhile Soviet Union countries), some Communist countries and four Asian countries, Japan, Singapore, Hong Kong, and South Korea. All the other countries in the map show no resemblance and are generally scattered and look very different from the countries inside the defined cluster. Developed countries having already reached a high level of economic development, show a similar and generally very good level of social welfare measures. The other countries in this cluster of the map also show a fairly high level of social development, which may be attributed to long Communist type of society in many of these countries. It is interesting to note that incorporating corruption index as an additional input variable alienates almost all the erstwhile Soviet Union countries and most of the East European countries from the developed countries. In these countries, perceived levels of corruption are fairly high. Under this scenario, there is now formation of two clear clusters, one containing these countries and the other containing the developed countries of the previous map (without corruption perception index).

- **Economic development and socio-economic development maps.** It may be noted that Belgium and the Netherlands, with almost identical characteristics as members of developed countries, do not find a place inside the developed countries cluster in the economic development map. A possible reason is that the level of import and export of these two countries is relatively higher than that of the other members of the developed countries cluster. Belgium and the Netherlands, however, moved inside the developed countries cluster when the overall level of socio-economic development is considered. Similar is the case with Japan, which previously (economic development map) not inside the developed countries cluster, clearly moved inside it with inclusion of social welfare indicators. Another noteworthy observation is that inclusion of corruption perception index in the analysis alienates Italy and Spain (which have high levels of perceived corruption) from the developed countries cluster.
- **Development map excluding GNP per capita at PPP.** It is observed that with the exclusion of GNP per capita at PPP from the analysis for construction of socio-economic development map, Portugal finds a place in the cluster of developed countries. Japan, on the other hand, moved out of the cluster again. This indicates that Japan shares much less structural affinity with other developed countries. It finds itself inside the developed countries cluster only when social welfare measures are included in the analysis.
- **Geographical locationwise clustering.** Geographical locationwise clustering is observed only for some Latin American countries and a small cluster of some neighbouring countries in East Europe. No other geographical locationwise clustering is observed.
- **Detection of outlier countries**. The analysis reveals some interesting pockets of outlier countries. For example, Malaysia, Singapore, and Hong Kong are highly developed small countries largely dependent on export. Botswana is the sole representative of a country with an exceptionally low value of domestic credit provided by the banking sector. Angola, characterised by hyperinflation (average GDP deflator of 813 over the period 1990–99), is another exceptional country. Lesotho is characterised by a peculiar combination of the highest level of domestic investment (78, as a percentage of GDP) and the lowest level of resource balance.

Appendix

List of countries

COUNTRY	*ABBREVIATION*	*COUNTRY*	*ABBREVIATION*
Albania	ALB	Ethiopia	ETH
Algeria	ALG	Finland	FIN
Angola	ANG	France	FRN
Argentina	ARG	Georgia	GRG
Armenia	ARM	Germany	GER
Australia	AUST	Ghana	GHN
Austria	AUT	Greece	GRC
Azerbaijan	AZB	Guatemala	GUA
Bangladesh	BNG	Guinea	GUN
Belarus	BLR	Haiti	HTI
Belgium	BLG	Honduras	HND
Benin	BEN	Hungary	HNG
Bolivia	BLV	India	IND
Botswana	BTW	Indonesia	INDO
Brazil	BRZ	Italy	ITY
Bulgaria	BUL	Jamaica	JAM
Burkina Faso	BRK	Japan	JPN
Burundi	BUR	Jordan	JRD
Cambodia	CMB	Kazakhstan	KZK
Cameroon	CAM	Kenya	KEN
Canada	CAN	Korea Republic	KOR
Central African Republic	CAF	Kyrgyz Republic	KYZ
Chad	CHD	Lao PDR	LAO
Chile	CHL	Latvia	LAT
China	CHN	Lebanon	LBN
Hong Kong	HGK	Lesotho	LES
Colombia	CLM	Lithuania	LTH
Congo Republic	CNG	Macedonia	MCD
Costa Rica	CST	Madagascar	MDG
Cote d'Ivoire	CTD	Malawi	MLW
Croatia	CRT	Malaysia	MLY
Czech Republic	CZH	Mali	MAL
Denmark	DMK	Mexico	MEX
Dominican Republic	DOM	Moldova	MLD
Ecuador	ECA	Mongolia	MNG
Egypt	EGT	Morocco	MRC
El Salvador	ELS	Mozambique	MOZ
Estonia	EST	Namibia	NMB
Nepal	NPL	Slovenia	SLV
Netherlands	NETH	South Africa	SA
New Zealand	NZ	Spain	SP
Nicaragua	NIC	Sri Lanka	LNK

List of countries (contd.)

COUNTRY	***ABBREVIATION***	***COUNTRY***	***ABBREVIATION***
Niger	NGR	Sweden	SWD
Nigeria	NGA	Switzerland	SWTZ
Norway	NRW	Syrian Arab Republic	SYR
Pakistan	PAK	Tanzania	TNZ
Panama	PNM	Thailand	THA
Papua New Guinea	PAP	Togo	TOG
Paraguay	PAR	Tunisia	TUN
Peru	PER	Turkey	TRK
Philippines	PHP	Uganda	UGD
Poland	POL	Ukraine	UKR
Portugal	POR	United Kingdom	UK
Romania	ROM	United States	US
Russian Federation	RUS	Uruguay	URG
Rwanda	RWD	Venezuela	VNZ
Saudi Arabia	SAUD	Vietnam	VTNM
Senegal	SNG	Yemen	YMN
Sierra Leone	SIE	Zambia	ZAM
Singapore	SGP	Zimbabwe	ZIMB
Slovak Republic	SLVK		

References

Deboeck, G. (2000). Self-Organizing Patterns in World Poverty Using Multiple Indicators of Poverty, Repression and Corruption. *Neural Network World*, 10: 239–54.

———, and T. Kohonen (1998). *Visual Explorations in Finance Using Self-Organizing Maps*. Berlin: Springer Verlag.

Human Development Report (2001). *Making New Technologies Work for Human Development*. United Nations Development Programme. New York: Oxford University Press.

Iivarinen, J., T. Kohonen, J. Kangas, and S. Kaski (1994). Visualizing the Clusters on the Self-Organizing Map. In C. Carlsson, T. Järvi and T. Reponen (eds.). *Proceedings of the Conference on Artificial Intelligence Research in Finland*, 122–26. Helsinki: Finnish Artificial Intelligence Society.

Kaski, S. (1997). *Data Exploration Using Self-Organizing Maps*. Acta Polytechnica Scandinavica, Mathematics, Computing and Management in Engineering Series No. 82, D.Sc. (Tech) Thesis, Helsinki University of Technology, Finland, March 1997.

Kaski, S., and T. Kohonen (1996). Exploratory Data Analysis by the Self-Organizing Map: Structures of Welfare and Poverty in the World. In A.P. Refenes, Y. Abu-Mostafa,

J. Moody, and A.Weigend (eds.). *Neural Networks in Financial Engineering*, 498–507. Singapore: World Scientific.

Kohonen, T. (1997). *Self-Organizing Maps*. Second edition. Berlin: Springer-Verlag.

Kravis, I.B., A. Heston, and R. Summers (1978). Real GDP Per Capita for More Than One Hundred Countries. *Economic Journal*, 88 (June): 215–42.

Nag, A. K., and A. Mitra (2001). Recent Patterns of Economic Development in the World: An Exploratory Data Analysis Using Self-Organizing Maps. *Proceedings of IASTED International Conference on Artificial Intelligence and Applications*, 115–20. Marbella, Spain: ACTA Press.

Ray, D. (1998). *Development Economics*. New Delhi: Oxford University Press.

Stern, N. (1991). Public Policy and the Economics of Development. *European Economic Review*, 35: 243–50.

Ultsch, A. (1993). Self-Organizing Neural Networks for Visualization and Classification. In O. Opitz, B. Lausen, and R. Klar (eds.). *Information and Classification*, 307–13. Berlin: Springer-Verlag.

———, and C. Vetter (1994). *Self-Organizing Feature Maps Versus Statistical Clustering: A Benchmark*. Research Report No. 9, Department of Mathematics, University of Marburg.

World Bank (2001a). *World Development Report.* Washington D.C.: World Bank.

——— (2001b). *World Development Indicators*. CD-ROM. Washington D.C.: World Bank.

World Health Organization (2000). *World Health Report*. Washington D.C.: WHO.

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Short Notes

V. K. R. V. Rao on Some Macroeconomic Relationships*

K. S. Krishnaswamy**

Abstract

In the early 1950s, deficit financing was advocated for development in India on the argument that its income and employment multipliers would be high, given its labour surplus and high propensities to consume. This was contested on the grounds that it would only cause price inflation because of supply rigidities. Dr Rao clarified that the Keynesian model of demand creation worked under conditions of involuntary unemployment and idle capacity, which was not true of developing countries. Their problem was one of moving from 'full employment at a given level of development to full employment at the next level of development.' He saw limited use for deficit financing in 'forcing' additional savings for investment. Even here, his view was that unless the burden of forced savings was fairly distributed and wage-earners participated in the programme, deficit financing cannot promote capital formation. Labour productivity should also increase, through acquisition of new jobs and skills.

About fifty years ago, in a meeting of the Planning Commission presided over by Prime Minister Jawaharlal Nehru, Prof. P.C. Mahalanobis, then Statistics Adviser to the Government of India, said that he had invited three distinguished economists from abroad to advise the newly set up National Income Committee on a system of fully articulated national accounts for India. Prof. Mahalanobis had barely mentioned their names — Professors Simon Kuznets, Richard Stone and J.B.D. Derkson — when the Prime Minister asked peremptorily, 'What about Rao?' One of the Commission members asked mildly, 'Which Rao?' The Prime Minister replied with some asperity, 'What do you mean, "Which Rao?" National Income Rao, of course!'[1]

What happened at that meeting thereafter is not germane here. The point is that by the 1950s, it was impossible to talk of India's national income without

* This is a revised version of the paper read at the seminar on 'Life and Works of Prof. V.K.R.V. Rao', held on December 27, 2001, at the Institute for Social and Economic Change, Bangalore.

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bringing Dr. Rao's immense contribution — and often Dr. Rao himself — into the proceedings. In the previous two decades Dr. Rao had not only carefully evaluated the earlier estimates of India's national income or product but had produced new estimates for later years, using novel methodological devices, which are still 'a basis for the official series of India's national income' (Choudhury 2002: 167). The estimates published in his classic *The National Income of British India, 1931-32* in 1940 constitute a benchmark for all further work in this area. With the estimates he made for some of the later years, Dr. Rao was able to bring out the sordid truth that, at least in the decades of the 1930s and 1940s, the Indian economy had registered very little growth or progress. It would not be an exaggeration to say that without Dr. Rao's pioneering work in this area, the quantitative support for macroeconomic analysis in India would have been much less satisfactory than at present.

The principal method used by Dr. Rao in his national income estimates is that of originating value or product in the main sectors. Inadequacy of data did not, however, make it possible for him to evaluate other aggregates like domestic expenditure, savings or investment. However, he was fully aware of the aggregate income and expenditure relationships, the saving-investment nexus and the debate on real *versus* money values. It must be noted that when he did his work at Cambridge in the early 1930s, many of these macroeconomic concepts were being actively discussed. Keynes was moving away from *A Treatise on Money* (Keynes 1930) to *The General Theory of Employment, Interest and Money* (Keynes 1942). Richard Kahn had written at some length on the Multiplier, and Richard Stone on the rudiments of social accounts. The Great Depression of the late 1920s had brought a new focus on questions of employment and demand inadequacies. Both in the U.K. and in the U.S.A., the microeconomics of Alfred Marshal and J.B. Clarke were found to be of not much help to policy-makers facing a general collapse of the markets for goods and services. As the later works of Dr. Rao show, this environment profoundly affected his own thinking on the role of economics, and on the need to forge new tools of analysis to deal with macro problems. His concentration on national income concepts and calculations during the 1930s and 1940s after returning to academia in India clearly promoted awareness and understanding of the need to improve the database, as well as to look at the economy as a whole, among both policy-makers and the general public.

These surmises apart, the fact remains that Dr. Rao's work on India's national income extended far beyond his Cambridge thesis mentioned above. In the early 1950s, those of us who were part of the Economic Division of the Planning Commission greatly profited from discussions with him on matters relating to national income and its constituents. Much the same was true of the National Income Unit, a direct beneficiary of the deliberations of the National Income

Committee. In that conjuncture, it was possible to develop for the First Five Year Plan rough estimates of income, saving and investment for the plan period, and later, for a 25-year perspective. Subsequently, after the CSO and the NSSO started providing extensive basic data on production, consumption and related magnitudes on a regular basis, Dr. Rao not only helped refine some of the estimates relating to sectors, especially the agricultural sector, but drew attention to their many policy implications — to which I refer later. Dr. Rao was amongst the eminent advisers sought by the United Nations in its task of developing the standard system of social accounts. Along with his colleagues in the Delhi School of Economics, which he set up in 1949 (and registered as a Society in 1952), Dr. Rao was a source of inspiration to many in the Government those days, when planning for development was everybody's priority. For me personally, it was the beginning of a long period of affectionate friendship.

In the years after World War II, the developed countries of the West and the USSR were concerned mainly with reconstruction, maintaining 'full' employment, and avoiding inflation or balance-of-payments crises. India also was, to some extent, concerned with recovering from war-time inflation and physical damage. But her main focus after Independence was clearly on the acceleration of economic growth and development. Inevitably, macroeconomic concepts and magnitudes became the concern not only of planners but of a wide range of economists and public personalities. Growth models based mostly on the Harrod-Domar extensions of Keynesian economics proliferated. In the process, a series of basic questions arose — e.g., what precisely is the relevance of the Keynesian thesis of demand management to underdeveloped economies aiming at accelerated development? Where does the Multiplier come in or, for that matter, Keynesian 'full employment'? Is 'deficit-financing for development' good advice? These were among the live issues in the early 1950s, in the clarification of which Dr. Rao played a vital part.

Among the many other questions was the relevance of the Keynesian thesis to the economics of development. Keynesian prescriptions of demand management presuppose, among others, the existence of excess capacity in the system, which can be utilised quickly, and labour, which is involuntarily unemployed. Indeed, demand deficiency exists in his model only under such conditions; it is this which results in the near identity of the income and output multipliers, with a corresponding employment multiplier. All this happens in a given state of technology. On this basis, additions to monetary demand will be accompanied by a near immediate increase in both output and employment, until the position of full employment is reached; further additions to monetary demand will, however, lead to price increases. In Keynes' own words, 'so long as there is unemployment, *employment* will change in the same proportion as the quantity of money; and when there is full employment, *prices* will change in the same proportion as the quantity of money' (Keynes 1942: 296). This is, however, subject to several caveats, viz., (i) effective demand should change in exact proportion to the quantity of money; (ii) increased employment should not lead to diminishing returns; (iii) there should be no supply inelasticities prior to full employment and (iv) the wage-unit should not rise. These are stiff conditions, which are unlikely to prevail in reality. Factors like heterogeneity of resources, supply inelasticities and trade union resistance to wage or employment cuts generally tend to raise prices even before full employment has been reached.

I mention these because at the start of planning in India, there was a tendency among planners and development economists to try and hang their models on the Keynesian pegs of *deficit financing* — that is to say, enlarging the quantity of money in circulation — as a means of adding to effective demand and *the Multiplier*, as instrumental in generating successive rounds of income and employment. The grounds for such advocacy seemed obvious in India. There was — and continues to be — a need to provide jobs for millions of people in the labour force, which clearly means that the position is one of less than full employment. And with the majority of incomes being low, and corresponding propensities to consume being high, the multiplier effects on income and employment may also be expected to be high. So, at least, was the argument for a 'bold' programme of domestic investment, even if it meant sizeable government borrowing from the Reserve Bank of India or credit creation by the banks.

In a set of brilliant articles published in the *Indian Economic Review* in 1952–53, Dr. Rao showed clearly that 'the multiplier principle as enunciated by Keynes does not operate in regard to the problem of diminishing unemployment and increasing output in an under-developed economy, an increment of investment based on deficit financing tending to lead more to an inflationary rise in prices than to an increase in output and employment' (Rao 1952: 65).[2] His reason for so concluding is that in an underdeveloped economy, disguised unemployment, dominance of agriculture, subsistence farming, deficiencies of capital equipment and technical knowledge create conditions that seem similar to those of full employment in a developed society, though in fact it may not be so. Supply inelasticities, divergence between income and output multipliers, immobility of labour, changes in income distribution and so on are likely to cause prices to rise much before any serious dent is made on the unemployment situation. He was therefore very positive that 'the economic process consists of two distinct categories, one, where given the level of economic development, you move from low employment to full employment, and the other where you move from full employment at a given level of development to full employment at the next level of economic development' (Rao 1952: 66-7). For the latter, which involves major changes in capital stock and presumably technology, it is the classical theory of

Ricardo that is relevant, not the Keynesian version of employment and output. Economic development needs not only capital accumulation but more employment at a higher level of productivity. 'The old-fashioned prescription of "work harder and save more" still seems to hold good as the medicine for economic progress, at least as far as the underdeveloped countries are concerned' (Rao 1952: 67). [3]

Did it then mean that in Dr. Rao's opinion, deficit-financing had no role to play at all in the development of underdeveloped economies? That would not be a fair thing to say, since he was actually conscious of instances of governments resorting to deficit-financing to 'force' additional domestic savings to support defence expenditure in Great Britain during World War II, or in post-war USA for highway construction, with little to moderate price increases. 'Forced savings obtained through a rise in prices are as much a matter of history as are voluntary savings obtained through reduction in either existing or potential consumption by deliberate choice on the part of the consumers concerned' (Rao 1953: 67). [4]

In a democratic set-up, it is obviously not easy to force savings continuously or in substantial measure unless the capital formation for which deficit-financing is undertaken has wide popular support. Otherwise, it will be virtually impossible to prevent a spiralling of prices, especially when labour is well organised and wage-goods supply is not elastic. Dr. Rao therefore sets out carefully the conditions under which deficit-financing could be undertaken for capital formation with a reasonable degree of success. These include 'a bias in the programme for increasing the output of consumption goods and services, a wide and equitable distribution of the burden of investment outlay, adequate opportunities for wage-earners to participate in the making and executing of the programme, and wide popular understanding and enthusiasm for the programme…' (Rao 1953: 79). [5]

These are now commonplaces. But in the early 1950s, when there was so much excitement and activity in India to push ahead with development, many advocated big increases in domestic investment on the basis of 'created money.' The Bombay Plan, for instance, prepared by a group of industrialists, suggested monetary creation of the order of Rs.3,400 crore — which, in those days was a very large amount — to promote rapid industrialisation. The Planning Commission also was not averse to part-financing of the First Five Year Plan through borrowing from the Reserve Bank of India — approximately Rs.300 crores of a plan outlay of Rs.1,800 crores was to be so financed — though the Commission sought to offset this by a draw-down of sterling balances for augmenting the supply of goods which showed a tendency to rise. There were, of course, staunch opponents of deficit-financing, like Prof. B. R. Shenoy, who were against it under all circumstances. Dr. Rao's position was not that extreme; he recognised that it could be used under certain conditions and with great care. However, the cautionary conditions were not heeded during the Second Plan period and, as is now history, a balance-of-payments crisis in the later part of the 1950s caused by excessive public investment necessitated the dumping of a good part of that Plan.

Inflation apart, it will be noticed that the conditions for legitimate use of deficit-financing included the paramount need of ensuring a fair distribution of the burden of 'forced saving' as well as participation of wage-earners in the making and execution of the programme. Dr. Rao makes it amply clear that capital accumulation is a necessary condition for continued growth, but not a sufficient one. Alongside, it is important that the productivity of labour also increases — and this is possible only when labour is intimately involved in the growth process through both acquisition of new skills and creation of new employment opportunities directly or indirectly. It is this which makes sense of his notion of moving from full employment at a given level of economic development to full employment at the next level of economic development. Without an increase in the productive capacity of labour, much of capital accumulation itself might turn out to be infructuous; and a good part of the labour force might remain in a state of disguised unemployment.

I mention this because a large part of Dr. Rao's later efforts were focussed on two areas, which had received scant attention by the planners and the enthusiastic Keynesians: agriculture, especially food production; and education. When he became a member of the Planning Commission in the first half of the 1960s, these were his principal concerns. That particular Commission could not produce the Fourth Five Year Plan for the years 1966–71 for a variety of reasons. The conflict with China raised the difficult issue of 'defence with development,' leading to deficit-financing of a higher order than envisaged in the Third Plan. This was followed by the death of Pandit Nehru, war with Pakistan, death of Lal Bahadur Shastri and devaluation in the context of rising prices and a difficult balance-of-payments situation. All these coincided with a cycle of poor agricultural years; and Dr. Rao found that unbeknown to him, the Government of India had embarked on the introduction of New Technology in agriculture, even as the rupee had been devalued without any full discussion in the Planning Commission.

His experience in Yojana Bhavan convinced Dr. Rao that there is only so much you can do in the area of 'political economy' if you are in academia, or in an advisory body like the Planning Commission. To be really effective, one has to engage in the rough and tumble of politics. This he did forthwith. As a member of the Central Cabinet, he contributed significantly to educational development in India, and that is another story. But the contributions he made to the clarification of many issues in macroeconomic analysis and policy fifty years ago still remain very relevant — as present debates on fiscal responsibility, higher investment, greater labour productivity, food security, more equitable distribution and so on show.

Notes

1. The Prime Minister had obviously forgotten that the National Income Committee in fact consisted of just three members: Prof. P. C. Mahalanobis, Dr. V. K. R. V. Rao and Dr. D. R. Gadgil.
2. Dr. Rao's main argument here is that disguised unemployment, dominance of the agricultural sector and capital inadequacy constitute a set of conditions quite different from that of an economy with involuntary unemployment and under-utilised productive capacity.
3. Perhaps one should say, 'work harder with more skill and save more.'
4. Dr. Rao goes on to say '… forced saving obtained through a rise in prices, when used for capital formation, is no more than deficit-financing for development.'
5. As is apparent, Dr. Rao expected resort to deficit-financing to follow, and not precede, a tax effort which ensured a 'wide and equitable' distribution of the burden of investment and a proper wages-policy which avoided exploitation of workers.

References

Choudhury, Uma Datta Roy (2002). National Income Measurement in India. In S. L. Rao (ed.). (2002). *The Partial Memoirs of V.K.R.V. Rao*, 166–70. New Delhi: Oxford University Press.

Keynes, J.M. (1930). *A Treatise on Money*. New York, London: Macmillan.

——— (1942). *The General Theory of Employment, Interest and Money*. (Reprinted) London: Macmillan.

Rao, V.K.R.V. (1940). *The National Income of British India, 1931–32*. London: Macmillan.

——— (1952a). Investment, Income and the Multiplier in an Under-Developed Economy. *Indian Economic Review*, 1(1): 55–67.

——— (1952b). Full Employment and Economic Development. *Indian Economic Review*, 1(2): 43–57.

——— (1953). Deficit-Financing, Capital Formation and Price Behaviour in an Under-Developed Economy. *Indian Economic Review*, 1(3): 55–91.

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Globalisation: Wealth and Misery

Ludo Cuyvers (ed.). *Globalisation and Social Development: European and Southeast Asian Evidence*. Cheltenham, UK, and Northampton, USA: Edward Elgar. 2001.
Yun-Peng Chu and Hal Hill (eds.). *The Social Impact of the Asian Financial Crisis.* Cheltenham, UK, and Northampton, USA: Edward Elgar. 2001.

Globalisation is very geographical in its patterns and processes. It must be understood at various scales (international, national, regional, metropolitan, firm, and worker) and in its many dimensions (financial, production, social, and environmental). Globalisation is about ongoing processes between various conflicting groups at different geographical scales. The drive to expropriate the 'wild' peoples and places of the world, institutionally first expressed in the enclosure laws of England to seize common lands, is ongoing. These processes have accelerated and expanded spatially since the rise of capitalism: from European colonialism, post-World War II development of underdeveloped countries, and post-Cold War globalisation. In the rush to commoditize labour, cultures, and places, globalisation—the most recent expression of enclosure—sees the 'commons' as barriers to private property; and subsistence farming, folk medicine, and local industries as barriers to free trade. Trade and capital liberalisation requires that land, labour, craft, and custom be transformed into commodities.

Globalisation, currently measured by trade or direct investment, has been highly uneven. A few developing countries have increased their trade and attracted the lion's share of foreign direct investment. A World Bank study shows that twenty-four countries, with three billion people—including China, Argentina, Brazil, India, and the Philippines—have substantially increased their trade-to-GDP ratios over the past twenty years. However, another two billion people live in countries that have become less rather than more globalised. In these countries — including Pakistan and much of Africa — trade has diminished in relation to national income, economic growth has been stagnant, and poverty has risen. In short, globalisation is not, and never was, global. The shocks of 2001 risk worsening this long-standing marginalisation. The two anthologies reviewed here discuss various forms of current globalisation and their social consequences, particularly in East Asia where globalisation has had so much 'success.'

Globalisation and Social Development provides a conservative, pro-business perspective with a few liberal, governmental recommendations. The book fails to provide a fundamental critique of globalisation itself; yet the editor says that the book reflects 'methodological pluralism' to allow for intellectual freedom, personal insights, and the peculiarities of the countries studied. The book is essentially written by economists or from an economic perspective with all its associated technical jargon and analytical limitations. The theoretical chapters rely on the neoclassical Hecksher-Ohlin model of international trade even though economists disagree on how to test the model—a pernicious way to understand globalisation as it affects ordinary people around the world in whose name globalisation is ultimately justified!

In the 1990s many (progressives, radicals, labour unionists, environmentalists, and feminists) in the developed countries alleged negative employment effects of globalisation in developed countries because of the liberalisation of international trade and capital movements. In contrast, free trade economists (i.e., conservatives and liberals) were convinced of the mostly positive effects of the global economy.

The authors attempt to analyze the evidence on the impact of globalisation on social development in developed versus developing countries in selected countries of Southeast Asia and Western Europe. Specifically, how did foreign direct investment (FDI) outflows and relocation of employment to low-wage and developing countries affect wages, employment, and social conditions in Europe, particularly in Belgium? Conversely, how did FDI inflows and relocation from developed countries affect Southeast Asia, particularly Thailand, Vietnam, and the Philippines? European scholars, unlike their American counterparts, have done little research on globalisation in general and, in any case, few studies have been conducted on individual companies.

Chapter 1 restricts globalisation to the relationship between international trade and FDI, and to wages and employment in industrial countries. Excluded are impacts on labour conditions, industrial relations, and social security. The theoretical and empirical literature on the relationship between international trade, wages, and employment is reviewed with particular emphasis on two versions of the comparative advantage of international trade, the Hecksher-Ohlin model and Stolper-Samuelson theorem. The empirical evidence indicates that as international trade increases in low-wage economies, inequality in employment and income result in industrial countries. Theories of international investments and production hardly exist in mainstream economic theory, even though Dunning's eclectic paradigm is suitable.

Chapter 2 illustrates the importance of the cultural and political context of doing economic research. Globalisation has been extensively studied in the USA; and although often praised, negative effects have been experienced. European economists, on the other hand, have not detected negative influences on wages and employment in Europe from foreign trade and FDI, probably because of greater and widely-accepted supportive governmental social and labour programmes in national and, indeed, European Union economies. Even within Western Europe, policies vary considerably. Wages in Germany, for example, were determined by institutional negotiation, whereas in the United Kingdom, especially since the 1980s, they were determined by 'supply and demand.' The authors critically review the small amount of empirical literature on the impact on European wages and employment of the globalisation processes. Most of the econometric studies are methodologically flawed, as illustrated by one study in which the labour content of imports is confused with jobs lost on goods that are imported more than exported. Specifics aside, the methodological flaws are fundamentally about ideological disagreements on what matters (e.g., profits of individual companies, GNP, employment, and working conditions) and how to study what (i.e., class analysis, neoclassical econometrics, or liberal governmental policies). The literature on international trade and labour and FDI, relocation, and outsourcing uses circumstantial evidence, econometric and descriptive studies about Sweden, Germany, United Kingdom, and France. A typical critique: unemployment resulting from the relocation of manufacturing abroad is 'based on circumstantial evidence and half-truths, without any theoretical, methodological or statistical/empirical foundation.' Therefore, there are no negative consequences because the data are very diverse from individual firms to aggregate data, and the models are flawed or debatable.

In addition to FDI, relocation of economic activities from a parent country to a host country is also part of globalisation. Indeed, outsourcing is a form of relocation. The Belgian government identifies three investment strategies: relocation, expansion, and diversification. In turn, relocation comes in three forms: enterprises exit completely, only production is transferred, and small contractors relocate only their operations. Relocation in Belgium, in all its meanings, accounted for only ten per cent of investments abroad. But industrial production relocated more than service industries: 24 per cent of Belgian industry relocated to the rest of the EU and 37 per cent to Central Europe. By sector, however, foreign production of textiles and apparel accounted for about 50 per cent, much more important than in other sectors of the Belgian economy. Alternatively, more than half of the Belgian companies reduced their employment in Belgium when they relocated in Portugal, Ireland, and Tunisia. Companies with more than 500 employees were more vulnerable to employment reduction in their home country with relocation abroad than smaller firms. In summary, a product life cycle diagram is presented, which shows that production remains in the home country during the high-wage, high-technology, and innovative stage. With growing production, the first relocation abroad occurs but is market driven and does not displace labour in the home country. With increasing growth and standardisation, a second kind of relocation abroad occurs for cost saving based on mass production and low-wage imports, and results in loss of employment in the home country.

Five detailed case studies of luxury underwear, power transformers, coating and protective clothing, high fashion wear, and ladies wear were studied to determine the amount and kind of relocation of these Belgian companies to Asian countries and Lithuania. The authors distinguish between two kinds of relocation: expansion in market and reduction of employment in the home country at the expense of employment abroad. One company illustrates the geographical patterns of globalisation: luxury underwear was once made in France but now, in Hungary where labour was one-eighth of that in Belgium, although productivity was much higher in Belgium. When transportation costs were considered for the relocation of production, a Belgian high-quality fashion producer found that even with air transport of fabrics and garments, overall costs were lower in Thailand than in Poland!

From the perspective of workers in the home countries, relocation due to expansion still represented a loss of employment; yet dialectically, workers in Third World countries gained employment with relocation. Which labour perspective does one take when evaluating globalisation? The authors fail to address this critical issue. They conclude that high-skill activities, such as design and R&D, were kept in Belgium whereas manufacturing itself was subcontracted to low-wage countries. Yet, they wonder if high-skill jobs will be lost in home countries as workers in developing countries acquire more skills.

In Chapter 5 the labour standards of the International Labour Organization (ILO) are examined in emerging economies, particularly in the Asia Pacific region. These voluntary standards potentially advance pluralistic economic democracies. How can international labour standards be combined with economic liberalisation in both home and host countries? Many governments and labour groups see these standards robbing Third World countries of their comparative advantages! Four fundamental principles—freedom of association and the effective right to collectively bargain, elimination of all forms of forced or compulsory labour, effective abolition of child labour, and elimination of discrimination in employment—are examined for individual countries. The ratification of various ILO conventions is reported for ILO member countries in Asia, from Afghanistan to New Zealand. And the author reminds us that ratification is not the same as application of labour standards. Even when countries adopt some of these principles, they exempt their application in export processing and free-trade zones, as in China, Malaysia, Philippines, India, Sri Lanka, Pakistan, and Bangladesh.

With the Asian crisis, economic and employment contraction had major social impacts: poverty in Indonesia, for example, although lowered by 80 per cent in 20 years, shot up to 20 per cent in only two years with its associated communal violence. Deliberate repression of workers' right to organise and to bargain collectively has been documented for each of the three countries worst affected by the crisis. Globalisation clearly is not simply the domination of Third World countries by foreign firms; host elites and governments play a critical role in determining the degree and forms of globalisation within their own borders.

Chapter 6 describes the Thai paradox: large international investments and high growth rates worsened income gaps from 1988 to 1994: the most affluent 20 per cent increased their share of the national wealth from 49 to 60 per cent while the poorest 20 per cent decreased their share from 6 to 3.5 per cent. About 40 per cent of capital inflows consisted of speculative capital seeking short-term profits. And then during the financial crisis of 1997, the government of Thailand transferred private-sector (e.g., banks) debt to public debt, even though the former had benefited greatly from governmental policies. Consequently, tax rates increased from 7 to 10 per cent. The labour market became highly segmented with protected and unprotected, organised and unorganised, and formal and informal workers. Only 13 per cent of the labour force in manufacturing was protected by labour laws and social security system. Globalisation in Thailand, and elsewhere in East Asia, consisted of 1) international investments and trade, 2) the ensuing economic crisis, and 3) IMF and World Bank 'solutions.' A comprehensive assessment of globalisation considering all three related issues, not such investments as proponents of globalisation prefer, was not made.

A detailed study of a US computer hardware manufacturer and a German skin cream, tape, and bandage company reveals the reasons for relocating to Thailand: a central location to Southeast Asia; political stability—absence of war, civil strife, and legal disputes; abundance of low-wage workers who are 'easy learners, accepting and adapting to new situations' and Buddhist, 'making them easygoing, forgiving and peaceful.' Also, Thailand has no racial problems such as in Indonesia, Malaysia, or Philippines. The positive and negative economic and social effects of relocation for the home countries and Thailand were listed but no conclusions were made.

Detailed foreign equity investments by country and by sector in the Philippines are presented in Chapter 8. Capital movements to the Philippines hardly affected the use of labour or equity, although income inequality persisted as the more educated households earned higher incomes. Yet, the inflow of capital into a liberalised country such as the Philippines was unable to improve social conditions, and real wages have substantially decreased since 1995, contrary to what the Stopler-Samuelson theory would predict. Two conclusions are proposed: 1) give trade precedence over investment liberalisation, and 2) remove international trade barriers and restructure internal financial institutions as this will lead to the transfer of skills and technology.

Chapter 9 deals mostly with the negative financial, labour, social, and environmental consequences of trade liberalisation under a World Bank adjustment loan in the Philippines. Import restrictions and tariff protections were removed and reduced, respectively. Overvalued currency, overvalued and fixed exchange rates, and a credit squeeze increased inflation and lowered tax revenues, which in turn reduced foreign and domestic business activities. The impacts on social development were increased poverty and income inequality, decreased number and length of strikes, and lowered nutritional and health-care levels. Funding for environment by government agencies was less; businesses invested less in conservation programmes; and more natural resource extraction occurred. Economists and policy makers from 'various streams' are calling for new international financial institutions, which can respond to the volatility of financial and capital markets with prudential regulations from the state and greater international control of exchange rates, e.g., the Tobin tax—James Tobin's 1971 proposal to levy a tax on foreign-currency trading to shield poor countries from the whims of financial markets. This is one of the few articles with a liberal perspective.

A Japanese printer company and an Australian steel producer located in the Philippines for several reasons: political stability, technically qualified labour, English speaking and Christian workers (a Japanese manager said that Christians were easier to supervise than workers of other faiths), proximity to markets (in China), and generous government investment policies. After a detailed description of the company's operations, the employment levels, poverty, and productivity rates were assessed in each of the locations. The conclusions are that capital-intensive companies produced large direct benefits to social development in the communities in which they operated and governmental economic incentives played a small role in attracting foreign capital.

With the Foreign Investment Law of 1987, Vietnam received FDI inflows; first, in minerals and, then, in industries and services. These joint ventures contributed, directly and indirectly, to the development process: exports, employment, wages, industrial relations, poverty, and inequality. By 1999, more than 800 companies from 70 countries —61 per cent from Asia, mostly Singapore, Taiwan, Hong Kong, Japan, and South Korea —had invested in Vietnam. This investment created 270,000 direct jobs, which only represented 2.3 per cent of the total new employment in Vietnam. FDI was highly concentrated in urban areas. As a result, vast numbers of rural workers migrated to large cities, such as Hanoi, Ho Chi Minh City, and Hai Phong.

The financial system of Vietnam is treated in another chapter. Although the FDI in the country was small, its impact was beneficial. Foreign banks contributed sources of credit and capital, facilitated international payments, created new services and competition, and paid higher wages, yet they hired few employees: 2,300 vs. 20,000 in the state banking system. Despite the positive assessment of foreign investments in banking, the Asian crisis—an expression of globalisation—affected Vietnam very little because it was a transitional economy with limited liberalisation and economic integration with the Asian region.

The necessity and problems of studying individual companies in Vietnam, as elsewhere, are highlighted in another chapter. Companies were reluctant to provide information on their international and business strategies, let alone on their profits and wages. An assembler of electronic products and a commercial bank were studied.

The Social Impact of the Asian Financial Crisis provides a more thoughtful and extensive discussion of the complex problems of data sources, indicators, and interpretations of the Asian financial crisis of 1977 and its social consequences in six Asian countries: four poorer ones, Thailand, Malaysia, Indonesia, and the Philippines, and two richer ones, Taiwan and South Korea. Despite taking a liberal perspective when describing the detailed occupation, income, gender, and spatial consequences of the Asian crisis, the authors employ a conservative, national-scale bias in their conclusions and recommendations, ignoring the international capitalist forces on nation-states.

This book tries to explain how the financial crisis began, how the national economies were affected, how the governments coped, and what social impacts resulted. The editors claim that 'the crisis was a rare experience in which a sudden disturbance pierced through various economies at different stages of their development.' The Asian financial and economic crisis was largely unforeseen and unexpected in countries that had experienced 30 years of almost continuous rapid economic growth. Hence, the lessons from these countries are critical to understanding the nature of global capitalism for other countries in the present and for all countries in the future.

Thailand was struck first; its economy was vulnerable because of 'excessive' investment in real estate and short-term foreign capital, and weak governmental regulations. The editors maintain that although market economies experience disturbances from within and without, the core issue was the inability to manage these disturbances. Instead of questioning the very nature of trade liberalisation and global capitalism, the editors argue that governments need to be efficient managers of crises, which were largely not of their doing! Indonesia is cited as the clearest case of government mismanagement of the crisis. On the other hand, the Philippines and, especially, Taiwan managed to come out of the crisis relatively unscathed. Both experienced earlier financial crises and the governments had already introduced banking regulations, and investors were more cautious. Both countries also relied less on foreign savings to finance their investments. The absence of a long boom meant that the bust would be smaller too.

The social consequences of the Asian crisis were varied, measured by poverty, inequality, wages, unemployment, education, health, region, firm size, and ethnicity. Children in the Philippines were withdrawn from schools. Urban, especially metropolitan, areas suffered more than rural areas. Anti-ethnic and anti-religious reactions appeared in Indonesia against the Chinese, and in Malaysia, against the Christians. Small-to-medium companies were less affected than large corporations. Crime and domestic violence increased. In other words, the less engaged individuals, groups, and places were with globalisation the less they benefited but also the less they suffered during the downturn. What is the lesson? The hope is that with each boom everybody's economic well-being will rise so that the next decline is less than the previous bottom. But is this true? These books do not address this issue.

In another chapter dealing with Thailand, the important point is made that different weightings of causes will result in different policy responses, but how these weightings will be made is not proposed. This and all the other chapters lack a discussion of ideological frameworks, which would provide the context for deciding what factors were relevant, from whom, and why. Thailand's crisis was caused by financial mismanagement, current account deficit, high domestic interest rates, uncontrolled capital flows, rigidity of exchange rates, lack of economic leadership by political leaders, and the decline in export performance. Detailed tabular data show that roughly 30 per cent of GDP was wiped out in a few weeks; in six months, the baht had lost more than half of its original value; and 1.5–2 million workers were unemployed. The government implemented banking reforms and corporate debt restructuring, stability in the exchange rate, reduction in imports, and fiscal deficit spending. The author thought that governments should manage the crisis economy but not otherwise. Markets should be 'free' to be successful but when they fail, governments should 'intervene.'

Social consequences in Thailand varied across three groups. 1) Professional and business people suffered the most through foreign debt and tight money; 2) wage and salaried workers lost jobs; and 3) farmers may be the only group that benefited from the crisis. Private capital created the crisis; and international public lending agencies, e.g., the World Bank, UNDP, etc, stepped in to soften the crisis. Thailand received 21.7 billion baht of loans and grants to help those most affected by the crisis. In addition, the government borrowed $5 billion to reform the labour market and for social welfare, education, and health services.

The financial crisis in Malaysia was the most severe by magnitude since the Great Depression of the 1930s. The Asian crisis, in general, and, certainly, in Malaysia, was associated with financial liberalisation and the 'weakness' in the global financial system. Capital flight was a serious cause of the crisis: between 1997 and 1998, the ringgit depreciated by 42 per cent against the US dollar and the composite index of the Kuala Lumpur Stock Exchange plunged 55 per cent. The manufacturing sector and the urbanised states in Peninsular Malaysia suffered the most. Almost half a million foreign workers and their dependants were expelled. The number of Malaysian students studying in the United Kingdom dropped by 44 per cent. Workers, who continued to have work, no longer had overtime, had their wages delayed, and received smaller or no bonuses. Although the formal sector suffered the worst, the impact in the informal sector was uneven, depending on the location and type of business. The percentage increase in prices almost doubled for essential commodities, such as rice, flour, milk, and cooking oil.

Women were burdened more than men: in lower wages, unemployment, and for their children, increased malnutrition and less or no education. While the average income of the top 60 per cent of households declined, the income of the bottom 40 per cent, especially those in rural areas, remained stable. This evidence clearly shows that the poor are 'rational' in staying disconnected from the world economy. But what advice does the author give? Malaysia should have been more prudent in reforming its financial sector to better face further liberalisation and to allocate substantial budgetary resources for poverty reduction. Despite all of the documentation of the suffering brought on by the Asian crisis, the author still argues for a Keynesian national approach: that the Malaysian government is largely responsible for a sustainable moderately high growth future.

Indonesia was the worst affected by the financial crisis among the East Asian economies; yet, no early warning indicators were evident: economic growth was strong and robust, and almost all economic and financial indicators were positive. None of the Washington institutions and academics foresaw the collapse. How and why could a well-managed, high growth economy suddenly fall so far in just six to twelve months? To understand the Indonesian crisis, a month-by-month account from August 1997 to April 1999 is given. The social consequences affected first and foremost the modern, urban economy of Java, especially greater Jakarta. By contrast, the poor, neglected, and least integrated provinces east of Bali did quite well. Data on social conditions are highly problematic: the ILO estimated that half the population lived in poverty whereas others argued that the crisis stimulated an unprecedented economic boom in the small-scale sector. The authors consider both views exaggerated; yet unemployment rose from 5 to over 20 per cent. 'It is no exaggeration to state in Indonesia practically *everything* [italics in the original] went wrong at once over the period 1997–98. Some may find such a broad and eclectic approach rather frustrating—nothing satisfies more than a single grand theory!'

The chapter on the Philippines provides the statistical results of detailed socio-economic household surveys from the pre- and post-Asian crisis. The reduction in wages had a greater impact on middle-income groups while loss of overseas jobs affected more upper-income groups. Children were withdrawn from schools. Households received assistance from friends and relatives. Metro Manila suffered more negatively than rural areas. More women were unemployed and for longer times than men. More educated and urban workers lost more than less educated and agricultural workers. The financial crisis in the Philippines coincided with the El Nino and with national and local elections, making the crisis worse.

Taiwan, a newly industrialised economy with a convertible currency and relatively open trading system, suffered much less from the Asian crisis than other countries in the region. Yet, it certainly was not completely immune from it. Half of the country's trade was with Asia. As demand abroad shrank, exports dropped by almost 10 per cent. Currency and stock markets experienced large capital outflows. Prior to the financial crisis, bubbles appeared in all East Asian countries, characterised by fast expanding domestic credits, booming stock markets and real estate markets, and sharp increases in short-term capital flows. Although the bubble appeared in Japan much earlier, its results were less devastating, yet resulted in a 10-year recession. The author argues that Taiwan's experience shows that 'there is no reason why growth of these bubbles cannot be stopped by government action.' Then, why do they persist and reappear? Clearly, financial bubbles benefit elites enormously—owners of property, stocks, professional classes, and financial institutions—and even governments. After all, who wants to stop a 'good' thing for business? The strength of the Taiwanese economy was the government's deep involvement in all aspects of the economy. Ironically, this very Keynesian (liberal) model of economic development is currently out of fashion, indeed opposed by (conservative, pro-business) world financial institutions, such as the World Bank, IMF, and the World Trade Organisation (WTO), and many western governments, notably the USA. Taiwan had certain strengths. It depended mainly on domestic savings rather than foreign capital, and it was a net exporter rather than an importer. External debt averaged only 10 per cent of GDP , whereas in South Korea, Malaysia, Thailand, and Indonesia it averaged 17, 38, 38, and 53 per cent, respectively. Taiwan's foreign exchange reserves were more than 75 per cent of the combined reserves of the same four countries. The author concludes: 'it is doubtful there is a mode of industrial organisation that is optimal for all economies at all times.' Which is to say that a Keynesian model is acceptable, but I doubt that any socialist model would be. In any case, international investors, financial institutions, and pro-business governments are currently only interested in open markets that benefit them, regardless of the negative consequences on the people who actually make globalisation work. Indeed, Japan's proposal to create an Asian Monetary Fund to assist Asian countries in times of financial crisis was rejected under pressure from the IMF and the US government, which want to maintain their control of the world economy.

In the chapter on Taiwan, South Korea is seen as a model for managing the financial crisis. South Korea had a highly concentrated and vertically integrated industrial structure with strong state intervention in regulating the economy; both conditions helped to reduce the severity of the Asian crisis. South Korea and Taiwan were also the most diversified and prosperous economies in the region and therefore had options not available to other governments. Yet in another chapter, written by a South Korean economist, the recent financial crisis is described as the worst since the Korean War, and the IMF's economic intervention is seen as *de facto* economic colonisation by the superpowers. Banks collapsed, personal savings deposits evaporated, stock prices fell, unemployment rose, and incomes declined. Skyrocketing interest rates, prescribed by the IMF, actually created greater savings for high-income groups. The Korean government introduced 'erroneous policies of sudden and misguided globalisation by liberalising the domestic money market and joining the Organisation for Economic Cooperation and Development, which further worsened the balance-of-payments situation and highly distributed financial market in Korea.' With hindsight, the very policies that the promoters of globalisation were suggesting are now considered erroneous and misguided! What will the next round of policy advocates suggest, and which groups will be served and harmed again? In the end, 'the prime cause is undeniably corruption and unethical relations between business and politics,' reflected by misguided government control of banks and industries during the past half-century.

What can we learn from these two books about globalisation? National economies are very complex, more so as they relate to international and environmental factors. Data are lacking, incomplete, or outdated; hence, explanation and management are difficult at best.

Economies are highly differentiated by class within and between countries, the benefits of globalisation are enormously concentrated at the top and the negatives are widespread at the bottom.

While capital investments are footloose, people and environments are tied to cultures and places, giving capital inherent advantages.

Elites and middle classes have most at stake with globalisation; the poor are little affected, positively or negatively, by globalisation.

The meaning of social justice or fairness for globalisation varies by ideology: conservatives rely on individualism (including corporations, families, and individuals); liberals champion limited government regulation of capital markets and social services when economic crises occur; radicals measure 'success' by how well the poorest, most disadvantaged are affected by the economy and governmental policies.

Globalisation is an ancient human enterprise, pre-dating the Europeanisation of the world starting in the fifteenth century and the emergence of capitalism; hence, globalisation cannot just be about the spread of capital investments and trade but must also be about improving the lives of ordinary people around the world in culturally sensitive and dignified ways. In other words, globalisation is too important to be left to economists alone, especially conservative and liberal ones.

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Joana Pfaff-Czarnecka, Darini Rajasingham – Senanayake, Ashish Nandy, Edmund Terence Gomez. *Ethnic Futures: The State and Identity Politics in Asia*. New Delhi: Sage Publications. 2000. Pp.209, Rs.250.

In recent times there have been increased efforts by various groups to participate in nation building. This has brought forth an unprecedented expression of conflict and identity. Inter-group conflicts have assumed the character of ethnic struggles, many of which have involved wanton bloodshed and violence. Ethnic strife has, over the last decade, been of increasingly arresting concern to social scientists. In understanding and reporting efforts of people in nation building and the consequent confrontations, it is essential to maintain an unbiased approach. Most often, the print and visual media sensationalise issues and provoke situations of identity conflict. The book under review is a breakthrough as it provides a perspective on ethnic conflicts. The subject is discussed with reference to four volatile nations — Nepal, Sri Lanka, India and Malaysia — where ethnic strife has reached a pinnacle and assumed threatening proportions.

Czarnecka and Senanayake, in their Introduction, have avoided a direct discussion of who the ethnics are and what ethnicity is. This indeed is an intelligent strategy as the authors may not want to add to the existing muddle in defining ethnicity, which is a very turbulent and shifting concept. But all the four case studies have dealt with the concepts of ethnicity and ethnic conflicts by linking the issues to majority and minority groups. The authors of the four case studies build their argument around three major issues: First, the identification of the efforts of states to carve out a unified, homogeneous nation out of varied cultural expressions and at the same time accommodate cultural differences. Second, the impact of global discussions on state building, identity and ethnicity, and how these dialogues have influenced local situations. Third, power sharing by minority and majority groups.

Czarnecka (*Ethnicization of Politics in Nepal)* has channelled her arguments by initially tracing the historical moorings of Nepal. The efforts at codification and consolidation of power from the time of the Shah Kings to Ranas indicate intentions of seeking power. The elite among the ethnic population imbibed the cultural intones of the dominant Hindu groups whereby their standing in clan hierarchy underwent a shift, thus placing them in a more powerful position than the rest of their society. What really catches the reader's attention is that although several ethnic groups have emerged as successful entrepreneurs, their role/influence in state bureaucracy is virtually non-existent.

The roots of ethnic discontentment in Nepal are very similar to those prevailing in India. When international aid enters indigenous markets it affects the process of decentralization of development and power. With development of industries and growth of the labour market the centralising tendencies are decisively reinforced by booming international aid. This situation in Nepal is true also of India, Africa and South America. Czarnecka has also noted that with the basic structure remaining more or less unchanged, no egalitarian effort will bridge the cleavage between groups, but on the contrary increase conflict.

The nationalisation of natural resources, especially forests, has always been a means of cutting off people's access to livelihood bases and delinking them from the development process. It is also an effective way of keeping them in scattered groups so that it becomes difficult to put up a unified struggle to stake their claims to power management. Czarnecka makes a pertinent point when she notes that ethnic spokesmen point to glorious events in their group's past rather than to their immense contribution to the very base of Nepalese development. The organising efforts of the leftist groups did provide a common platform to indigenous groups, but the role of the indigenous groups per se in furthering the process of politicisation should have been elucidated.

The author has raised certain fundamental and crucial issues. One of them relates to ethnic elites towing the line of high-caste Hindus rather than identifying themselves with the cause and interest of their more backward ethnic brethren; the widespread attitude of people who, after seeking key positions in society on the strength of their ethnic identity not wanting to help secure the well-being of less fortunate members of their communities. Another issue is the need for extensive preparations, especially by using a suitable legal basis before introducing a quota system, which is being used more as an appeasing measure than as an instrument of basic change in the conditions of marginalised groups. In an academic context when many social scientists fight shy of raising certain vital questions, Czarnecka deserves special appreciation for bringing them to the fore.

As against Nepal's long history of ethnic conflict, we have Sri Lanka, perceived as one of the best examples of a politically balanced nation, torn by ethnic conflict, which is worse than what could be anticipated in Malaysia. Senanayake's paper brings into focus the issue of how in a multi-cultural state the problem of representation can by itself lead to ethnic conflict. The necessity of forming uniform categories has given rise to drastic shifts in existing identity configurations the world over. Senanayake's observation that race has served as the root metaphor which congeals linguistic, religious and cultural markets …. is very much true of many indigenous groups in Malaysia and India. In Sri Lanka, like India, the colonial themes churned out to administer various groups were carried further and in the bargain helped those who were already in the politicization process. This effort drew different groups into powerful segments within which the identity of many sub-groups was lost and non-powerful sections of society totally wiped off. It is very interesting to note that in Sri Lanka the majority power under democracy has systematically sidelined ethnic minorities, resulting in escalation of violence of an unforeseen nature.

Ashish Nandy's essay concentrates on communal clashes and violence. Through three 'models', he tries to show how systematically the efforts of political and religious leadership have inflamed communal sentiments by propagating a religious agenda in the garb of a political agenda.

Nandy's presentation of the three categories of ideology is very effective. The first of these, the *Centralised Secular Model,* has not been tried out in its pristine form in the Third World. Secularism under this model is perceived as a condition that permits a clear demarcation between secular and non-secular. Nandy makes an interesting point on the conditions leading to the hard sailing of the secular model. With more stress being laid on secularism as a political ideology, people begin to feel that they have lost their older meanings and develop a sense of apathy towards secularism itself.

The second model focuses on secularism mainly for governance. It is most popular in South Asian politics since it facilitates a politics of convenience. The third model recognises the prevalence of inter-ethnic conflicts and places the State in the position of an arbiter. The State has to strike a balance between different viewpoints while at the same time recognising and respecting differences. In a multi-group and multi-cultural society like that of India this model seems to be the most acceptable, but it has simply not been possible to implement it *in toto*, as it leaves more members dissatisfied than satisfied, and very few people in power have the guts to take this risk.

Gomez' analysis of the Malayan situation shows how distribution and accessibility to resources not only influence inter-ethnic relations but also organise people. It shows how shifts in economic activities have led to the creation of a plural society. In the wake of CPM-MPAJA taking over the political reins of the country after Japan's defeat, severe racial conflicts took place in Malaysia. Ethnic identities and inter-ethnic differences have both come to the fore during many an economic and political upheaval, and yet, notes Gomez, 'Malaysians have failed to integrate in any meaningful fashion, even after almost forty years of independence.' Ethnic clashes in Malaysia have often been products of economic disequilibrium. In a country inhabited by groups with distinct identities and also having stakes in its economic and political life, ethnic conflicts are inevitable. That neither Malaysia's economy nor politics can function apart from the ethnic question is well brought out in Gomez' article. However, he cautions that ignoring the Malay history of Malaysia or overemphasising the historicity of Malayan identity can harm Malaysia's development, for, both the Malayan and non-Malayan groups have played a significant part in the country's emergence as well as sustenance.

The book is well-researched and provides rich insights into some realities surrounding ethnic conflicts in Nepal, Sri Lanka, India, and Malaysia. Because of the complexity and diversity of issues involved, certain sections of the book require more than one reading.

The authors have raised fundamental and crucial questions about ethnic strife, but one would expect them to go beyond these questions and offer viable alternative ways of handling ethnic questions.

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K. L. Datta and Savita Sharma. *Facets of Indian Poverty.* New Delhi: Concept Publishing Company. 2002. Pp. xxi + 175, Rs. 250.

Analytical measures based on formal theories and conceptualisation belong to the rarefied atmosphere of hard sciences. However, once in a while, measures like intelligence quotient (IQ) or the twin numbers indicating the state of hypertension enter the common man's vocabulary. Poverty measures belong to this freakish category. While they have their origin in intricate economic and statistical formulations, terms like BPL (below poverty line) population are used by wide and disparate groups such as journalists, activists, market researchers, debaters from colleges to the United Nations and, most amusingly, by politicians who may not be fully numerate. The book under review could give many of these groups with modest academic background a better grasp of the measures they use so often without always being sure about what the measures and changes in them tell. The book comes at the right time amid much concern about the likely growth in poverty and deterioration in the conditions of the poor because of globalisation and liberalisation.

Headcount Ratio (percentage of poor to total population) is the most commonly used measure of poverty. Much credit goes to this measure for the prevailing widespread awareness of and interest in issues relating to poverty. The book explains in considerable detail the concepts, data sources and methodology underlying the class of poverty measures to which Headcount Ratio belongs. They include further refinements to cover the depth and severity of poverty. More interesting, the book provides a detailed mapping of the extent of poverty by states, regions and socio-economic categories. Also, it gives a concise account of the trends in poverty in recent decades and related developments in the field of antipoverty programmes and policies. The book could be highly recommended for scholars and researchers on poverty who will find in one place comprehensive coverage of both the theory and practice of measurement of poverty. Though not very reader-friendly for other groups, a few quick sessions of browsing might help many of them to improve their familiarity with the poverty measures and to use them with more confidence. The book is a welcome addition to the poverty literature, which goes some length in meeting the needs of non-specialists.

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K. G. Karmakar. *Rural Credit and Self-Help Groups: Micro-Finance Needs and Concepts in India*. New Delhi: Sage Publications. 1999. Pp.374, Rs.465.

Growth with justice has long been a guiding principle in Indian economic policy formulation. Accordingly, timely availability of rural credit is crucial to the process of economic development. The volume under review focuses on the failure to provide timely credit for various groups like the rural non-farm sector, rural women, tribals, and micro-enterprise entrepreneurs. It advocates establishment of self-help groups (SHGs) with the assistance of NGOs and banks, especially in backward regions as a means of reducing transaction costs of banks as well as of clients.

The first section discusses the characteristics of the rural credit delivery system and the problems associated with credit recycling and overdues. The latter result from two sets of factors: external and internal. External factors are those over which the banks have no organisational control, such as natural calamities, cost of inputs, and political and government interference; internal factors are related to organisational deficiencies such as defective loaning policies and procedures, and ineffective supervision machinery over loan utilisation. The author cites the factors responsible for the low transaction costs of the rural non-institutional credit sector — flexibility, monitoring, market orientation and low default rate — and recommends that the formal rural credit agencies adopt these features. The first section also traces the evolution and growth of the rural credit system and discusses the recommendations of the various committees.

The second section identifies the credit needs of the various groups of rural society. With the help of case studies, the author, Karmakar, examines the credit needs of Orissa's tribals, and analyses several SHGs that have facilitated the access of rural women to credit in recent years. The issues are discussed from the perspective of official records, which give secondary information, and of field studies. The findings from both sources point in one direction: the need for the presence of efficient NGOs for developing a strong bank-SHG linkage to secure timely credit delivery and better loan repayment rates.

Section three, which forms the core of the book, discusses the need for SHG formation, its objectives, functions and characteristics, and SHG promoting institutions. It highlights the difficulties in establishing linkages between SHGs and banks. It also distils lessons to be learnt from the success stories of Grammen Bank in Bangladesh and Bank for Agriculture and Agricultural Co-operatives in Thailand. These banks were started as unique institutions with little supervision from the central bank, follow minimum documentation and collateral for their lending, and its operations even deviate from requirements of legal documentation. While upholding such initiatives as worthy of emulation in India, Karmakar warns of the difficulties in replicating them in Indian conditions as these are considered sacrilegious.

The concluding section highlights strategies for a sustainable rural credit delivery system in India and presents key arguments. Karmakar identifies two major aspects of bank restructuring, solvency and management, and reviews elements of strategic management to serve as a guide for the revamping of the Indian banking system. These elements include the general management perspective and personal management information system. Finally, he emphasizes the need for micro-finance institutions to develop a strategic alliance with the banking system, in order to promote the welfare of the poor and their access to rural credit.

A more detailed discussion of the ground realities of the supply side of profitability and viability, on the one hand, and the growing demand for rural credit, on the other, during the post-reform period would have been appropriate. Nevertheless, in the context of the ongoing financial sector reforms, the book will be a critical guide to both the strengths and the limitations of the literature on rural credit and SHGs. It will be of particular interest to those associated with rural banking and finance, agricultural economics, rural development, and NGOs and other organisations involved with the rural credit delivery system.

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Jos Mooij. *Food Policy and the Indian State: The Public Distribution System in South India.* New Delhi: Oxford University Press. 1999. Pp. 293, Rs. 575.

The controversy pertaining to ‘hunger amidst plenty’ involving the 60 million tonnes stock of foodgrains with Food Corporation of India (FCI) recently rocked the country. This has brought into focus the efficacy and continuation of the

Public Distribution System (PDS). But even before the crisis emerged, the effectiveness of PDS had been at the centre of academic interests covering issues that featured the ineffectiveness of PDS in providing access to food to the rural poor and regional dimensions of distribution. The debate surrounded other important issues wherein urban bias of PDS, pilferage in PDS, ineffectiveness of the policy, excessive economic costs and undeserved subsidies, were the highlights. Food became an essential economic and political commodity and, as stated by Mooij, the author of the book under review, food policy was embedded in social relations and policies were shaped by the processors on the ground rather than as the logical result of any official statement or intentions.

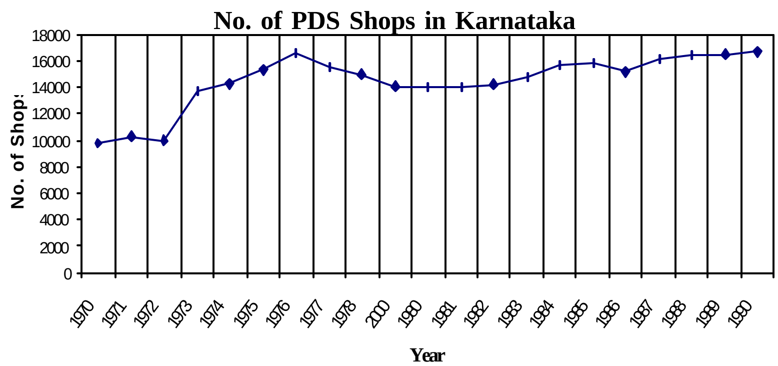
Food policy in independent India was among the first policy documents prepared by the Government of India since food as a commodity was an important political decision maker during the early years of independence. The background of food policy development during these years should be understood keeping in view a few milestones. The policy of procurement and distribution of food began with the Foodgrain Policy Committee Report of 1943 (Gregory 1943), and was followed by the four important documents, viz., Maitra (1950), Rao (1950), Mehta (1957) and Venkatappaiah (1966). The debate during the late sixties on these documents is well known. Thus, the beginning of the debate in the late seventies was an expected outcome. Unfortunately, the author does not take cognisance of these valuable sources. It is rationally expected that food distribution in a food-surplus economy needs to be handled with different policy tools as against distribution of food in a food-scarce economy. This forms the fulcrum of the story told in the book under review.

Mooij bases her book on the turning point during the eighties and the nineties in India's food policy. She poses three investigative questions addressing: (i) the effects of food distribution policy, (ii) historical development of food distribution system, and (iii) the implication of PDS vis-à-vis Indian states. The study is rather sketchy, based on material gathered through field surveys in the states of Karnataka and Kerala in India. The choice of fieldwork locale is an interesting highlight. Karnataka has seen swift economic changes followed by patches of stagnation in the political economic framework during the last four decades. Food policy in the State has thus undergone all these upheavals. On the other hand, it is believed that the Left parties mostly governed Kerala and thus it should have developed better distribution policies and put them in place. This offered a good contrast. In pursuit of hybridising the methodologies of different disciplines, the author has made the book rather sketchy. It is difficult to read the book either from the social-anthropologists' perspective or from that of a political economist. Mooij places (or misplaces) the work somewhere on the border of the two, losing several issues in the trade-off. This in itself may give rise to a new method of analysis termed the anthro-politico-economic method.

After the introduction given in the first two chapters, the author tries to describe the political economy of the states. Further, she discusses the characteristics of the Indian State and emphasises (i) the rent-seeking character of the State represented by the civil services and politicians, (ii) the erosion of the democratic political system and (iii) the domination of the proprietary class in economic development. She further describes the methodology of her study but writes that 'it is not easy to classify the fieldwork methodology.' She adds that the best way would be to describe it as a combination of the intensive method of anthropologists and the more inventorial approach of sociologists who are interested in big structures, large processes and huge comparisons. Therefore, the methodology has several drawbacks (the author agrees to this — p. 35). Theoretical considerations of food policy development in India make interesting reading. To a reader of Indian food policy and an analyst of the developments in this sector it is quite revealing that the policy on food emerges more through the political process and the survival techniques of the politicians. I wonder if any development policy can come through sources other than these two in a democratic set-up. However, Mooij has made a forceful attempt to cast the meandering statements of policies pertaining to the food sector into a theoretical construct. One practical, simple and mechanical tool that one should understand in policy formulation is the role of the bureaucracy in drafting, framing and implementing State policy, which unfortunately does not feature in the author's analysis. Quite interestingly, Dandekar hinted at this in the mid-nineties (Dandekar 1994). Mooij chooses to ignore it.

The historical emergence of Public Distribution System forms the core of the third chapter. The analysis begins from the aftermath of World War II, and there is mention of the Foodgrain Policy Committee of 1943. The author does not seem to have exerted to see the original documents of the Foodgrain Policy Committee of 1943; hence historical analysis remains an interpretation via interpreters. Mooij relies heavily on Bhatia (1991) and Chopra (1988) as sources of authentic information. She ignores Gregory (1943), Maitra (1950), Mehta (1957), Rao (1950) and Venkatappaiah (1966), which are monumental documents in the formulation of Food Policy in India. Thus, her analysis is only partial.

The analysis of food policy development in the two selected states also suffers from consulting the proper sources. Therefore, the statements as 'until the eighties food policy did not play an important role in Karnataka politics' appears in the text. It is essential to clarify that this contradicts the author's own statements about Devaraj Urs' regime as Chief Minister of Karnataka. It is common knowledge in Karnataka that land policy, food policy, and distribution policy were in the forefront during that regime, but not specifically defined. Mooij's analysis of the food policy in Karnataka begins with 1983 (taking that year as a landmark), and ignores developments during 1972–1980, especially during Devaraj Urs' period. Had she taken the data on the number of fair price shops and off-take under the PDS during 1970–90 (which probably is the basic data source she should not have ignored) it would have been very easy for her to locate the trend breaks after 1972–73. These occurred because distribution policy became sharper after 1972–73, and also because of the drought of 1972–73. This is supported by the data on off-take.



Procurement has been analysed in depth and makes good reading. The highlight of the chapter comes in the table presented on page 117. Somehow, the author misses the point that a considerable bribe is paid in order to cover inadequacies in the system especially by the rice millers. The system of levy is analysed quite closely from the legal, procedural angle and implementation mechanism. The practices followed by rice millers, especially keeping the difference in the quality of grains surrendered as levy and the grains that go to market. This practice forces the rice miller to pay the bribe.

Food distribution in Karnataka and Kerala form the core of chapter five, which focuses more on the implementation aspects than distribution *per se*. The chapter is based on secondary as well as primary data. In Karnataka and Kerala, as in the other states of the country, Public Distribution System is similarly organized, therefore one does not find many differences. Mooij analyses food insecurity in these two states and concludes that 'in Karnataka, food insecurity seems to contribute to the continuation of relations of patronage. Insecurity inhibits people from protesting against malpractices in the distribution system'; and '……..in Kerala, food insecurity does not only lead to subordination but also to political mobilisation. Food has become a central point in political struggles' (p. 157).

Analysis of the 'State Trading Corporations' (STCs) begins with the story of King Maveli (the book is inter-spread with interesting anecdotes and instances, making it quite readable). Mooij has reviewed here all the activities and performance of STCs, and describes various dilemmas in the present working. She successfully underscores the contradictions between the objectives of STCs and their current functioning. The analysis points to a dysfunctional relationship between FCI and the state governments, and concludes that the system of checks and controls does not work effectively.

Finally, the author examines the possibility of introducing ‘food stamp’ system in place of the present one. She believes that ‘leakages in the sense of illegal sales of controlled commodities, will not occur in the food stamp system, because there is no physical difference between subsidised food and non-subsidised food’ (p. 249). This comes with the analysis of the villages in Kerala and Karnataka where bribes and corruption are quite common and forgetting the fact that food stamps can be a handy instrument to operate this. If introduced, it will not require much ingenuity on the part of the people who indulge in bribes to print food stamps and buy food on behalf of the poor.

Overall, this book makes quite interesting reading. It clearly shows that the author has painstakingly collected facts, case studies, and interviewed several people. Having come from a different socio-political milieu, she could gather enough evidence to document the food policy, changes in these states and relate them successfully with the various components of the political economy. This is appreciable but she fails to cover the finer points of food policy formulation in the country. The book significantly contributes to the academic material both through its unique methodology and absorbing style of writing. I do not hesitate to recommend the book to those who are studying food policy in India at the micro and macro levels.

References

Bhatia, B.M. (1991). *Famines in India*. New Delhi: Konark Publishers.

Chopra, R.N. (1988). *Food Policy in India — A Survey*. New Delhi: Intellectual Publishing House.

Dandekar, V.M. (1967). Food and Freedom, Economic Series, No. 6. Dharwad: Karnataka University.

Dandekar, V.M. (1994). *The Indian Economy 1947–92*. New Delhi: Sage.

Gregory, Sir Theodore (1943). *Report of the Foodgrains Policy Committee*, Government of India, New Delhi.

Maitra, Laxmi Kanta (1950). *Report of the Foodgrains Investigation Committee*, Ministry of Food, Government of India, New Delhi.

Mehta, Asok (1957). *Report of the Foodgrains Enquiry Committee*, Ministry of Food and Agriculture, Government of India, New Delhi.

Rao, Thirumala (1950). *Report of the Foodgrains Procurement Committee*, Ministry of Food, Government of India, New Delhi.

Venkatappaiah, B. (1966). *Report of the Foodgrains Policy Committee*, Department of Food, Ministry of Food and Agriculture, Government of India, New Delhi.

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Sujatha Patel, Jasodhara Bagchi and Krishna Raj (eds.).*Thinking Social Science in India: Essays in Honour of Alice Thorner.* New Delhi: Sage Publications. 2002. Pp.468, Rs.795 (HB).

This is an unusual collection of essays in honour of an unusual scholar. Alice and Daniel Thorner are well-known and highly respected names among Indian social scientists. Their work on India started in 1945. They were no narrow economists. Their interests covered, apart from economics, political science, history, sociology, anthropology, gender issues, culture, art and literature. Though shaken by her husband's death in 1974, Alice Thorner's research work on India and association with Indian scholars continued unabated even at the age of 84. A festschrift in her honour naturally had to be such as to reflect her wide interests. And so we have it here, with 31 serious essays contributed by eminent scholars who know her and drew inspiration from her.

This is an unusual collection in another sense too. The title of the volume is 'Thinking Social Science in India.' The adjective is justified, but the volume represents 'feeling social science' more than 'thinking social science', with the word 'feeling' used as an adjective. What we find here is no dry scholarship. The essays are written with concern, with pain and with feeling. Quite a few even reflect a sense of exasperation at how so many things are still wrong in India. An essay on calendar art provides an amusing picture of India's popular culture, combining commercial publicity with classical and folk tradition. Among the analytically serious and insightful essays which really justify the title of the volume, there are such as those by K S Krishnaswamy on 'Labour and Employment,' by N Krishnaji on 'Working Mothers, Poverty and Child Loss,' by Leela Gulati on the 'Case Study Method,' and by Sunanda Sen on 'Pluralism, State and Society in India.'

The volume, as a whole, does not have a focus as such since the canvas is very wide. Nevertheless, a few important issues get pointed attention in more than one essay. Poverty and Inequality constitute one such issue, analysed in the contributions by Saradamoni, Krishnaswamy, and Krishnaji respectively. An interesting point made by Saradamoni is that poverty was not a post-Second World War phenomenon as such but that only in the Second World War period, the attention of the state began to be given to reducing it (pp. 164–5). The author also approvingly quotes M. L. Dantwala, who said: 'I should like to emphasise the importance of generating a psychological climate for the acceptance of some basic values implicit in the building up of an egalitarian society.' An essay on whether such a climate obtained / obtains in India would have been most welcome in the volume.

On the gender issue, there are at least six probing articles. Maithreyi Krishnaraj highlights the significance of M N Srinivas' contributions to understanding gender issues and the opening they provided to later studies, especially on the link between caste and gender. Uma Chakravarti refers to several women writers who exposed the pain, discrimination and dispossession imposed against women. Interestingly, she includes Dalit women writers too who focused on the double discrimination Dalit women faced because of both caste and gender. Gita Sen expresses concern over viewing female labour as a cheap resource to be used in the drive towards globalisation, which may benefit the national economy but also generate private costs borne silently. Sylvia Vatuk bemoans the declining role of old women in Muslim families, which, however, may not be unique to Muslim society. Nabneeta Dev Sen brings out the gender bias in epic poetry and refers to a woman-oriented epic, namely, Ramayana (Seetayana?) written by Chandrabati in the sixteenth century who sees Rama's story from Seeta's viewpoint and takes Rama to task for his unfairness to Seeta. Neera Desai briefly presents two articulations of women writers of the nineteenth century, one an autobiography and another in the form of a dialogue with husband. It is interesting that feminism has such a long history in India, which the volume has highlighted so eloquently.

Among the other remarkable essays on other topics is one by Joan Mencher on 'What Happened to Land Reforms?'. She expresses grave concern over the trend of corporatisation of agriculture which, besides having no evidence of being more efficient or productive (per unit of land) than family enterprises, has serious implications for poverty, inequality and employment. It may strike at the very capacity of agriculture, witnessed so far, to reduce poverty and provide employment significantly. Is anybody listening?

We miss the Editor's Introduction in the book, which would have been useful. There is, however, an appreciative essay on Alice Thorner and her work. In spite of the wide canvas (or because of it?), the book may not have a wide market outside libraries. The high price of the volume reflects it and also could contribute to it.

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Marina R. Pinto. *Metropolitan City Governance in India.* New Delhi: Sage Publications. 2000. Pp. 241, Rs.395.

Urban governance is still an unexplored area in academic research. As a response, the book under review offers the much needed concern for urban governance and the implications of the 74^{th} Constitutional Amendment. The major focus of the book is on the study of the municipal corporations of the four metropolitan cities of Delhi, Chennai, Calcutta, and Mumbai. Apart from giving a comparative perspective, it brings together the theoretical issues and practical problems in local governance.

The book contains nine chapters, the first three of which provide an insight into the concept of city, its growth, characteristics and management in the Indian context, the various theories of local government and different types of structures of urban government. These chapters have laid a sound base for the study of mechanisms of local governance in the four metropolitan cities selected for the study. Also, they have documented the evolution of local governance, which is a significant addition to the scattered literature available on this subject. The reference to the concept of 'new localism' in the context of liberalisation, globalisation and privatisation is worth mentioning. It indicates a flexible and dynamic role of local government, which will reflect the economic, social, and political changes under way.

The chapters that follow look at the municipal system and its working. Apart from providing the historical background of each city and its corporations, they cover the State-local relationship and the recent changes introduced in municipal governance. On the most talked about subject, namely, the political-administrative relations between the mayor and the commissioner, which are often delicate, Pinto observes that a strong mayor, along with a professional commissioner or the mayor-in-council system, can provide a strong people-oriented local government.

Chapter 8 is of particular interest as it deals with one of the major issues plaguing local governance, namely, lack of an appropriate institutional framework for urban management and development. This assumes more significance because the urban scene is changing rapidly and is not matched by an equally adaptable and strong institutional framework. This chapter analyses the vertical and horizontal linkages between the institutions handling urban management activities and the question of supervision and control. The study has stressed the need for a system to be citizen focussed and for all the levels of government to work in tandem. An integrated approach rather than an isolated one has been held out as the need of the hour.

The book critically analyses the different forms of local government and its relationship with the State and the parallel bodies, and suggests certain remedial measures, which deserve the attention of policy-makers and implementers. In the context of professionalism in local government, Pinto sounds a warning: *'Professionalism can lead to authoritarian attitudes towards the people and their representatives…. As professionalism increases, there is less willingness to accept* *responsibility and accountability to the public'.* This is debatable and many may disagree with this proposition, as with certain other suggestions. Also, in the context of the 74th Constitutional Amendment, the book has overlooked the role of women and weaker sections (Scheduled Castes, Scheduled Tribes, Backward Castes and others). It will not be out of place to state that in the present context any system is incomplete without the role and status of the hitherto excluded sections of society.

The book has an attractive get-up and is free from the printer's devil, but is priced beyond the reach of the postgraduate student and research scholar. However, it deserves appreciation for its lucidness of expression and clarity of thought. It is also a timely and valuable addition to the literature on urban governance. The book conveys the message that the participatory model is the best for development based on research through a sound methodology of using questionnaires, field visits, interviews, and discussions. It is an invaluable resource for policy makers, academics, activists, researchers, and students and for those seeking to understand city management from a holistic perspective.

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B. A. Prakash (ed.). *Kerala's Economic Development: Issues and Problems.* New Delhi: Sage Publications. 1999. Pp. 390, Rs.275.

Kerala has fascinated scholars and policy makers concerned with development, having earned wide acclaim for the 'Kerala Model of Development.' The State made substantial progress in implementing social and welfare measures despite its low level of economic development. However, the nineties witnessed new concerns which led to fresh thinking on the Kerala Model: increase in urban poverty, fall in the prices of commercial crops, growing army of educated unemployed, large-scale return of migrant workers from the Middle East and the financial crisis of the State government.

Against this backdrop, the book under review, a collection of nineteen essays, attempts to provide an analytical account of the pattern of economic growth in the State and its implications for various sectors. The issues covered include poverty, unemployment, Gulf migration, agricultural performance, industrial stagnation, financial crisis, social security, and the patterns of urbanisation.

The contributors broadly identify two phases of Kerala's economic development during the last decade: the growth phase during the first half of the nineties, following better performance of the secondary and tertiary sectors, and the second phase of economic recession since the mid-nineties. The major factors responsible for the recession, as classified by some of the contributors, are internal (development policies of the State, pattern of investment), international (return of migrant workers from the Gulf, restriction of imports of marine products, and fall in the price of gold) and policy-related changes. The essay on ageing and social security points out that Kerala had reached the final stage of demographic transition and is ahead of the rest of the country by twenty-five years. The number of elderly people (aged 60 years and above) is likely to increase from 26 lakh in 1991 to 72 lakh in 2021. It also raises a pertinent question — can the State afford to provide social security assistance for the growing number of elderly people? Based on the results of National Sample Survey data, the chapter on educated unemployment discusses the extent, causes and policy implications of educated unemployment, which has assumed alarming proportions. It shows that the rate of unemployment among the educated is much higher than that in the non-educated category. According to the author, the main reasons for this are the phenomenal rise in enrolment at the university level, heavy subsidisation of higher education, preference for regular salaried employment, and pursuit of traditional academic subjects. In an interesting discussion on the impact of Gulf migration it is argued that the factor that has had the greatest impact on the regional economy of Kerala since the seventies has been Gulf remittances, which have permeated the rural community, transforming the social and economic life of its inhabitants. Most of the studies have highlighted the fact that migration has helped the households to attain higher levels of income, consumption, and acquisition of assets. Unfortunately, most of the workers returned without any definite plans about their future activities. Besides, their exalted aspirations did not allow them to return to their traditional occupations. As a result, the returnees spent considerable time without working and generally used their money for unproductive purposes, which depleted their savings. What is, therefore, needed is to adopt certain measures to help and guide the returnees to properly utilise their limited savings and experiences, as well as to ensure that they are reabsorbed into the labour force.

The papers in this volume, while lamenting the achievements of the State in various fields, emphasise the emerging concerns and need for stringent measures. The underlying hypothesis — 'reforms gave a boost to the State's economy during the first half of the 1990s, but the economy could not sustain the tempo of such development since the mid-1990s' — needs to be elaborated. The State that offers many successful lessons to others also has to learn how to generate and stimulate economic growth, an area in which Kerala has a more dismal track record than many other Indian states. This book will be of much help to those interested in understanding the recent trends in Kerala's fragile economy.

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Gouri Salvi (ed.). ***Development Retold: Voices from the Field.*** **New Delhi: Concept Publishing Company. 1999. Rs.275.**

In recent years, the concept of self-help has gained considerable importance in grassroots-level development work. It is estimated that there are a few million hamlet or village-level self-help groups consisting of agricultural labourers, small and marginal farmers, dalits and adivasis, and slum dwellers who have been undertaking development work in watershed development, credit, forest management, and water supply and sanitation. In my writings, I have defined self-help group as a vibrant and democratic entity at the grassroots which involves its members in planning, implementation and monitoring of development activity through resources raised on its own strength. Self-management and self-reliance are two important characteristics of these groups. The book under review narrates the experiences of development activists in 'how they helped the people to help themselves'. These voices from the field offer many a lesson to those in pursuit of development through self-help.

The editor spoke to 18 persons closely connected with the Indian Cooperative Union (ICU), which was founded in 1948, under the leadership of Kamala Devi Chatopadhyaya. The ICU undertook several self-help oriented ventures in its attempt to build a new India. Largely because of Kamala Devi, the ICU was fortunate to organise a group of committed and upright workers from different walks of life, ranging from academics to refugees to farmers to students, which equipped them with unique skills in achieving development. They learnt their lessons not from textbooks but in the course of actual struggles in the field. These women and men undertook several ventures such as organising agricultural workers' co-operatives, craftspersons, setting up of industrial enterprises, consumer co-operative stores, and housebuilding. The basic tenets of this work were co-operation and self-help.

Vision is important for an institution to emerge and function with principles of self-management and self-reliance. The book suggests that vision makes a significant difference between a dormant/ dependent institution and a vibrant/ self-sustaining one.

The narrations show that an important factor in the success of self-help in a few cases was being responsive to the people's problems. This is reflected in the evolution of several programmes of the ICU and in the growth and expansion of its staff and activities. The book suggests that self-help institutions will have to formulate objectives and activities based on the situation and needs of the people. This also suggests that self-help promoting institutions need to have the capacity to respect and adapt to the special circumstances and ethos of the community.

Self-analysis is vital in responding to the needs of the community, and in reconciling practice with ideology. This is where the importance of the research wing of any self-help promoting institution comes in. The book suggests that the agency promoting self-help groups should involve itself in 'self-examination, evaluating projects on hand, collecting data for the formulation of new policies and carrying out surveys for future projects'.

The narrations also highlight the importance of self-management. People in a self-help group should participate in all the activities affecting them, such as analysing the situation, assessing needs and preparing action plans. They should also actively participate in the management of self-help groups such as conducting regular meetings, holding elected leaders responsible, conflict management, etc. In short, the people should participate in expressing their interests and securing them. This also implies that participation should go beyond membership and contribution of labour, money and time, to include decision-making. Otherwise, the self-help groups are most likely to be unsuccessful. This is the message that comes out of the book. When members were 'enrolled' into Super Bazaar and meetings were not held regularly, the institution slowly slipped out of their hands. The government started to intervene and began to take control of decision-making and functioning. This example shows that although Super Bazaar began as a totally co-operative venture, it got into the rut of the government department because of lack of self–management.

Self-help does not mean working in isolation. Self-help promoting institutions need to collaborate with the government to scale up their programmes, and also to influence the development policies of the government. The book suggests that the ICU realised this as far back as in 1949. When the government proposed to call contractors to build Faridabad township intended for resettlement of displaced persons from Pakistan, the ICU convinced it that the displaced themselves should be involved in the work. When this was done, not only did Faridabad make rapid progress, but thousands of refugees learnt new vocations, which sustained them for years.

The oral histories also suggest that the ICU's success was more due to the type of people who supported it. It achieved success when it had internal capacity, and human power to respond to the changing needs. The political pressure could be successfully countered by intellectual persuasion and convictions of persons like Kamala Devi and L.C. Jain, whose successors did not have some of these qualities in the same measure. This suggests that self–help institutions cannot depend on a few leaders indefinitely. They need to have a continuous stream of persons capable of understanding the situation and needs of the people, and formulating activities to fulfil those needs. They should also have the conviction to counter the influence of vested interests.

The narrations thus impart several important lessons for co-operatives and self-help promoting institutions. These lessons could have been more effectively communicated through an analytical framework. Nevertheless, the book can be read with great profit, particularly by activists and academics.

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Amrita Shodan. *A Question of Community: Religious Groups and Colonial Law.* Calcutta: Saumya. 2001. Pp. 222, Rs.290.

The book under review examines some very contentious issues facing us today such as the definition of communities and identities in present-day India. It takes up issues relating to the construction of the Hindu and Muslim communities in the context of colonial India. The author, Amrita Shodan, very systematically analyses this process, with reference to two groups in colonial India, the Khojas and the Pushtimargis. She shows how through the judicial process their identities were constructed using the colonial masters' understanding and knowledge of Islam and Hinduism in order to regulate all matters of the public sphere.

The complexity of identities in independent India is being greatly submerged by the efforts to define 'Indian,' 'Hindu,' 'Muslim,' 'culture,' 'community,' etc. In the process many independent groups are being forced to describe themselves within the definition laid down by the law-makers and the judiciary. Thus, the Jaina community is described as Hindu for legal purposes such as application of laws on marriage, divorce, inheritance, succession, etc, while the community considers itself to be different and existing since even before the advent of Hinduism through the Aryans. Shodan very ably tries to understand the process through which such an identity has emerged. 'In today's political context the question uppermost in my mind is, how was it that the numerous and often antagonistic religious groups and separately organised collectives were represented in the single category of either Hindu or Muslim?' (p.38). I think this issue is of great concern today, and needs to be viewed in its historical context for a meaningful analysis.

In the Bombay Presidency, unlike in the Bengal Presidency, they followed the principle that 'the common law notion was that all law is based on customs of place, deriving its moral force from having developed with the people in a place from time immemorial.' (p.47). Thus the Bombay Regulation IV of 1799, which set up the judiciary in the Bombay Presidency, specified the importance of local customary law. 'If this law was not opposed to equity then it was to operate to the exclusion of the written and formal code of the Hindu law books.' (pp. 47–48). A few of those who governed the Bombay Presidency did realise that the laws used in practice by the people were very different from that laid down in the legal texts recovered by the British administrators. Elphinstone went so far as to say, 'We ought not to be guided by Hindu law, *which is a new introduction of our own.'*

(p.49).

In the context of the Khoja case regarding women's inheritance rights, Justice Perry, who tried the case in 1848, glossed over the court's charter, which enjoins the court to apply 'Mohammedan laws to the Mohammedans,' with a principle strictly adhered to in the Bombay Presidency: 'to retain to the whole people lately conquered their ancient usages and laws.' He justified his gloss to the clause of the charter thus:

> It was erroneously believed that the population of India might be classified under the two great heads of Mohammedan and Gentoo and the use of the latter terms as a *nomen generalissimum,* which is unknown, by the bye, in Eastern tongue or even in colloquial use… shews that the main object was to retain to the people ... their ancient usages and laws, on the principle of *uti possidetis.*

Thus, in this particular case Justice Perry ruled on Khoja succession according to the Khoja custom rather than the Shariat law. At this point customary provisions were not seen as threatening religious identity. Thus, at least some of the British administrators were conscious that the 'Hindu' was their creation. Yet we find it difficult today to think of this as a construction of the British colonial judicial administration. Another point that this case brought forth is how on issues of granting rights to women, the larger textual legitimacy was clearly undermined, but so easily is the textual basis referred to when it is a question of suppression of women.

In the context of the Vallabhacharya Vaishnavas or the Pushtimargis, the issue related to the conflict between caste and community identity. Generally, the courts treated religious groups as self-governed, but retained the right to adjudicate religious disputes that affected matters of public interest. But following these two judgements the courts began to interfere in the affairs of these groups, and the function of the caste and collectives became restricted. 'Thus, the absence of consultation in the judicial sphere pushed caste out of the public domain, defined as a space in which individuals come together to debate, discuss and govern. As a non-participant in the public space, caste was prominent as community …the public and not caste became an arena for the individual and the State. Caste became an area of sameness and cohesion, giving identity to an individual. This process saw the corollary to the rise of the individual (for which the nineteenth century in India is justly famous): the rise, and not the demise, of the community'. (p.119).

The grounds on which the British based their understanding of the groups were not the self-definition by members of the groups or even the religious heads, as in the case of the Vallabhacharya Vaishnavas. 'The court rather employed two main legal arguments to deny these powers to caste. One, that the court as the organ of Her Majesty the Queen had absolute sovereignty and it could not permit any other body to interfere in its pursuit of a settlement of a 'civil' dispute. Two, that matters of public interest must be dealt with by the public through its instrument, the State.' (p.119). Prior to the Maharaj Libel case, caste authority had been an important means through which the reformers sought to change the social behaviour of members and religious authorities.

'In the libel case the court, which was supposedly a secular instrument of the State, ruled on religious questions, and established and upheld a brahminic, Sanskritic definition of Hinduism.' (p.149). In the libel case the Maharaj would not have been able to pursue the case if he had not argued on the basis of the violation of his rights as a citizen and given up his spiritual authority and status. 'The exigencies of the secular law forced the Maharaj (the religious leader of the Pushtimargis) to portray himself as a common citizen. It forced him to dissociate himself from his religious authority.' (p.151). Until this case the Maharaj had been forced to fight against the reformers through the exercise of his religious and caste authority. This had failed to stem the criticism. This forced him to come to the State for assistance as a 'citizen' of a 'private character', not as a Brahmin or priest.

This is very similar to the processes at work even today. The various forces at play since 1857, which made State sovereignty all-encompassing, disallowed earlier notions of recognizing sovereignty in bodies like castes other than the State, thus giving primary importance to the individual citizen's rights and helping create the elite group of citizens in the process, people who would be free from religious and caste identities and also authority. Only the State, then, can protect the individual citizen's rights and not any of these smaller polities.

Shodan has very succinctly gone into the history of small communities that were self-governing but recognised and supported by external polities. She has successfully traced the process by which such bodies lost their space to settle disputes regarding their faith and practice. The Khojas and Pushtimargis, while retaining their sectarian identities, found that for purposes of legal governance were understood only by reference to the larger group understood by the British administrators. As a consequence, these communities had to change. 'The legal treatment of religious groups and communities was not a suppression of the narrative of the community, but rather a consistent deployment of this narrative to strengthen the supreme authority of the colonial State.' (p.195).

Thus, through the colonial judicial process the construction of an integrated Muslim identity occurred 'in a more dangerous and threatened environment: of being subsumed and marginalized within the dominant representation of Indians as Hindus'. (p.197). Today we are having to deal with the consequences of this development in an even more heightened way in the context of the fight against terrorism.

While dealing with the issues relating to the construction of such identities, Shodan has also dwelt on the definition of community itself. The idea that the community is primordial and based on birth, not membership, and that we have societies today that are not so integrated or self-contained has been examined at length. The author hopes that by questioning the colonial production of communities we can 'retain possibilities of self-constituting polities.'

The value of this work lies in its contribution to the understanding of the complexity of social relations in the Indian subcontinent — the cutting across of religious identities by caste membership. For example, members of both the Khojas and the Pushtimargis come from the same social and economic background and share many commonalities of administration of disputes and decision making.

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B. K. Sinha and Pushpendra (eds.). *Land Reforms in India: An Unfinished Agenda*. New Delhi: Sage Publications. 2000. Vol.5. Pp.243, Rs.395 (cloth).

The book under review makes us think that though the din of globalisation is drowning out the voice of the poor peasantry in the Third World countries, land reforms continue to constitute an interesting problem for study particularly because it calls for an interdisciplinary approach. The title of the book is reminiscent of the scholar Wolf Ladejinsky's long-held view that land reforms in many poor countries like India are an unfinished business. This is particularly noteworthy when one considers that the poor peasants, forming an important target group of reforms, are numerically preponderant.

While evaluating any scholarly work on land reforms, the need for conceptual clarity is paramount. In the first instance, land reforms are to be treated as state-initiated measures for realizing the twin goals of equity/distributive justice and efficiency/productivity. Second, as rightly observed by a reputed writer on land reforms, namely Warriner, land reforms should result in redistribution of property rights (Doreen Warriner, *Land Reform in Principle and Practice*, Oxford University Press, Bombay, 1969, pp.1 – 2). This fact is very well recognised by Hiranmay Dhar, whose paper 'Institutional Constraints to Land Reforms in Bihar' forms part of the contributions to this volume (p.124). Therefore, real land reform measures that can produce redistributive effects and that are still in currency in India are ceilings on landholdings and tenancy reforms. It is difficult to accept other measures like consolidation of landholdings, distribution of government land, and minimum wages as land reforms. The editors of this volume, like most of its contributors, have taken agrarian reforms as being synonymous with land reforms. While this is a limitation on their part, it has not reduced the utility of the work for researchers in the social sciences and administrators concerned with the rural poor.

The book is an outcome of the National Workshop organised by the Land

Reforms Unit (now called Centre for Rural Studies) of the Lal Bahadur Shastri National Academy of Administration, Mussoorie, in January 1997. It consists of two sections and three appendices. The first section consists of research papers on liberalisation and agrarian reforms, viability of land reform measures, management of land records and feasibility of cadastral surveys. In his chararcteristically impressive style, G. Parthasarathy concludes his paper with the assertion that rural development programmes are no replacement for land reforms, and that only the latter will usher in successful rural development (p.71). His paper makes a strong case for land reforms in the new economic policy era also.

K. T. Chandy's attempt to conceptualise viable land reforms no doubt deserves appreciation. He is at pains to prove that cooperative action in agriculture is needed for the complete realisation of the goals of land reforms (p.82). But for its rather textual style, the paper makes interesting reading.

Indeed, a brilliant effort to highlight the practical significance of Dynamic Land Records Management System (DLRMS) with appealing illustrations and insightful footnotes is made by B. K. Sinha (pp.85 – 105). It would be only natural if after reading this paper one gained the impression that without DLRMS land reforms will remain an unfinished agenda for many more years to come. I can do no better than quote Sinha:

> The Dynamic Land Records Management System (DLRMS) is one integrated step that has the potential to cut across this vicious circle and create a virtuous circle of information flow, reduced search cost, reduced transaction costs, reduced efficiency burden, leading to an expansion in the base of the land and labour markets and reduced burden of disputes (p.90).

The papers in the second section of the book describe the experiences of West Bengal, Bihar, and Jammu and Kashmir with land reforms. The paper on West Bengal begins with the remark that compared with all the other states in India, West Bengal's record of implementation of the land reforms programme (LRP) has been most impressive (p.117). Surprisingly, the author, Buddhadeb Ghosh, argues in another context that the improvement in agricultural production in this state cannot be attributed to LRP. He subscribes to the view that increased provision of irrigation has been primarily responsible for the rise in agricultural yield (p.119). It is difficult to deny the fact that the comprehensive agrarian reforms programme in West Bengal has created an environment conducive to investment and production in agriculture. It is certainly reasonable to argue that the beneficiaries of LRP in West Bengal have captured the benefit of increased provision of irrigation, which, according to Ghosh, is a 'leading input.'

An inter-temporal analysis of land distribution in rural Jammu and Kashmir is made by M. S. Bhatt. His informative paper ends with the observation that the state's performance in reducing inequality through land reforms has been significant. But inequality-inducing factors continue to operate, a fact that merits much attention in the era of new economic reforms, which are reinforcing these factors (p.167).

The three appendices summarise the workshop proceedings, recommendations and statistical information. There is a strong recommendation that apart from Panchayat Raj Institutions, peasants' organisations and voluntary organisations involved with land-related issues should be associated with the implementation of land reform measures (p.182). The keynote address at the aforementioned workshop, delivered by P. S. Appu, forcefully states that ceiling laws should not be repealed, but rigorously enforced. The distinguished editors of the book have rightly dedicated it to Appu, 'whose interest in land reforms has remained unflinching and unflagging over the course of decades though land reforms have remained an unfinished agenda in this country.'

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Books Received

Beneria, Lourdes and Savitri Bisnath (2001). *Gender and Development: Theoretical, Empirical and Practical Approaches*, Vol. I. The International Library of Critical Writings in Economics 130. Cheltenham, UK: Edward Elgar Publishing Ltd.

Goetz, Anne Marie (2001). *Women Development Workers: Implementing Rural Credit Programmes in Bangladesh*. New Delhi: Sage Publications.

Ilaiah, Kancha (2000). *God as Political Philosopher: Buddha's Challenge to Brahminism*. Calcutta: SAMYA.

Joshi, G. V., P. A. Rego, M. Simam (2001). *Banking for Rural Development in India: Progress, Problems and Prospects.* Mangalore University, Corporation Bank Chair in Bank Management.

Kabeer, Naila (2001). *Bangladesh Women Workers and Labour Market Decisions*. New Delhi: Sage Publications.

Murthy, Ranjani K. (2001). *Building Women's Capacities: Interventions in Gender Transformation*. New Delhi: Sage Publications.

Prabhu, K. Seetha (2001). *Economic Reform and Social Sector Development: A Study of Two Indian States. Strategies for Human Development in India* — Volume 3. New Delhi: Sage Publications.

Rodrigo, G. Chris. *Technology, Economic Growth and Crises in East Asia.* Cheltenham, UK: Edward Elgar Publishing Ltd.

Sengupta, Nirmal (2001). *A New Institutional Theory of Production: An Application*. New Delhi: Sage Publications.

Shah, Ghanshyam (2002). *Social Movement and the State*. Vol.4. Readings in Indian Government and Politics. New Delhi: Sage Publications.

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