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Contents

Reforming Health Policy and Financing under Globalisation

Ravi Duggal*

Abstract

How healthcare is financed is critical for equity and universal access to healthcare. Countries having universal access have health financing mechanisms that are single-payer systems in which either a single autonomous public agency or a few coordinated agencies pool resources to finance healthcare. All OECD countries, except USA, have such a financing mechanism. In these countries, 85% of financing comes from public resources like taxes, social insurance and over 90% of the population is covered. Canada, Sweden, UK, Australia are a few examples. Experiences from these countries indicate that the key factor in establishing equity in access to healthcare and health outcomes is the very high proportion of public finance in total health expenditures.

Historically India began with a clear trajectory towards universal access as early as 1946 with the Bhore Committee plan but lack of political will prevented such development. In 1982, again post the first health policy a more serious engagement on this happened and public healthcare received a boost through the minimum needs program and in 1987 public health expenditure peaked to 1.5% of the GDP but with structural adjustment policies from early nineties this small movement forward got derailed and has since not recovered very significantly. Presently in India public resources committed to healthcare is one of the lowest in the world, with less than one-fifth of health expenditure being financed publicly. India has large scale poverty and yet the main financing source for health care is out-of-pocket expenditure. This is a cause of not only huge inequities we see in access to healthcare but also of large

* Ravi Duggal can be reached at- rduggal57@gmail.com. This paper is based on a wide range of research and advocacy work undertaken in the last decade and parts of this have been published elsewhere.

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scale pauperisation. If India has to improve healthcare outcomes and equity then increasing public health expenditures will be critical. Apart from this the healthcare system will need to be organised and regulated, similar to countries like Canada or closer home like Thailand.

This paper focuses on health policy making and health financing strategies historically and shows how globalisation processes, specifically structural adjustment programs under World Bank oversight structurally altered health sector development in India taking it on a path of growing inequity. It concludes with reemphasising that healthcare is a public good and cannot be left to the vagaries of the market. To realise its social or public value it has to be organized and regulated using both public and private resources for social benefit. Such is the global experience where healthcare is universally accessible with equity. Why should it be different in India?

I. Introduction

Access to healthcare is critically dependent on how healthcare provision is financed. Countries that have universal or near universal access to healthcare have health financing mechanisms which are single-payer systems in which either a single autonomous public agency or a few coordinated agencies pool resources to finance healthcare. All OECD countries, excluding the USA, have such a financing mechanism. In these countries, excluding USA, 85% of financing comes from public resources like taxes, social insurance or national insurance which insure healthcare to over 90% of the population – even in the USA public finance (Medicare and Medicaid) constitutes 44% of total health expenditure but one-third of the population in the US is either uninsured or under insured. In fact the USA and Canada stand out in sharp contrast even though they are neighbours and strong capitalist economies. Canada gives healthcare access to its entire population free of cost at 40% of what the USA spends, and has health outcomes much better than the USA.

Outside the OECD group a number of developing countries in Latin America, Asia and Africa like Costa Rica, Cuba, Argentina, Brazil, South

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Africa, Ghana, South Korea, Iraq, Iran, Thailand, Sri Lanka etc. too have evolved some form of single-payer mechanisms to facilitate near universal access to healthcare. It is only in countries like India and a number of developing countries, which still rely mostly on out-of-pocket payments, where universal access to healthcare is elusive. In such countries those who have the capacity to buy healthcare from the market most often get healthcare without having to pay for it directly, and those who suffer a hand-to-mouth existence are forced to make direct payments, often with a heavy burden of debt, to access healthcare from the market.

India is the most privatised health economy in the world and this despite the fact that three-fourths of the country's population is either below the poverty line or at the subsistence level. Given the political economy of India one would have expected the State to be the dominant player in both financing and providing healthcare for considerations of establishing equity in access to healthcare. But this has not happened.

II. Political economy of health financing

Historically, the Indian State has always been an insignificant player in provision and/or financing of ambulatory healthcare. Private providers, both modern and traditional, as well as informal providers, have been dominant players in the healthcare market. While pre-colonial healthcare was still largely within the jajmani[1] realm of transactions, the establishment of modern medicine during the colonial period gradually moved it in the direction of commodification. Today the healthcare system is dominated by modern medicine and healthcare available largely as a commodity. Even the traditional and non-formal providers use modern medicine in their practice and operate within the market context.

1. The jajmani system was a set of economic interrelations across caste groups in the local community which had social sanction and linked to it mandatory social obligations. While at one level it facilitated economic organisation of the local community and assured livelihoods within both productive and service sectors, at another level it also restricted occupational mobility because occupational assignment under such a system was caste based, especially for service occupational categories. Hence the jajmani system also kept intact the economic basis of the caste system. Today it is largely destroyed but may be found in pockets in most states, but especially the Hindi heartland.

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In case of hospital care the transition has been very different. Right from pre-colonial times, through the colonial period and the post-Independence period upto mid-seventies, the State and its agencies were the main providers of hospital care. There were also significant non-state players who set up large charitable hospitals. By 1970's medical education made a major transition; post-graduation, specialisation and super-specialisation became sought after and the character of medical practice changed. Specialists on one hand began setting up private nursing homes and the corporate sector on the other hand began to show interests in entering the hospital sector. Also major changes in medical technology, which hastened the process of commodification of healthcare, and the entry of private insurance in the health sector made for-profit hospitals a lucrative proposition.

By late 1980's the State was already decelerating investments in the hospital sector and this was a clarion call for the private sector to increase its presence. At the turn of the nineties structural adjustment reforms, the harbinger of globalisation, liberalisation and privatisation, impacted the health sector drastically. These macro-economic reforms rapidly transformed the gains of the public health system made under the minimum needs programme of the 6th and 7th Five Year Plans into a private sector led growth that gradually destroyed the public health system. On the one hand the government under financed the public health system (with public health expenditure falling from 1.5% of GDP in 1987 to 0.7% in 1994[2]) and stopped making new investments and on the other hand the private health insurance and corporate investments in the health sector, including the expansion of the medical tourism market, and the massive growth of private medical education, provided the vital support for private healthcare to bloom. By the turn of the millennium the for-profit hospital sector had not only become dominant but also within the state sector privatisation via user-charges, as well as through contracting out or leasing had become the order of the day. See the case of Mumbai in the box.

It is apparent from the above discussion that the largest source of financing healthcare in India is out-of-pocket or self-financing. Out-of-pocket

[2] See Leena Gangolli, Ravi Duggal, Abhay Shukla eds. (2005) Review of Healthcare in India, CEHAT, Mumbai.

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spending on healthcare as a mode of financing is both regressive and iniquitous. Latest estimates based on National Accounts Statistics indicate that private expenditures on healthcare in India are now over Rs.3500 billion and 95% of this is out-of-pocket. Public expenditures on healthcare are about Rs.1000 billion additionally. Together this adds up to over 4.5% of GDP with out-of-pocket expenses accounting for 74% of the share in total health expenditures or 3.3% of GDP. This is a substantial burden, especially for the poorer households, the bottom three quintiles, which are either below poverty line or at the threshold of subsistence, and when illness strikes, such households just collapse. In fact, for the poorer quintiles the ratio of their income financing health expenditures is 2 to 4 times more than the average mentioned above. Further, while this burden is largely self-financed by households a very large proportion of this does not come from current incomes. A very large proportion, especially for hospitalisations comes from debt and sale of assets as indicated by various rounds of NSSO health surveys (NSSO 2006).

Data from the 52nd Round NSS of 1995-96 (Table 1) reveals that over 40% households borrow or sell assets to finance hospitalisation expenditures, and there are very clear class gradients to this – nearly half the bottom two quintiles get into debt and/or sell assets in contrast to one-third of the top quintile; infact in the top quintile this difference is supported by employer reimbursements and insurance. When we combine this data with the ratio of 'not seeking care when ill' in case of acute ailments by the bottom three quintiles in contrast to the top quintile – a difference of 2.5 times, and the reason for not seeking such care being mostly the cost factor, it becomes amply evident that out of pocket spending has drastic limits and in itself is the prime cause of most ill health, especially amongst the large majority for whom such a mode of financing strains their basic survival.

In sharp contrast in countries where near universal access to healthcare is available with relative equity the major mechanism of financing is usually a single-payer system like tax revenues, social or national insurance or some such combination administered by an autonomous health authority which is mandated by law and provided through a public-private mix organised under a regulated system. Canada, Sweden, United Kingdom,

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The Collapse of Mumbai's Public Health Systems

Mumbai historically developed a very robust public health system. Being the industrial and financial capital, even as early as late 19th century seths (merchant capitalists) gave huge donations to set up dispensaries and hospitals in Mumbai. Most of the older public hospitals received such benefits and developed into centres of excellence under public patronage – JJ Hospital, KEM Hospital, Nair Hospital and Lokmanya Tilak Hospital, all teaching hospitals. Post Independence the infrastructure expanded rapidly, both hospitals and primary care facilities and an overwhelming majority of Mumbaikars used such public facilities for their healthcare, especially for hospital and specialty care. To support such care the BMC (municipal corporation) spent 25 to 30% of its budget on public healthcare, including 3 teaching hospitals. This was true until the late eighties. Post (nineties) SAP reforms the financing of Mumbai's public health facilities saw a declining trend and at the turn of the new millennium in 2000 (the year in which Health For All should have been achieved) the health budget was down to less than 20% and right through the nineties no new facilities were setup. At the same time private healthcare was rapidly expanding and supported by health insurance was taking over hospital care from the public institutions, including its doctors and nurses. By 2006 health accounted for just 17% of the BMC budget and today it is at a low of 13%. This underfinancing has resulted in poor maintenance, inadequate supplies, frustration amongst staff and consequently decline of credibility in the public conscious. What added to this agony was that the economic reforms of the nineties brought in health insurance which through employer assistance led the middle class to opt out of free public healthcare and migrate to insurance supported private care for hospitalisations. With the middle class voice and aggression gone from the public hospitals the latter became institutions for the poor. It is no coincidence that the out migration of the middle classes was followed by the underfinancing of public hospitals in Mumbai. And then just before the new millennium user fees in public hospitals were systematically introduced for each service and this alienated even the poor from the public health system leading to the complete collapse of Mumbai's public health system.

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Germany, Costa Rica, South Korea, Australia, Japan are a few examples. Experiences from these countries indicate that the key factor in establishing equity in access to healthcare and health outcomes is the proportion of public finance in total health expenditures. Most of these countries have public expenditures averaging 80% of total health expenditures[3]. The greater the proportion of public finances the better the access and health outcomes. Thus India, where public finance accounts for only 20% of total health expenditures, has poor equity in access to healthcare and health outcomes in comparison to China, Malaysia, South Korea, Sri Lanka, Thailand (and more recently even Bangladesh and Nepal) where public finance accounts for between 30% and 60% of total health expenditures[4].

Table 1: Key Data pertaining to out-of-pocket expenditures, source of finance and for not seeking care across expenditure quintiles and social groups, NSS 52nd Round, 1995-96

	I Poorest	II	III	IV	V Richest	SC/ST	Other	All
Outpatient								
Rural								
Rs. per episode	77	94	124	130	174	92	138	128
Urban								
Rs. per episode	95	141	139	164	225	122	166	160
Inpatient								
Rural								
Rs. per Hosp.	1020	1197	1495	1931	4595	2789	3133	3102
Urban								
Rs. per Hosp.	835	1499	1964	2765	7470	2046	4303	3921
Debt and sale of assets (%)	47	45	42	42	32			43
Did not seek care (%)	24	21	18	18	9			17
Cost as factor in not seeking care (%)	33	23	21	22	15			24

Source: Compiled from NSS 52nd Round data files, NSSO, New Delhi, GOI, 1998

[3] http://www.oecd.org/document/html accessed 2nd August 2005

[4] WHO (2004) World Health Report -2004, Geneva, WHO

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In India public health expenditures had peaked around mid nineteen-eighties and thereafter there was a declining trend, especially post-structural adjustment period. The decade of eighties was a critical period in India's health development because during this period not only did the public health infrastructure, especially rural, expand substantially but also major improvements in health outcomes were recorded. After that public investment in health declined sharply and public expenditures showed a declining trend both as a proportion to GDP as well as in total government spending. This has also impacted health outcomes, which are showing a slower improvement if not stagnation. At the same time private health sector expansion got accelerated and utilisation data from the two NSS Rounds 42nd (Pre-1991) and 52nd (Post-1991) Round, a decade apart, provides ample evidence of this change (Table 2 and 3). Further the 60th Round in 2004, the last such survey, also shows the continuing trend of decline in public facility utilisation, especially for hospital care (Table 2).

Further evidence from states which underwent health sector reforms under the World Bank supported health sector development programme (HSDP, Table 4) clearly reveals huge declines in state public health budgets which were around 10% of the state budgets in 1987 (prior to WB interventions) but now since 1998 are halved at below 5%. This reduced budgetary support to public health has led to the destruction of the public health system, a loss of its credibility and ultimately their inability to achieve the desired health outcomes.

Thus, if India has to improve health outcomes and equity in access then increasing public health expenditures will be critical. It will have to reverse the post-1991 declining trends in public health spending and move towards the UPA government's target of 3% of GDP public health expenditure. Apart from this the healthcare system will need to be organised and regulated in the framework of universal access, similar to countries like Canada or Brazil, or more recently our close neighbor Thailand. Of course, India has its own peculiarities and the system that will be designed will have to keep this in mind. We cannot transplant say the Canadian or Costa Rican or Thailand system into India as it is, but we can definitely learn from their experience and adapt useful elements.

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Table 2: Per 1000 distribution of hospitalised treatments by type of facility during 1986-87 and 1995-96, India – NSSO

Type of Hospital	Rural			Urban		
	2004 (60th Rd.)	1995-96 (52nd Rd.)	1986-87 (42nd Rd.)	2004 (60th Rd.)	1995-96 (52nd Rd.)	1986-87 (42nd Rd.)
Public hospital		399	554		418	595
PHC / CHC		48	43		9	8
Public Dispensary		5	-		4	-
All govt. sources	417	438	597	382	431	603
Private hospital		419	320		410	296
Nursing home		80	49		111	70
Charitable institution		40	17		42	19
Others		8	17		6	12
All non-govt. sources	583	562	403	618	569	397
all hospitals	1000	1000	1000	1000	1000	1000

Source: NSSO (1998): Report No 441 on Morbidity and Treatment of Ailments, NSS, GOI; NSSO (2006): 60th Round -2004

Table 3: Percentage distribution of non-hospitalised treatments by source of treatment during 1986-87 and 1995-96, India – NSSO

Source of Treatment	Rural		Urban	
	1995-96 52nd Rd.	1986-87 42nd. Rd.	1995-96 52nd Rd.	1986-87 42nd. Rd.
Public hospital	11	18	15	23
P.H.C. / C.H.C.	6	5	1	1
Public dispen.	2	3	2	2
ESI doctor, etc.	0	0	1	2
All govt. sources	19	26	20	28
Private hospital	12	15	16	16
Nursing home	3	1	2	1
Charitable inst.	0	0	1	1
Private doctor	55	53	55	52
Others	10	5	7	3
All non-govt. sources	81	74	80	72
Total	100	100	100	100

Source: NSSO (1998): Report No 441 on Morbidity and Treatment of Ailments, NSS, GOI

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Table 4: Health Expenditure as % of Govt Expenditure in HSDP States

State	1987	1998	2006	2010#
Andhra Pradesh	7.88	5.44	3.57	3.8
Karnataka	8.23	5.85	3.73	3.1
Maharashtra	9.38	4.29	3.55	2.8
Orissa	8.50	4.82	4.34	5.0
Punjab	10.52	4.93	3.31	3.1
Rajasthan	14.48	7.97	4.65	5.2
Tamil Nadu	10.04	6.28	4.76	4.8
Uttar Pradesh	9.08	6.03*	4.94	5.3
West Bengal	9.73	6.43*	4.78	4.5

* Data for 1996; # Budget Estimate; source: RBI State Finances

III. Failed health policy making

On the eve of Independence we had an excellent health policy and plan outlined by the Bhore Committee. The formation of this committee marked the first large-scale undertaking to document the prevailing health conditions in India and recommend a plan for the future. The four-volume Bhore Committee Report was submitted to the Government of India in 1946. It defined eight objectives for its plan for a National Health Service: making adequate provision for the preventive and curative medical care; placing services as close to the community as possible; providing widest possible basis of cooperation between health personnel and the people; enabling involvement of medical and auxiliary professions in health policy formulation; making available diverse diagnostic, treatment, laboratory and institutional facilities ('group' practice); making special provisions for vulnerable population groups; providing access to healthcare services irrespective of ability to pay for them; and creating healthy homes, workspaces and recreational facilities (Bhore, 1946).

It emphasised a need for a comprehensive and universal health care system, and it made recommendations concerning the district health scheme and health organization to provide integrated health services - curative, preventive and promotive - to the entire population. If implemented,

these measures would have been India's first steps on the path to universal access to healthcare.

Although the opportunity to build a foundation for universal access to health was presented, the development paradigm had no space for such provisions. Indeed, there was no attempt in the post-colonial period to radically restructure the health care system, as per the framework provided by the Bhore Committee. Rather, a series of five-year plans were instituted which seemed to allow the health care inequalities to continue to grow. Access opportunities favored urban populations, doctors were trained for the private sector through state financing, and bulk drugs were supplied at subsidised rates to private formulation units; both measures facilitated the development and strengthening of the private health sector in India.

In the 1950s and 1960s, India's health sector was focused on managing epidemics. Mass campaigns were started to control diseases such as malaria, smallpox, tuberculosis, leprosy, filaria, trachoma and cholera (Banerji, 1973). During the First (1951-56) and Second (1956-61) Five-year Plans, the basic structural framework of the public health care delivery system remained unchanged. Urban areas continued to receive more than three-fourths of the medical care resources while rural areas received 'special attention' under the Community Development Program (CDP).[5] The Third Five-year Plan (1961-66), discussed the problems affecting the provision of primary health centers (PHC). It directed attention to the shortage of health personnel, delays in the construction of PHC buildings, and inadequate training facilities for staff required in the rural areas (Planning Commission, 1968, p. 657). It also pointed to the inadequacy of health care institutions, doctors and other personnel in rural areas, cited as the major shortcomings of the previous five-year plan (Planning Commission, 1968, p. 652). However, no mention was made of specific steps to reach this goal.

[5] Clear evidence that as early as the beginning of the 1960s the availability of medical care in urban India was already well within the WHO's acceptable standard norm of one hospital bed per 500 persons, whereas rural India was 16 times worse off with regards to these data.

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With the Fifth Five-year Plan (1974-79), the government acknowledged that the urban health infrastructure was expanding at the cost of the rural sectors (Planning Commission, 1974 p. 234). Yet it was only in the Sixth Five-year Plan (1980-84), including the announcement of the first National Health Policy (NHP) in 1983, that the transformation of India's rural health infrastructure finally happened.

National Health Policy of 1983

Until 1983, there was no formal health policy. As a consequence of the global debate on alternative strategies during the 1970s, the signing of the Alma Ata Declaration on primary health care in 1978, and the recommendations of the ICMR-ICSSR Joint Panel in 1980 (ICSSR and ICMR, 1980), the government decided that "an integrated, comprehensive approach towards the future development of medical education, research and health services" was necessary (MOHFW, 1983, p.1). During the decade following the 1983 NHP, rural health care received special attention. A massive program of PHC facilities expansion was undertaken in the Sixth (1980-84) and Seventh (1985-90) Five-year Plans to achieve the target of one PHC per 20,000-30,000 people and one sub-center per 2,500-5,000 people.

During the Eighth Five-year Plan (1992-97), a committee to review India's public health status discovered a resurgence of communicable diseases and a need to drastically improve disease surveillance. The Ninth Five-year Plan (1997-2002), incorporated this committee's recommendations, and, in addition to improving disease surveillance, for instance, it addressed the health care worker shortage through part-time positions and state-specific strategies (Planning Commission, 2003, p. 458). The Child Survival and Safe Motherhood (CSSM) program, transformed into the Reproductive and Child Health (RCH) program on the basis of the ICPD-Cairo agenda, received multi-agency external funding support to provide need-based, demand-driven, high quality integrated reproductive and child health care (Planning Commission 2003, pp 519, 557). The Ninth Plan also recommended a reformulation of the 1983 NHP, with a focus not only on improving health care, but also on measuring and monitoring of the health care delivery systems and the health status of the population (Planning Commission, 2003, p. 503).

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The Tenth Five-year Plan (2002-07) (Planning Commission, 2003) coincided with the National Health Policy of 2002 (MoHFW, 2002), which, for the first time, was drafted with feedback from the public. The 2002 NHP acknowledged that the public health care system falls grossly short of defined requirements, the morbidity and mortality due to easily curable diseases were unacceptably high, and resource allocations are generally insufficient. It also found public health infrastructure unsatisfactory; insufficient funding for the outdoor medical facilities; insufficient medical and para-medical personnel; unavailability of consumables; dilapidated, obsolescent and unusable equipment in many public hospitals; obsolete equipment and minimal availability of essential drugs in the in-door treatment facilities; all of which leads to "overcrowding, and consequentially to a steep deterioration in the quality of the services" (MOHFW, 2002). The 2002, NHP attempted to regulate the private health sector through statutory licensing, and for expressing concerns for establishing a viable referral system, teaching health volunteers simple medical skills, and improving overall health statistics are also admirable. However, ultimately, the 2002 NHP was a collection of unconnected statements, a dilution of the role of public health services and an unabashed promotion of the private health sector.

The Eleventh Five-Year Plan (2007-2012), like its predecessor, paints a dismal picture of the health services infrastructure in India and stresses the importance of investment in primary health and decentralisation. The specific objectives in the health sector are to reduce infant mortality rate to 28, maternal mortality ratio to 1 per 1,000 live births, and total fertility rate to 2.1; to provide clean drinking water for all by 2009; and to halve malnutrition among children under 4 years and anaemia among women and girls by 2012. The 11th Plan was guided by the National Rural Health Mission (NRHM), which was launched with the 2005-06 budget "to provide effective healthcare to the poor, the vulnerable and to marginalised sections of society throughout the country" (MOHFW 2005). It refers to 18 states as the focus area. This focused approach, however, conflicts with the principle of universal access, thus undermining the very objective of a national health program. It is evident from the history of program implementation in India that targeted programs fail to make an impact as compared to

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universalised initiatives.[6] While these groups need special support from the public health system, the goal of the program should not be selective because in doing so it distorts the design of universal coverage.

Since universal access to comprehensive primary healthcare and referral services is not stated clearly as a goal, the financing strategy for NRHM consists of "selective programs for targeted populations." Hence separate schemes like Rs. 10,000 for untied funds for the subcentres, Rs. 100,000 for rural hospital maintenance if Rogi Kalyan Samitis are formed, Rs. 750,000 per block for training ASHAs (village level health workers referred to as Accredited Social Health Activists) etc. have been worked out, instead of determining what resources would the proposed package of comprehensive services require in order to implement it effectively.

Thus NRHM so far has been merely tinkering with the system. It has not made any significant structural inroads to making the architectural changes it proudly boasts about in the mission document. This is because while the government on the one hand talks about NRHM, on the other, it is letting the corporate sector, including multinationals, have an unregulated and open environment to boost the private health sector and profit from it. In fact, NRHM also promotes public-private-partnerships aggressively and a number of initiatives in this line have been launched, the most talked about being the Chiranjeevi scheme in Gujarat for deliveries in private hospitals but financed by government, Rogi Kalyan Samitis, handing over of PHCs/CHCs to private sector/NGOs in Arunachal Pradesh, Gujarat and Karnataka, contracting out of specific services in hospitals like laundry, diagnostic, security, catering services, etc. Further, the use of the insurance route to finance tertiary and secondary care for below poverty line populations through programs like the Rashtriya Swasthya Bima Yojana (National Health Insurance Scheme) and its state level clones like Arogyashri in Andhra Pradesh, Yeshaswini in Karnataka, Jeevan Dayi in Maharashtra etc. are directing huge resources from the Ministries of Health

6 A classic example is the Public Distribution System in India which worked perfectly well until it was universal but by making it targeted to the poor it was destroyed. Similarly introduction of user fees in public hospitals, with a provision that poor would get free access actually destroyed the public hospitals because they were now viewed as hospitals for the poor and the middle class moved away and thus these hospitals lost the voice that made them credible institutions.

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– in 2010-11 Rs. 21.98 billion as premiums for 189 million insured persons (IRDA, 2012) - towards such care in the private sector. So an increasing proportion of public resources are being directed for the benefit of the private health sector in addition to various subsidies which already exist[7].

The government is now reviewing this in its preparation for the 12th Five Year Plan and there has been a substantial debate on pushing hard for universal coverage for healthcare. In this context the Planning Commission set up an independent High Level Expert Group (HLEG) to make recommendations for realising Universal Coverage. The HLEG has come up with broadly acceptable recommendations after wide ranging consultations and debates (Planning Commission, 2012). But very little of this has found its way into the 12th Five Year Plan. Again selective solutions like free medicines in all public facilities, health insurance cover for hospitalizations and the like are being pursued as mechanisms to what the Planning Commission calls universal coverage.

IV. Towards a new financing strategy

Currently India's health financing mechanism as mentioned earlier is largely out-of-pocket and one sees a declining trend in public finance. Table 5 indicates trends in health expenditures over the last three decades. It is quite evident from the data that public finance of healthcare is weakening and private expenditures becoming even larger. This needs to change.

First, within the existing public finance of healthcare, macro policy changes in the way funds are allocated can bring about substantial equity in reducing geographical inequities between rural and urban areas. Presently (2010), the central and state governments together spend Rs.550 per capita, but this is inequitably allocated between urban and rural areas. The rural healthcare system gets only Rs.300 per capita and urban areas get Rs.1300

7 Some of the prominent subsidies to private health sector include medical education with 80% of graduates from public medical schools joining the private sector, tax waivers to Trust/Society managed hospitals which do not reciprocate the legal responsibilities of treating 10-20% poor patients free of cost, supply of patients paid by the public sector to corporate hospitals like Apollo, Escorts etc., tax rebates for import of medical equipment and supplies...

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per capita, a difference of over 4½ times[8]. If allocations are made using the mechanism of global budgeting, as is done in Canada for instance, that is on a per capita basis then rural and urban areas will both get Rs.550 per capita. This will be a major gain, nearly two times, for rural healthcare and this can help fill gaps in both human and material resources in the rural healthcare system. The urban areas in addition have municipal resources, and of course will have to generate more resources to maintain their healthcare systems which at least in terms of numbers (like hospital bed: population ratios and doctor: population ratios) are adequately provided for. Global budgeting also means autonomy in how resources are used at the local level. The highly centralised planning and programming in the public health sector will have to be done away with and greater faith will have to be placed in local capacities.

Second, the public exchequer even today contributes substantially to medical education to the extent that nearly 80% of medical graduates are from public medical schools. This is a major resource that is not fully utilised. Since medical education is virtually free in public medical schools the state must demand compulsory public service for at least three years from those who graduate from public medical schools as a return for the social investment[9]. Today only about 15% of such medical graduates are absorbed in the public health system. Infact, public service should be made mandatory also for those who want to do post-graduate studies (as many as 55% of MBBS doctors opt for post-graduate studies).

Third, the governments can raise additional resources through charging health cesses and levies on health degrading products (if they cannot ban them) like cigarettes, beedis, alcohol, paan masalas and guthka, personal vehicles etc. For instance tobacco, which kills 670,000 people in India each year, is a Rs.450 billion industry and a 2% health cess would generate Rs.9 billion annually for the public health budget. Similarly alcohol, which presently also generates about Rs.450 billion in revenues, can also bring

[8] These estimates are calculated by the author based on an assessment that the rural healthcare system effectively gets one-third of the budgetary resources.

[9] To train one MBBS doctor the government spends between Rs. 15 and 20 lakhs and thus has every right to expect a minimal amount of public service in return.

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in substantial resources if a 2% health cess is levied. The same logic can be applied to personal transportation vehicles both at point of purchase as well as each year through a health cess on road tax and insurance paid by owners. Land revenues and property taxes can also attract a health cess which is earmarked for public health (municipal taxes already have an education cess component).

Fourth, social insurance can be strengthened by making contributions similar to Employee State Insurance Scheme (ESIS) compulsory across the entire organised sector and integrating ESIS, Central Government Health Services etc. with the general public health system. Also social insurance must be gradually extended to the other employment sectors using models from a number of experiments in collective financing like sugar-cane farmers in south Maharashtra paid Re 1 per tonne of cane as a health cess and their entire family was assured healthcare through the sugar cooperative. There are many NGO experiments in using micro-credit as a tool to factor in health financing for the members and their family. Large collectives, whether self-help groups facilitated by NGOs, or self-employed groups like headload workers in Kerala, can buy insurance cover as a collective and provide health protection to its members. At least 60% of the workforce in India has the potential to contribute to a social insurance program.

Table 5: Health Expenditure Trends in India

Year	Total Public Health Expenditure (Rs.billions)	% of GDP	Private Health Expenditure (Rs.billions)	% of GDP	% Private to Total Health Expenditure
1975-76	6.78	0.90	24.66	3.26	78.43
1980-81	12.86	0.99	52.84	4.06	80.43
1985-86	29.66	1.19	90.54	3.61	75.32
1986-87	44.55	1.47	100.00	3.41	69.18
1992-93	64.64	0.74	175.57	2.61	73.09
1993-94	76.81	0.98	195.43	2.50	71.78
1994-95	85.65	0.93	278.59	3.04	76.48
1995-96	96.01	0.89	329.23	3.07	77.42
1996-97	109.35	0.88	373.41	3.00	77.35

Table continue next page

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Year	Total Public Health Expenditure (Rs.billions)	% of GDP	Private Health Expenditure (Rs.billions)	% of GDP	% Private to Total Health Expenditure
1997-98	127.21	0.92	458.99	3.30	78.30
1998-99	151.13	0.94	653.40	4.04	81.21
1999-00	172.16	0.96	835.17	4.76	82.91
2000-01	186.13	0.98	981.68	5.18	84.06
2001-02	194.54	0.94	1100.00	5.32	84.90
2002-03	197.32	0.88	1250.00	5.60	86.36
2004-05	258	0.85	1529*	5.3	86.82
2006-07	365	0.91	1854*	5.8	85.19
2007-08	431	0.90	2042*	5.1	84.78
2008-09	519	0.97	2249*	4.24	81.25
2009-10	606	0.99	2477*	4.05	80.34
2010-11	716	0.98	2730*	3.76	79.22
2011-12	878RE	1.00	3007*	3.42	77.40
2012-13	1047BE	1.04	3520**	3.49	77.07

Note: RE=revised estimate, BE=budget estimates

Source: Public: Finance Accounts of Central and State Governments upto 2010-11and RBI's Finances of State Governments, and Union Budget Expenditure statements for subsequent years; Private: CSO – GOI – Private Final Consumption Expenditures, National Accounts Statistics, 2003 (1993-94 series); * Since available PFCE data beyond 2003-04 is only available based on 2004-05 series and not comparable the estimates have been calculated by author for private expenditures based on the ratio difference of PFCE between 1993-94 and 2004-05 series, for example for 2002-03 the 1993-94 series was 1.6 times the 2004-05 series – overall this appears to be an under-estimate for private health expenditure; **author projection

Fifth, other options to raise additional resources could be various forms of innovative direct taxes like a health tax similar to profession tax (which funds employment guarantee) deducted at source of income for

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employed and in trading transactions for self-employed. Using the Tobin tax route[10] is a highly progressive form of taxation which in an increasingly service sector based economy can generate huge resources without being taxing on the individual as it is a very small amount of deduction at the point of transaction. What this basically means is that for every financial transaction, whether cheque, credit card, cash, stock market, forex etc. a very small proportion is deducted as tax and transferred to a fund earmarked for social sector. For example if 0.025% is the transaction tax then for every Rs.100,000 the transaction tax would be a mere Rs.25 or one paise per Rs.40 transacted. This would not hurt anyone if it were made clear that it would be used for social sectors like health, education, public housing, social welfare etc. Infact where the stock market is concerned, which is anyway speculative in nature, a one percent transaction charge on the daily turnover of Rs.1500 billion could net in close to 8% of GDP annually. So in this era of high economic growth raising additional resources is not the issue it is the lack of political will to prioritize healthcare which is the concern.

The above are just few examples of what can be done within the existing system with small innovations. But this does not mean that radical or structural changes should not be done. Ultimately if we have to assure universal access with equity then we have to think in terms of restructuring and reorganising the healthcare system using the rights-based approach. This requires a multi-pronged strategy of building awareness and consensus in civil society, advocating right to healthcare at the political level, demanding legislative and constitutional changes, and regulating and reorganising the entire healthcare system, especially the private health sector.

Thus we have to stem the growing out-of-pocket financing of the healthcare system and replace it with a combination of public finance and various

[10] A Tobin tax, suggested by Nobel Laureate economist James Tobin, was originally defined as a tax on all spot conversions of one currency into another. The tax is intended to put a penalty on short-term financial round-trip excursions into another currency. The term now has sometimes been used interchangeably with a specific currency transaction tax (CTT) in the manner of Tobin's original idea, and other times it has been used interchangeably with the various different ideas of a more general financial transaction tax (FTT).

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collective financing options like social insurance, collectives/common interest groups organising collective funds or insurance. At another level the healthcare system needs to be organised into a regulated system that is ethical and accountable and is governed by a statutory mandate, which pools together the various collective resources and manages autonomously the working of the system towards the goal of providing comprehensive healthcare to all with equity. This will happen only if the entire healthcare system, public and private, is organised under a common umbrella through a single-payer mechanism which operates in a decentralised way.

V. Reorganising the health system

The conversion of the existing system into an organised system to meet the requirements of universality and equity and the rights based approach will require certain hard decisions by policy-makers and planners. We first need to spell out the structural requirements or the outline of the model, which will need the support of legislation. More than the model suggested hereunder it is the expose of the idea that is important and needs to be debated for evolving a definitive model.

The most important lesson to learn from the existing model is how not to provide curative services. We have seen above (Table 2 and 3) that curative care is provided mostly by the private sector, and it is completely uncontrolled and unregulated. The system operates more on the principles of irrationality than medical science. The pharmaceutical industry is in a large measure responsible for this irrationality in medical care. Twenty thousand drug companies and over 60,000 formulations characterise the over Rs. 1000 billion drug industry in India.[11] The WHO recommends less than 300 drugs as essential for provision of any decent level of health care. If good health care at a reasonable cost has to be provided then a mechanism of assuring rationality must be built into the system. Family medical practice, which is adequately regulated, along with referral support, is the best and the most economic means for providing good health care. What follows is an illustration of a mechanism to operationalise the right to healthcare, it should not be seen as a well defined model but only as

[11] In addition to this there is a fairly large and expanding ayurvedic and homoeopathy drug industry estimated to be over one-third of mainstream pharmaceuticals

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an example to facilitate a debate on creating a healthcare system based on a right to healthcare approach. This is based on learnings from experiences in other countries which have organised healthcare systems, providing near universal health care coverage to its citizens.

Family practice

Each family medical practitioner (FMP) will on an average enroll 400 to 500 families; in highly dense areas this number may go up to 800 to 1000 families and in very sparse areas it may be as less as 100 to 200 families. For each family/person enrolled the FMP will get a fixed amount from the local health authority, irrespective of whether care was sought or no. He/she will examine patients, make diagnosis, give advice, prescribe drugs, provide contraceptive services, make referrals, make home-visits when necessary and give specific services within his/her framework of skills. Apart from the capitation amount, he/she will be paid separately for specific services (like minor surgeries, abortions, deliveries, home-visits, etc.) he /she renders, and also for administrative costs and overheads. The FMP can have the choice of either being a salaried employee of the health services (in which case he/she gets a salary and other benefits) or an independent practitioner receiving a capitation fee and other service charges. The FMPs will work under the oversight of the health district which would roughly be a block in rural areas and a ward in municipal areas.

Epidemiological services

The FMP will receive support and work in close collaboration with the epidemiological station (ES) of his/her area. The present PHC setup will be converted into an epidemiological station. This ES will have one doctor who has some training in public health (one FMP, preferably salaried, of the ES area can occupy this post) and a health team comprising of a public health nurse and health workers and supervisors, social workers/ counsellors and other paramedic and support staff will assist him/her. Each ES would cover a population between 10,000 to 50,000 in rural areas depending on density and distance factors and even up to 100,000 population in urban areas. On an average for every 2000 population there will be a health worker and for every four health workers there will be a supervisor. The main tasks of ES will be Epidemiological surveillance,

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monitoring, taking public health measures, laboratory services, information management, counseling services etc. The health workers will form the survey team and also carry out tasks related to all the preventive and promotive programs (disease programs, MCH, immunization, pathology tests etc.) They will work in close collaboration with the FMP and each health worker's family list will coincide with the concerned FMPs list. The health team, including FMPs, will also be responsible for maintaining a minimum information system, which will be necessary for planning, research, monitoring, and auditing. They will also facilitate health education. Of course, there will be other supportive staff to facilitate the work of the health team.

First level referral

The FMP and ES will be backed by referral support from a basic hospital at the 50,000 to 100,000 population level. This hospital will provide basic specialist consultation and inpatient care purely on referral from the FMP or ES, except of course in case of emergencies. General medicine, general surgery, paediatrics, obstetrics and gynaecology, ophthalmology, dental services, radiological and other basic diagnostic services and ambulance services should be available at this basic hospital. This hospital will have 50 beds, the above mentioned specialists, 6 general duty doctors and 18 nurses (for 3 shifts) and other requisite technical (pharmacists, radiographers, laboratory technicians etc..) and support (administrative, statistical etc..) staff, equipment, supplies etc. as per recommended standards. There should be two ambulances available at each such hospital. The hospital too will maintain a minimum information system and a standard set of records. These first level referral hospitals will be supported by higher level secondary and tertiary/teaching hospitals located in larger towns, district headquarters and cities.

Pharmaceutical services

Under the recommended health care system only the essential drugs required for basic care as mentioned in standard textbooks and/or the WHO essential drug list should be made available through pharmacies contracted by the local health authority. Where pharmacy stores are not available within a 2 km. radial distance from the health facility the FMP should have the

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assistance of a pharmacist with stocks of all required medicines. Drugs should be dispensed strictly against prescriptions only and completely free of cost to the patient.

Rehabilitation and occupational health services

Every health district must have a centre for rehabilitation services for the physically and mentally challenged and also services for treating occupational diseases, including occupational and physical therapy.

Managing the health care system[12]

For every 3 to 5 units of 50,000 population, that is 150,000 to 250,000 population, a health district should be constituted (Taluka or Block level in rural areas and municipal ward in urban areas). This will be under a local health authority that should comprise of a committee including political leaders, health bureaucracy, and representatives of consumer/ social action groups, ordinary citizens and providers. The health authority will have its secretariat whose job will be to administer the health care system of its area under the supervision of the committee. It will monitor the general working of the system, disburse funds, generate local fund commitments, attend to grievances, provide licensing and registration services to doctors and other health workers, implement CME programs in collaboration with professional associations, assure that minimum standards of medical practice and hospital services are maintained, facilitate regulation and social audit etc... The health authority will be an autonomous body under the oversight of the State Health Department. The FMP appointments and their family lists will be the responsibility of the local health authority. The FMPs may either be employed on a salary or be contracted on a capitation fee basis to provide specified services to the persons on their list. Similarly, the first level hospitals, either state owned or contracted private hospitals[13], will function under the supervision of the

[12] The discussion in this paper is restricted to primary care services but they are not the only component of the core content; higher levels of care are needed as support and these already exist to a fair extent though they need to be reorganised. Thus district level hospitals and metropolitan and teaching hospitals are also part of the core content.

[13] Once contracted in private hospitals as well as FMPs will become part of the public system and will not be allowed any private practice.

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local health authority with global budgets. The overall coordination, monitoring and canalisation of funds will be vested in a National Health Authority. The NHA will function in effect as a monopoly buyer of health services and a national regulation coordination agency. It will negotiate fee schedules with doctors' associations, determine standards and norms for medical practice and hospital care, and maintain and supervise an audit and monitoring system. It will also have the responsibility and authority to pool resources for the organised healthcare system using various mechanisms of tax revenues, social and national insurance funds, health cess etc.

Licensing, registration and CME

The local health authority will have the power to issue licenses to open a medical practice or a hospital. Any doctor, wanting to set up medical practice or anybody wishing to set up a hospital, whether within the universal health care system or outside it will have to seek the permission of the health authority. The licenses will be issued as per norms that will be laid down for geographical distribution of doctors. The local health authority will also register the doctors on behalf of the medical council. Renewal of registration will be linked with continuing medical education (CME) programs which doctors will have to undertake periodically in order to update their medical knowledge and skills. It will be the responsibility of the local health authority, through a mandate from the medical councils, to assure that nobody without a license and a valid registration practices medicine and that minimum standards laid down are strictly maintained.

To facilitate the above suggested reorganisation an Act of Parliament backed by a detailed legislation mandating the organised healthcare system as well as its financing mechanisms will have to be put in place. This is not going to be easy because we are not talking of the public health system alone but also of the private health sector which needs to be factored within this reorganisation under a single umbrella of a National Health Authority and financed through a single-payer mechanism of pooled resources. The organisational structure should not be centralised agency but should be functioning autonomously in a decentralised way.

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Provision of healthcare services is indeed amenable to decentralisation if there is adequate political will and faith in local communities to take their own decisions. To do this we have to move out of the framework of national programs and a program based approach. Instead the approach as suggested by the 1982 National Health Policy of universal comprehensive healthcare is what we need to adopt in provisioning of healthcare services. Here we will attempt to spell out a framework for such an approach which would function on principles of decentralisation. Today we do have an opportunity to plan differently. The HLEG report has opened an opportunity to engage with universal access to healthcare under NRHM (now NHM) and a lot of discussion and debate is taking place. The unfortunate part of this mission approach is that the executives from the Centre, who are far removed from the grassroots reality, are trying to shape this mission from their perspective rather than that from where the services will be located.

In order to change this, the first thing we need to do is to start understanding that 'decentralisation' is not something to romanticise. Decentralisation should not become a holy cow and we go to the other extreme and say that "people's health in peoples' hands". This is not decentralisation but abdication of responsibility. Provision of healthcare has a logic and scale of its own and hence the basic unit of healthcare provision need not necessarily coincide with the administrative/revenue unit. The health district must be independent of the administrative units. Secondly, we have to keep in mind that healthcare access, especially ambulatory care has to be in easy local reach. This is a very critical issue for rural areas. Unlike urban areas which have high density of population, rural communities are scattered and hence provision of clinical services at very close distance in most rural areas becomes problematic and hence innovative approaches are needed. It is here that the community health model has a role to play but again we must be pragmatic and not romanticise community health as it is unfortunately being done. Community health workers within compact habitats are important first contact persons for health promotion and limited curative care. They are critical link workers within communities where access to the first clinical or epidemiological unit is relatively remote.

In terms of scale of operations as discussed earlier a clinical unit (FMP) for an average of 400 to 500 families and an epidemiological unit at

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10,000 population level seems the best option in planning decentralised health services. This means that a PHC functioning as an ES at the 10,000 population level with 4 FMPs (for clinical services, and not necessarily employed by the state) and one Public Health Nurse (for the epidemiological unit) along with the required paramedical and support staff becomes the primary unit for health planning and provisioning. Five to ten such units, depending on population density, would form the health district (between 50,000- 100,000 population) which would have the equivalent of the Community Health Centre as the first level referral unit and this should be governed by a committee (Standing Health Committee) of the panchayat members of that population unit, who should employ/contract the providers and monitor and regulate them. This committee, with secretarial/technical support from the providers, would be the planning unit for the health district and control the health resources which should be allocated to them on a per capita basis by the state government from their health budget. This comprehensive decentralised unit if optimally provided should take care of 80 - 90% of healthcare needs of the population and this would in turn help decongest the district and tertiary hospitals which would become primarily referral centres. The community under each such unit would have to be enrolled (like the NHS in Britain) with the unit and it would be the unit's responsibility to look after their members' healthcare needs, including referral demands for higher level care. This would then become a rights based entitlement for the community and the unit would be accountable to it to deliver, failing which it would be violation of their rights. Of course this system will have to be mandated by legislation and provided adequate resources which estimates show would not exceed the commitment of 2 to 3% of GDP as promised in the Common Minimum Program of the present coalition government at the Centre, though in the long run it would have to be closer to 5% of GDP to be really comprehensive. Such a decentralisation strategy cannot be done by political (policy) action alone but requires concerted effort at reorienting and organising the present unregulated healthcare system into an organised entity which is governed by a well defined regulatory mechanism as well as is socially audited. Such a strategy will also require fiscal and planning autonomy to local governments who should be given the resources on a per capita basis and be left alone to decide how the resources are best used for their community's welfare.

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VI. Conclusions and Recommendations

To conclude it is important to re-emphasise that healthcare is a public or social good and cannot be left to the vagaries of the market. To realise its social or public value it has to be organised and regulated using both public and private resources for social benefit. Further, healthcare cannot be planned at the central or state level but has to be decentralised at an appropriate community level as discussed above. The role of the centre and state is thus to strategise such actions, mobilise and disburse resources and monitor its outcomes. The planning and provision functions (who, how, where) are best left to local governance under community vigilance. Such is the global experience where healthcare is universally accessible with equity. Post 1991 countries like Brazil, Venezuela, Mexico, Malaysia, Thailand etc. have moved closer to universal access, so there is no reason why India should not.

In the context of the above discussions given below are some recommendations as part of the progressive realisation of making the architectural corrections which the NRHM framework talked about. These would be radical reforms requiring restructuring and organisation of the entire health sector, including the private health sector. Such restructuring will be possible only if-

- The healthcare system, both public and private, is organised under a common framework which provides access to all without any barriers
- The financing mechanism of healthcare is pooled and coordinated by a single-payer system
- The decision-making and planning of health services is decentralised within a local governance framework
- The healthcare system is subject to continuous community monitoring and social audit under a regulated mechanism which leads to accountability across all stakeholders involved

In order to accomplish the restructuring that we are talking about the following modalities need to be in place:

- All resources, financial and human, should be transferred to the panchayats and municipalities

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- The district/municipality will work out a detailed district plan which is based on local needs and aspirations and is evidence based within the framework already worked out under NRHM with appropriate modifications
- The private health sector of the district will have to be brought on board through appropriate contracting in and payment mechanisms as they will form an integral part of restructuring of the healthcare system
- An appropriate regulatory and accreditation mechanism which will facilitate the inclusion of the private health sector under the universal access healthcare mechanism will have to be worked out
- Developing a monitoring and audit mechanism and training key players to do it

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Trade Reforms and Crisis in India's Plantation Industry: an analysis of Tea and Rubber Plantation Sectors

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Abstract

This paper attempts to make a critical assessment of the impacts of trade reforms and the resultant crisis on India's plantation industry with reference to tea and rubber sectors. First of all, it provides a review of the development of tea and rubber plantation agriculture in the world and India's status. It then makes a critical assessment of the contingencies that have been widely identified as the proximate causes and outcomes leading to the 'crisis in the plantation sector' in India in the post-reforms period. It critically examines the various aspects of the crisis, the immediate responses and the outcomes on the production sectors at the grass root level. Finally, the paper brings out the case for searching for an alternative institutional model for the tea plantation sector in particular, for sustaining the economic dynamism shown by the sector in the pre-trade reforms era. In doing so, the paper suggests that the institutional model as being tried in the case of rubber could offer highly useful and time-relevant lessons for the tea sector in India.

I. INTRODUCTION

Plantation sector consisting of crops, viz., tea, coffee, natural rubber (NR), cashew and spices assumes special significance in India's agricultural trade. Though these crops together constitute hardly 2 per cent of India's agricultural exports, the sector commands a dominant position in the regional economies of Southern India, *viz.*, Kerala, Tamil Nadu and Karnataka as well as North/North-Eastern states of West Bengal, Assam, Meghalaya, Tripura, Himachal Pradesh, etc. Historically, plantation

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agriculture has emerged in India under the colonial patronage and European financial capital. Most of these crops, except rubber had been promoted as export oriented products, mainly to cater the requirements of the colonial rulers. The export- orientation of the sector thus, has left a strong imprint on the mode and systems of production organisation with focus on high-end markets; though with relatively weaker infrastructure and institutional linkages for promoting value addition with quality control. Notably, a more or less similar scenario had continued in the post-independence era as well, as exports of plantation products was a major earner of foreign exchange and thereby laying a strong foundation for resource based industrial development in the country.

Though the plantation sector in India did flourish under a legitimate policy environment of domestic support and protectionism post-independence, there are distinctions across crops as regards the structure and orientation of production systems as they evolved over time. In particular, the cases of tea and natural rubber (NR) are distinct as tea was promoted as an export product in sharp contrast to rubber, which still remains a strategic raw-material catering the growth of the automotive tyre manufacturing industry in the country. The two crops also differ in terms of their production structure and geographical concentration in area and production. While a vast majority of tea plantations (80%) are owned and operated by medium and large estates/ companies or corporate entities (Tirkey, 2005), almost 88 per cent of rubber production comes from smallholder sector dominated by small and marginal holdings with an average holding size of 0.5 ha (Viswanathan *et al.*, 2003; Viswanathan, 2006).

Certainly, the protective state polices which continued until the commencement of economic reforms in India in 1991, have been instrumental in strengthening the domestic production sectors of the plantation crops. As of now, tea, rubber and coffee in particular support a vast population of about 2.58 million[1]. Especially in the case of rubber, the state policies have also been very proactive in terms of launching rubber development programmes in the North Eastern Region (NER) guided by the twin objectives of: a) achieving self-sufficiency in rubber production facilitating growth of the automotive industry; and b) rehabilitation of the shifting cultivation dominated tribal communities in the region (Viswanathan and Shivakoti, 2007). As a cumulative effect of the state

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policies along with crop- specific R&D/ extension and institutional interventions[2], the total production of tea and rubber had reached the levels of 1126.3 million kg and 831.4 million kg during 2011-12 (Tea Board, India (website); Rubber Board, 2011). Moreover, India continues to be one of the five dominant producers in tea with 25.1 per cent of the production in the world (ITC, 2012). Similarly, the economic dynamism cast by the rubber sector has been exemplary, as the sustained R&D activities initiated by the Rubber Board coupled with R&D, extension and financial support, technology transfer and advisory services had enabled India to emerge as the fourth largest rubber producer in the world next to Thailand, Indonesia and Malaysia (FAOSTAT, 2010).

The context: trade reforms and impact on plantation crops

However, the trade reforms and liberalisation policies initiated in the post-WTO context started adversely affecting the Indian plantation sector in general and the tea and rubber production sectors in particular. One of the most explicit impacts had been the emergence of market uncertainties leading to high volatility or steep fall in the international and domestic prices of these commodities due to the removal or dilution in tariff and non-tariff trade barriers. For instance, the extent of decline in prices from the peak levels reported during the decade 1990-2001 has been the highest for rubber (42%) and tea (28%). The instability in prices (expressed as coefficient of variation (CV) from the peak level prices) has also been the highest for rubber (26%) and tea (17%) as reported in Viswanathan (2005). Further, the decline in commodity prices triggered its adverse effects on the tea and rubber production and trade sectors leading to an unprecedented crisis affecting the two plantation sectors. For instance, there was a steep decline (37 %) in India's tea exports from US$ 594 million during 1990 to US$ 378 million during 2004 (Sathe and Deshpande, 2006). In the case of rubber, the liberal trade policies led to removal of quantitative restrictions (QRs) which in turn, enabled the rubber products manufacturers to directly import rubber through the duty free channels as an incentive for export of rubber products. The policy changes in the post-reforms period thus paved the way for increased imports of rubber and rubber products into India, which have virtually affected the prospects of the Indian rubber sector. Reportedly, almost 96 per cent of the total quantity of rubber imported in the 1990s was routed through the duty-free channels, especially through

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the advance licensing scheme (ALS) (George *et al.*, 2002).

The impacts of the decline in the prices of tea and rubber have been far and wide, as the plantation communities (medium and large tea planters and rubber small producers) had responded vehemently to the crisis in terms of adopting stringent measures to overcome the impasse. The coping mechanisms adopted by the tea and rubber planting communities have broadly included cost saving and labour displacing measures, such as dilution and even discarding of scientifically recommended agro-management practices, labour retrenchment, lockouts and resistance to routine tripartite wage negotiations, etc in the case of large plantations (George and Joseph, 2005; Viswanathan and Rajasekharan, 2001). A large number of medium and small-scale tea estates were closed in the major tea growing regions in India due to the crisis and troubled labour relations. Besides the dilemmas of the big planters and the smallholder producers as stated above, the crisis has severely affected the livelihoods of the labourers and the dependent communities, as it resulted in a reduction in employment, and or non-payment of wage and non-wage benefits and other social security measures.

Objectives, data and methods

While the crisis in the plantation sectors continue to persist in some form or the other, it is important to note that there have not been any serious attempts at understanding the crisis in a holistic perspective of the plantation agriculture system *per se*. Of course, attempts have been made by researchers to examine the impact of trade liberalization in the case of tea and natural rubber sectors (Viswanathan and Rajasekharan, 2001; George *et al*, 2002; George and Joseph, 2005; Mohanakumar and Chandy, 2005; Tirkey, 2005; Mohandas *et al*, 2007). These studies, besides highlighting the change in export, import, and prices, have discussed some of the structural issues ailing these sub-sectors as well as the short-term responses to overcome the crisis in tea and rubber plantations. However, most of these studies (though with few exceptions) have been confined to the macro-level reflections of the impact of liberalisation on the plantation agriculture in general and the tea and rubber sectors in particular. More importantly, the issues and challenges confronting the tea and rubber production sectors need to be understood and discussed in a broader

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perspective beyond the confines of the conventional analytical framework of supply and demand analysis (market instruments), prices and trade.

This paper is addressed in the backdrop of the persistent crisis in India's tea and rubber plantation sectors. It tries to examine the important issues and challenges facing the two plantation sectors in the country in the context of global market integration and the changing trade regimes, based on the responses from various stakeholders. The two plantation crops have significant share in terms of: a) providing employment (tea and rubber); b) sustaining livelihoods of smallholder communities (rubber); c) share in global commodity trade (tea); d) growth of the domestic automotive industries (rubber), etc. The objectives are to:

(i) Trace the development and growth of plantations in India in the post-colonial period and the role; the influence of policy and institutional factors on the development process; and India's status in the global plantation industry and trade sectors;
(ii) Understand the major aspects of the crisis in the plantation sectors and the responses of these sectors to overcome the crisis and their wider impacts on different segments of the tea and rubber plantation sectors; and
(iii) Explore the case for an alternative institutional model aimed at revamping the tea and rubber plantation sectors in the post-trade reforms era to sustain the economic dynamism cast by these sectors in the pre-reforms era.

The paper is based on analysis of both the macro and micro levels data pertaining to the two plantation sectors gathered from published sources as well as case studies. The paper also uses cross-country time series data on the two plantation sectors for meaningful comparison between India's plantation sector and the other dominant plantation producing countries. Certain indicators are also used to show the relative performance of the two plantation crops both at the domestic as well as international levels. The time series data as used covers the period of 51 years from 1960 to 2011 and has further been divided into three sub-periods, *viz.*, a) 1961-1975; b) 1976-1990; and c) 1991-2011. Of the three sub-periods, the period 1991-2011 enables us to capture the impact of the trade reforms on the Indian plantation sector.

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Rest of the paper is organised into three sections. *Section II* provides a review of the development of tea and rubber plantation in the world and India's status. It then examines the trade or market structure of the major tea and rubber producing countries in order to understand the level of integration of the economies, especially, India with the external markets. The section also examines the regional dimensions of growth in tea and rubber plantation sectors in the Indian context, which enables to streamline the focus of the paper in delineating the critical issues and challenges affecting the two plantation sectors. *Section III* makes an assessment of the contingencies that have been widely identified as the proximate causes and outcomes leading to the 'crisis in the plantation sector' in India. The section then reviews various aspects of the crisis, the immediate responses and the outcomes on the production sectors at the grass root level as dominated by the plantation workers and the planters with diverse resource endowment status. *Section IV* concludes the paper highlighting the major challenges confronting the tea and rubber plantation sectors in the Indian context and their implications. The section also brings out the case for searching for an alternative institutional model for the tea plantation sector in particular, for sustaining the economic dynamism shown by the sector in the pre-trade reforms era.

II. GROWTH IN TEA AND RUBBER PLANTATIONS IN THE WORLD AND INDIA'S STATUS

As stated already, plantation systems as they developed in the world have been an outcome of the interface between the European financial capital and the Asiatic production environments. While the Europeans brought the capital and knowledge, the Asiatic countries contributed soil (land) and the natives, their labour (Waibel, 1941). The penetration of the plantation system has thus resulted in a structural transformation in modes of production in these economies from a peasant mode to an expanded cash crop production system. Thus, the process of transition was essentially characterised by large-scale export oriented plantation crop production rooted in massive force of regimented labour, imported technology and foreign capital. In fact, expansion of the plantation system has exposed these countries to the western economic system ever since the second half of the 19th century. The wide scale expansion of the plantation system in the tropics has greatly influenced the socio-economic life of the

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communities dependent on the plantation systems. Reportedly, plantation tree crops, comprising coconut, rubber, coffee, oil palm, tea, cocoa and various fruits currently occupy over 25 per cent of the value of agricultural produce in their main growing regions of Southeast Asia (Food and Agriculture Organization, 1995, as cited in Barlow 1996) and a higher share of farm exports in the total merchandise trade.

Among the major plantation crops, tea and rubber have been developed in the tropical countries of South Asia, Latin America and Southern Africa. The Dutch introduced tea to Europe in the seventeenth century, more than a thousand years after it had become an article of commerce in China. But only in the eighteenth and nineteenth centuries that tea drinking became widely popular in the Western world. Tea was introduced in the coffee houses in England by about 1650 and it rapidly gained popularity in the world, including the American colonies, replacing coffee as the most favored beverage.

II.1. Trends in area, production and productivity of Tea and Rubber

For analytical easiness, the paper uses historic data pertaining to five major producing countries (India, China, Sri Lanka, Kenya and Indonesia) in the case of tea and six countries (India, Indonesia, Thailand, Malaysia, China and Sri Lanka) in the case of rubber. The selection of the major countries is justified on the grounds that these countries also have greater stake in the external trade sectors in the respective plantation crops. This would also provide scope for further discussions as regards the changing dimensions of global trade in the these two products, issues of comparative *vs* competitive advantage, trade related bilateral, multilateral and preferential trade agreements, changing institutional and policy regimes, etc.

Tea plantations

Though tea is produced in about 45 countries, 10 major producers account for 91 per cent of the tea production in the world. Still, almost 81 per cent of the world's tea harvested area has been confined to five major countries, viz., China, India, Sri Lanka, Kenya and Indonesia (Table 1).

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Table 1: Trends in tea harvested area in major tea producing countries, 1961-2011

Year	Tea harvested area (% share)						World ('000 ha)
	China	India	Sri Lanka	Kenya	Indonesia	Five countries	
1961	26.0	24.2	17.4	1.3	7.8	76.8	1366.13
1970	31.1	21.4	14.5	2.4	5.3	74.7	1668.29
1980	45.1	16.1	10.3	3.2	3.6	78.4	2369.48
1990	37.3	18.4	9.8	4.3	4.2	73.9	2260.33
2000	37.7	20.6	7.9	5.1	5.1	76.3	2383.55
2005	39.9	18.5	8.0	5.3	4.4	76.1	2652.81
2006	41.2	18.1	7.8	5.4	4.3	76.8	2711.58
2011	46.5	17.8	6.8	5.8	3.8	80.7	3256.76

Source: Estimated from www.faostat.org

There has been more than two fold increase in tea harvested area in the world from 1.37 million ha to 3.26 million ha during 1961-2011. Similarly, global tea output had increased substantially from 0.98 million ton to 4.4 million tons during the same period (Table 2). As evident from Tables 1 and 2, India and Sri Lanka have been losing their comparative positions in area and production of tea, while China and Kenya have been gaining their dominance in both area and production. It is important to note that India lost much in terms of production compared to decline in area. On the other hand, China's share in the global tea harvested area has increased by 20 per cent and share in production almost increased by four fold during 1961-2011(Table 2).

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Table 2: Trends in tea production in major tea producing countries, 1961-2011

Year	Tea production (% share)						World ('000 Tonnes)
	China	India	Kenya	Sri Lanka	Indonesia	Five countries	
1961	9.9	36.0	1.3	21.0	7.8	76.0	983.79
1970	12.7	32.5	3.2	16.5	5.0	69.9	1286.76
1980	17.3	30.1	4.7	10.1	5.6	67.9	1893.53
1990	22.3	27.3	7.8	9.2	6.2	72.8	2524.17
2000	23.7	27.9	8.0	10.3	5.5	75.4	2964.51
2005	26.9	23.4	9.3	9.0	4.8	73.4	3542.88
2006	28.8	24.5	8.5	8.5	4.7	75.1	3640.19
2011	36.5	25.1	8.5	7.4	3.2	80.7	4449.31

Source: Estimated from www.faostat.org

Table 3: Trends in tea productivity in major tea producing countries, 1961-2011

Year	Tea productivity (Kg./ha)					
	India	Kenya	Sri Lanka	China	Indonesia	World
1961	1070	712	869	273	721	720
1970	1174	1020	878	315	721	771
1980	1491	1174	782	308	1232	799
1990	1658	2031	1051	667	1650	1117
2000	1686	1963	1618	784	1341	1244
2005	1695	2325	1491	901	1475	1336
2006	1822	2112	1461	939	1475	1343
2011	1667	2012	1475	1083	1161	1434

Source: Estimated from www.faostat.org

India though has had fairly high productivity among the major producing countries, since 1990 Kenya has emerged as forerunner with significant rise in tea productivity (Table 3). China though has the lowest productivity among the five major producing countries; it had the highest turnaround in productivity of about four times in past five decades.

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Rubber plantations

The indigenous rainforest dwellers of South America have been using rubber for generations. It was in 1839 that rubber had its first practical application in the industrial world[3]. The development and growth of rubber plantations on a commercial scale has begun from the early 1900s and the earliest countries to adopt rubber were Malaysia, Indonesia, India, Thailand and China. India first started growing rubber on a commercial basis by 1902 when rubber plantations were developed as larger estates by the European plantation companies in Southern India. However, as will be discussed in the following, the development of rubber plantations gathered momentum in India when native peasantry entered into rubber planting. Rubber cultivation expanded rapidly in the 1930s, consisting mainly of smallholdings controlled by the Chinese, Thai, and Thai Malays rather than large, European-owned plantations, as had been the case in Malaysia and India. In China, rubber was first planted in 1906 from rubber seed brought home by an overseas Chinese from Malaya (Viswanathan, 2006; 2008).

Currently, rubber is grown in more than 25 countries, though six countries, *viz.*, Indonesia, Thailand, Malaysia, India, China and Sri Lanka account for 81 per cent of the rubber planted area and 82 per cent of the rubber production in the world (Table 4). Rubber area in the world has increased more than two and half times from 3.88 million ha to 9.82 million ha, rubber production has increased by more than five times from 2.12 million ton to 11.28 million tons between 1961 and 2011. Among the major rubber producers, though Indonesia has the largest share in rubber harvested area (35.2%), Thailand has the largest share in production (29.7%). Productivity trends indicate that India has achieved highest reported yield, leaving most of the major producing countries way behind (Table 5).

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Table 4: Trends in area and production of rubber in the world, 1961-2011

Year	Indonesia	Thailand	Malaysia	India	China	Sri Lanka	World	Six countries (% share)
Rubber harvested area ('000 ha)								
1961	34.9	10.3	33.5	1.2	Na	5.5	3880	85.4
1970	30.1	17.6	32.5	3.0	Na	5.0	4622	88.1
1980	29.8	22.9	29.8	3.6	Na	4.1	5412	90.2
1990	28.0	21.0	24.2	4.3	5.9	3.0	6656	86.5
2000	31.7	20.1	17.1	5.3	5.6	2.1	7582	81.8
2006	32.2	21.1	15.0	5.5	5.7	1.4	8259	80.9
2011	35.2	20.8	11.4	4.9	7.2	1.3	9821	80.8
Rubber Production ('000 Tonnes)								
1961	32.7	8.8	37.3	1.3	0.2	4.6	2121	84.8
1970	26.9	9.6	42.5	3.0	1.6	5.3	2986	88.9
1980	27.2	12.4	40.8	4.0	3.0	3.6	3748	91.0
1990	24.4	27.1	24.7	5.7	5.1	2.2	5225	89.2
2000	22.5	33.3	13.0	8.8	6.7	1.2	7151	85.5
2006	23.7	31.8	12.9	8.4	5.4	1.1	9919	83.4
2011	27.4	29.7	8.8	7.9	6.8	1.4	11282	82.0

Source: Estimated from www.faostat.org

The foregoing discussion on disaggregate level - trends in area, production and productivity of tea and rubber across the major producing countries reveal some interesting points. In the case of tea plantations, Kenya has shown tremendous strides in the important parameters of crop performance, while the growth rates have been only moderate for India. More importantly, India has experienced a slowdown in growth in production and productivity of tea during the post-reforms period (1991-2011). This slow down may be attributed to the emergent crisis that have seriously affected the tea plantation sector in India. China on the other hand has attained significant growth in its tea sector, which may pose potential challenges for the Indian tea sector.

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Table 5: Trends in Rubber Productivity in the world, 1961-2011 (Kg./ha)

Year	India	Thailand	China	Malaysia	Sri Lanka	Indonesia	World
1961	600	465	Na	607	454	512	546
1970	651	354	Na	846	692	577	646
1980	771	375	Na	947	599	633	693
1990	1028	1013	678	800	568	684	785
2000	1575	1560	1143	714	555	671	943
2006	1847	1811	1145	1038	937	883	1201
2011	1835	1640	1080	892	1246	894	1149
Increase (times)	3.1	3.5	1.6	1.5	2.7	1.7	2.1

Source: Estimated from www.faostat.org

The rubber sector of India has shown consistent growth over time along with Thailand and China in particular. Given the close correspondence in the three major indicators (area, production and productivity) of plantation growth performance between India, Kenya and China in the case of tea as well as India, Thailand and China in the case of rubber, it may be observed that the future growth of the Indian plantation sector will be contingent upon a host of factors determining the performance efficiency of the crops *vis-à-vis* the major competitors.

II.2. India's share in global trade in plantation products

This sub-section provides a brief description about the market/ trade orientation of India *vis a vis* other major tea and rubber producing countries. The analysis confines to the review of trends in trade (export and import) of tea and rubber by the major producing countries as considered above. While the database stretches over a period 50 years in the case of trade in tea, the database for rubber covers only 20 years as comparable time series data are not available for all the six countries considered.

India has been the largest exporter of tea until 1990, followed by Sri Lanka, China and Kenya. However, since the 1990s, India's share in the

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global tea exports had declined substantially and by 2011, India's ranking has receded to the fourth position after Sri Lanka, China, and Kenya (Table 6). Tables 7 and 8 show the trends in the quantity and value of exports earnings realised by the major rubber producing countries and their relative shares in the global exports since 1991. The tables show clear decline of Malaysia, who has been the largest exporter and value earner of natural rubber in 1991. By mid 1990s, Thailand emerged as largest exported of natural rubber and now accounts for 87 per cent of the world export market. Thailand's contribution in the value of global exports has increased from 14 per cent to 76 per cent during 1991 to 2011. Rest of the four countries, including India and China are having very low shares in the global trade.

Table 6: Trends in Value of Tea Exports, 1961-2011 (% share)

Year	Sri Lanka	India	China	Kenya	Indonesia	Five countries (% share)	World (Million US $)
1961	34.3	38.0	6.0	1.8	3.8	83.8	682.75
1970	27.1	28.2	6.6	5.8	2.6	70.4	693.53
1980	18.4	28.7	12.7	8.5	5.6	73.8	2026.35
1990	21.1	25.4	19.8	3.7	7.7	77.8	2338.48
2000	24.3	15.4	13.9	16.4	4.0	74.0	2810.16
2004	23.9	12.3	15.2	15.1	3.8	70.3	3064.79
2010	29.0	14.7	17.1	24.7	3.8	89.3	4712.09
2011(P)	19.0	11.6	18.5	25.2	4.1	78.4	4916.25

Source: Estimated from www.faostat.org

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Table 7: Share of major countries in world exports of natural rubber, 1991 - 2011 (% share)

Year	India	Indonesia	Malaysia	Sri Lanka	Thailand	World ('000 MT)	Five countries (% share)
1991	0.7	14.0	44.9	0.1	24.3	423.80	84.0
1994	0.2	9.3	31.5	0.2	39.0	379.02	80.2
1998	0.1	2.8	13.4	0.0	63.1	659.05	79.3
2000	0.1	1.9	15.2	0.0	53.5	603.96	70.6
2002	0.3	0.9	7.9	0.1	73.8	991.76	82.9
2004	0.5	1.0	6.5	0.2	75.2	1134.33	83.4
2005	1.0	0.4	5.0	0.2	73.6	1106.83	80.2
2011	0.7	0.8	3.3	0.5	86.6	1163.41	92.2

Source: Estimated from www.faostat.org

Table 8: Value of natural rubber exports of major rubber producers, 1991-2011 (% share)

Year	China	India	Indonesia	Malaysia	Sri Lanka	Thailand	World (Million US$)	Six countries (% share)
1991	2.4	0.4	12.7	46.4	0.1	14.0	459.72	76.0
1994	4.4	0.3	8.3	31.7	0.2	34.4	491.67	79.4
1998	4.9	0.1	3.1	19.7	0.0	48.4	446.13	76.4
2000	4.6	0.2	1.6	19.9	0.0	53.6	437.07	80.0
2002	2.1	0.7	1.2	15.2	0.2	65.3	492.36	84.8
2004	1.7	0.7	1.4	11.5	0.2	73.3	972.52	88.8
2005	1.7	2.0	0.5	9.2	na	73.8	1024.69	87.3
2011	0.6	1.3	0.5	5.3	0.7	76.0	1571.88	84.5

Source: Estimated from www.faostat.org

The overall trends reflect that India continues to be a major player in the global tea sector in terms of contributions to area, production and exports of tea, though it has been losing its relative position in recent years. It appears that the dominance of Sri Lanka and emergence of China and Kenya would have significant impact on India's performance in the global

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tea industry. In the case of rubber, India has been a net importer of rubber and rubber products ever since past few decades. However, the country has been devising various strategies for strengthening the domestic rubber economy to meet the requirements of the fast growing automotive and other rubber products manufacturing industries. As a result, India had emerged as one of the significant players in the global rubber sector with relative contributions of 5.3 per cent in area and 8 per cent in the production of natural rubber. Further, India's highest reported productivity may also help the country strengthen its hold on the global rubber production scenario in due course.

II.3. Plantation growth: Institutional, geographical and sectoral dimensions

In this regard, it is important to examine the regional dimensions of growth of tea and rubber plantations in India, so as to have a better understanding of the socio-economic significance of the two plantations in the regional contexts.

In India, the development of plantation crops, such as tea, coffee, pepper, cardamom, cashew, rubber, etc may be traced back to the colonial era. Tea was the second major plantation crop (after coffee) to be introduced into India and it was first introduced in Assam and North Bengal as early as 1820s and in Southern India in early 1850s[4]. Slightly there was a shift to Southern India, where the phase of development of tea plantations was confined to the Nilgiris. Later, Chinese tea seeds seem to have been planted in Kerala on a commercial scale. Later by 1900, Kannan Devan Company has emerged as the single largest producer of tea in Kerala, which had already developed 19 tea estates by then (George and Tharakan, 1985). An important reason behind the rapid expansion of tea cultivation in the South Indian state of Kerala was the massive damage of the coffee plantations caused by the leaf disease in the 1870s, which had also affected the entire South Indian and Sri Lankan plantations. The effect was such that many coffee planters turned to tea cultivation after trying with very little success with cinchona (Gadgil, 1946: 81). By around 1900, a large number of tea estates have been established in Travancore in South India as by the time tea could command higher value over coffee as an export item of Travancore.

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Role of state and specialised institutions

It was around this time that the first commercial rubber planting was made by the colonial powers in Central Kerala in 1902. The plantation crops, particularly, tea, coffee, pepper, cardamom, and rubber have been highly promoted by the native rulers in terms of free land grants and other support measures favouring the planters' interests. This was continued in the post-colonial/ post-independence period as well when the Government of India and the respective state governments have introduced various policy and institutional support measures to protect the big planters, including a planter-friendly land reform policy as implemented by the Government of Kerala. One of the important measures has been the establishment of various institutional bodies aimed at the systematic development and expansion of plantation crops. These institutional bodies, which function as 'crop-specific promotional agencies' mainly included the Commodity Boards, viz., Coffee Board, Tea Board, Rubber Board and the Cardamom (Spices) Board which were established in 1942, 1953, 1954 and 1968 respectively.

As a result of the interventions by the colonial administration followed by the state agencies since Independence, there has been commendable progress in the expansion of area under tea and rubber plantations in India. Given the fact that growth of plantations needed suitable agro-climatic conditions, like adequate rainfall, elevation, soil suitability, etc; Accordingly, tea plantations have been mostly concentrated in the ideal environment of North and North Eastern states of West Bengal, Assam, Tripura, etc as well as the South Indian states of Tamilnadu, Kerala and Karnataka. Whereas, rubber plantations have been initially developed in the most favourable tracks of the South Indian states, viz., Kerala, Tamilnadu and Karnataka, followed by further expansion since late 1980s to the non-traditional regions of the North Eastern region, Maharashtra, West Bengal, etc.

Geographical dimensions: Tea plantations

Table 10 shows the trends in growth of tea plantations in India after Independence. The trends relate to number of plantations, area and the average size of plantations.

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Table 10: Development of Tea plantations in India, 1951-2011

Year	North India			South India			All India		
	No of estates	Area (ha)	Avg. size (ha)	No of estates	Area (ha)	Avg. size (ha)	No of estates	Area (ha)	Avg. size (ha)
1951	2305 (37)	248583 (78)	107.85	3909 (63)	68252 (22)	17.46	6214 (100)	316835 (100)	50.99
1981	2561 (19)	309066 (81)	120.68	10849 (81)	74563 (19)	6.87	13410 (100)	383629 (100)	28.61
1995	5340 (14)	339233 (79)	63.53	31979 (86)	87832 (21)	2.75	37319 (100)	427065 (100)	11.44
2004	60629 (47)	406190 (78)	6.70	68398 (53)	115213 (22)	1.68	129027 (100)	521403 (100)	4.04
2011	1145	459,610 (79.3)		1145	119,740 (20.7)		1527*	579,350	

Note: Figures in parentheses are respective shares at the All India level; * figures exclude smallholdings of <10.12 hectares; *Source:* Estimated from Tea Statistics (various issues), Tea Board.

As evident, North India dominates in area under tea plantations with an absolute share of 79 per cent and production share of 78.5 percent. The trend of area expansion has become interesting as there has been proliferation of smallholding plantations. In recent years the tea sector of India has shown significant stride in production and productivity growth. However, in terms of tea productivity, tea plantations in South India show definite advantage over tea plantations in the North. The region-wise distribution of area, production and productivity of tea plantations as given in Table 11 provides a holistic view of the geographical concentration.

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Table 11: Trends in Tea production and productivity in India, Region-wise

Year	Tea Production (Million Kgs.)				Tea productivity (Kg./ha)		
	North India	South India	Total	North India (% share)	North India	South India	Total
1961	273.3	81.1	354.4	77.12	1064	1398	1221
1981	437.8	122.6	560.4	78.12	1416	2540	1794
1991	562.9	191.3	754.2	74.64	1631	2107	1768
2001	650.8	203.1	853.9	76.22	1679	2107	1769
2006	753.2	228.6	981.8	76.72	1631	1875	1685
2011	875.6	240.2	1115.7	78.48	1905	2006	1925

Source: Tea Board [http://www.teaboard.gov.in], Government of India (estimated).

It may be further useful to examine the relative shares of the individual states in the Northern and Southern regions in area under tea plantations. Four states namely Assam (51.5 %), West Bengal (22.5 %), Tamil Nadu (16.9 %) and Kerala (6.9 %) account for 98.2 percent of total production of Tea in India (2011 data).

Structure of tea plantations

The proliferation in the number of tea smallholding as observed since 1990s (Table 10 & 12) is an important dimension and it signifies the changing structure of tea plantations in India. In this regard, it may be noted that the structure of tea plantations as defined by the Tea Board identifies a plantation area up to 10.12 ha as smallholding. It appears that the tea smallholdings account for almost 99 per cent of the tea plantation units, but account for 28 per cent of the planted area and 26 per cent of the tea production in the country as evident from Table 12.

Overall the big estates still dominates the country's tea production structure and it is often related to the high levels of vertical integration enjoyed by the big planters in terms of their scale economies attached to processing and manufacturing of tea[5]. It is this skewed production structure that makes the Indian tea plantation sector distinct from the tea production

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sectors in Sri Lanka, Kenya and Indonesia in particular. Moreover, the Indian tea plantation sector also differs significantly from that of rubber plantations within the country dominated by the smallholders.

Table 12: Structure of Tea Plantations in India

Structural features	2000	2001	2002	2003	2004	2005	2006	2011
1. Share of small growers (up to 10.12 ha) in total no. of plantations (%)	98.6	98.6	98.7	98.7	98.7	98.8	98.8	98.9
2. Total number of Tea plantations including big planting units ('000 nos)	112.0	115.3	127.8	129.0	129.0	140.7	143.2	159.2
3. Share of small planters in total tea planted area (%)	16.9	19.9	20.6	21.1	21.25	25.7	27.1	28.2 (2008)
4. Total Tea planted area ('000 ha)	490.2	509.8	515.8	519.6	521.4	556.8	568	579.4
5. Share of small Planters in total tea production	14.31	19.2	21.2	20.9	20.57	19.47	19.2	26.3
6. Total Tea production ('000 Tonnes)	935.9	853.9	838.5	878.1	892.9	945.9	981.8	1115.7

Source: Estimated from Tea Statistics (Tea Board), various years.

Geographical dimension: Rubber plantations

In 1902, J.J. Murphy, J.A. Hunter and K.E. Nicoll and C.M. F. Ross formed the Periyar Syndicate in Travancore and started planting with *para rubber* which has generally proved by far the most suitable variety for cultivation in south India and by 1914, it practically ousted other trees from production. Though rubber planting was taken up on a commercial scale in other parts of the country, it was Travancore (present Central Kerala) which became the leading centre of rubber production (George *et al.*, 1988: M158).

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Though commercial rubber planting was started as early as in 1902, the process gathered momentum especially since the late 1950s when there was a large-scale adoption of rubber by the native peasantry[6]. This in fact stimulated the process of structural transformation and geographical concentration of rubber production in Kerala (Table 13). Table 13 shows that Kerala accounted for more than 94 per cent of the rubber planted area in India, followed by Tamilnadu and Karnataka (5.5 %) during 1961. The dominance of Kerala continues unparalleled even now as the state holds the major share in rubber planted area (82%), production (92%) and the highest in productivity (1948 kg/ha) compared to Tamilnadu (1612 kg/ha) and the average productivity at the national level (1867 kg/ha) during 2008-09.

The productivity in Kerala may be attributed to the synergy between various factors, especially, the state policies and the institutional and R&D interventions made by the Rubber Board. Unlike the Tea Board, the institutional interventions by the Rubber Board aimed at promotion of rubber expansion in India have been highly beneficial for the smallholders as the interventions essentially included high levels of domestic protection along with research and development (R&D) programmes, extension activities, and financial support. This had resulted in the disintegration (caused by fragmentation) of the estate-based rubber plantation systems, leading to the emergence and proliferation of a smallholder sector in the country. Notably, towards the end of the colonial era, the estate-based rubber plantation sector occupied almost 66–68% of the rubber planted area in India (Sarma 1947; Bauer 1948). However, over time, the smallholder sector has emerged as the dominant stakeholder in rubber production whose share in rubber production has steadily increased from 27 per cent in 1955–1956 to as high as 91 per cent in 2005–2007 (Rubber Board, 2007).

Of late, commendable efforts have been made by the Rubber Board for expansion of rubber towards the agro-climatically suitable regions and the North Eastern (NE) region has emerged as the second largest rubber growing region in the country with a remarkable rise in its relative share from 1.6 to 10.55 per cent in the last two decades[7] (Table 13).

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Table 13: Trends in Rubber Plantation Development in India (Area in hectares), 1960-2011

Year	Kerala	Tamilnadu & Karnataka	Southern States	North Eastern States[A]	Other states[B]	All India
1960-61	135809	7915	143724	----	181	143905
	(94.4)	(5.5)	(99.9)		(0.13)	(100)
1990-91	407821	31145	438966	33619	2498	475083
	(85.8)	(6.6)	(92.4)	(7.1)	(0.53)	(100)
2000-01	474365	38445	512810	46885	2975	562670
	(84.3)	(6.8)	(91.1)	(8.3)	(0.53)	(100)
2006-07	502240	45268	547508	64883	2809	615200
	(81.6)	(7.4)	(89.0)	(10.6)	(0.46)	(100)
2007-08	512045	48240	560396	71480	3524	635400
	(80.6)	(7.6)	(88.2)	(11.2)	(0.55)	(100)
2011-12	539565	61378	600943	128470	5367	734780
	(73.4)	(8.4)	(81.8)	(17.5)	(0.73)	(100)

Note: Figures in parentheses are respective shares at the All India level. A- North Eastern states comprise of Assam, Meghalaya, Tripura, Arunachal Pradesh, Nagaland, Sikkim and Manipur. B- Other states include Maharashtra, Orissa, Andhra, and West Bengal.
Source: Rubber Board, Government of India.

II. 4. Plantations and Employment effect

An important socio-economic aspect of tea and rubber plantations development in India has been its greater employment potential directly and indirectly. While these plantations require massive labour force for production and routine agro-management operations (production workers), they are also vertically integrated in terms of processing and manufacturing of the plantation products (factory workers) as well as management workers. The employment potential also has a gender dimension that plucking of tea leaves has always been the task performed mostly by women workers and almost 50 per cent of the rubber tappers in the organised rubber plantations are females.

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However, it may be observed that an overwhelming majority of the estate based plantations producing both tea and rubber are still operating under 'captivated and controlled labour regimes', thus perpetuating the colonial system of labour management. In fact, historically, the plantation estates have been operating with immigrant labour[8], who were regimented to cater the labour requirements for performing the major operations, like plucking of tea leaves in the case of tea plantations as well as tapping the rubber trees in the case of rubber. As the workers have settled down on the estates with their families, the sourcing of labour has become easy for the plantation owners and in most cases, family turns to be the unit of recruitment into the labour force. With the workers remained as captive and regimented, the planters could easily keep away from the market forces in fixing wages, thus enabling them produce the plantation output at a lower wage rate (Ravi Raman, 2002). This being so, the plantation wages are always considered significantly lower than the prevailing agricultural as well industrial wage rates in the plantation dominant regions of the country.

The employment intensity of tea and rubber plantations is evident from the fact that on an average 0.71 million numbers of daily employment is generated in the country in tea plantations, followed by 0.44 million employment in the rubber plantations (Table 14).

Table 14: Trends in average daily employment in tea and rubber plantations, 1991 - 2008

Year	Average daily employment in plantations ('000 mandays)				
	Tea	Rubber	Total	Tea (% share)	Rubber (% share)
1991	997	293	1657	60.2	17.7
1995	1220	322	1846	66.1	17.5
2000	903	348	2133	42.3	16.3
2002	666	354	2106	31.6	16.8
2005	721	388	1687	42.7	23.0
2006	735	397	1714	42.9	23.2
2007	610	420	1785	34.3	23.6
2008	714	445	1785	40.1	25.0

Source: Tea Board, Rubber Board and Labour Bureau, Government of India.

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Table 14 reveals that of the total daily employment generated in the plantation sector, tea and rubber plantations together account for about 66 per cent. Rest of the employment in the plantation sector is mostly generated by coffee, cardamom and other plantations. While the employment effect has been significant for both the tea and rubber plantations, a disturbing trend is that there has been significant decline in employment especially in tea plantations since the 1990s. This is a major issue needing detailed analysis in terms of their potential implications on productivity of plantations as well as livelihood security of the plantation workers in the future. A detailed discussion on the various aspects of the employment decline in the plantation sector will be attempted in the next section.

III. PLANTATION CRISIS: RESPONSES AND OUTCOMES

This section unfolds the contingencies that have been widely acknowledged as the important causes and outcomes giving shape to the 'crisis in the plantation sector' in India. The section examines the various aspects of the crisis, the immediate responses and actions taken by the planting communities to tide over the crisis and their implications on the plantation dependent communities, especially, labourers.

Arguably, there are several questionable concerns about the 'crisis' that loomed large in India's plantation sector since the mid 1990s. For instance,

a) What were the important causes and indications that have precipitated the crisis in the plantation sector?
b) What were the immediate and long-term responses of the planting communities to overcome the impasse?
c) Did all the plantation crops and producing regions experience the same challenges as typified by the crisis?
d) Was it a crisis *per se* so to effect such a major shake up in the routine management of the plantations as being magnified by the planting communities leading to untold miseries and hardships to the plantation workers?
e) Were the post 'crisis' management interventions made by the big and corporate plantation entities have been disguised in terms of a thorough overhauling of the plantation sector and thereby to displace the labouring communities who have been the mainstay of the 'dynamic plantation activism' in the post-

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independence era? In fact, these are some of the critical questions that would need answers to arrive at an objective assessment of the crisis. This section of the paper tries to reflect at least on some of the concerns.

III.1. Crisis: impacts on prices and trade

It may be that crisis in the plantation sector has been triggered by both exogenous and endogenous factors. Exogenous factors mostly included the Asian financial crisis (1997), trade reforms resulting into removal of trade barriers and provision of easy market access, etc. On the other hand, the endogenous factors mostly related to the structural and operational issues confronting the two plantation sectors.

From a macro perspective, an immediate cause of the crisis has been the perceptible decline in international and domestic prices of plantation products, particularly, tea. In case of tea, the decline in international price has been caused by such factors, as recovery of Kenya's production from a past damage in the late 1990s coupled with the loss of Iraqi market due to the war (Hayami and Damodaran, 2004). The trends in domestic producer prices of tea in equivalent US dollars during the 1990s revealed that tea prices in India has declined by almost 14 per cent from 0.213 US$ per kg (1991) to 0.184 US$ per kg (2000). This was in sharp contrast to very marginal decline in China from US$ 1.253 to US$ 1.222 per kg, significant rise in Kenya (43%) from US$ 1.40 to US$ 2.0 per kg, and 27 per cent rise in Sri Lanka from US$ 1.13 to US$ 1.43 per kg during the same period. Moreover, the average tea prices reported for India during the 15 year period (1991-2005) was US$ 0.206 compared to US$ 1.589 for Kenya, US$ 1.285 per kg for China, and US$ 1.19 per kg for Sri Lanka.

The decline in tea prices at the international markets had resulted in corresponding decline in value realised from tea exports till 2006-07, though there has been a great recovery thereafter as evident from Table 15.

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Table 15: Trends in India's Exports of tea in historic perspective (1960-61 to 2011-12)

Year	Qty ('000 tons)	Value (US$ million)	Unit value (US$/Kg)
1960-61	199.2	260	1.31
1970-71	199.1	196	0.98
1980-81	229.2	538	2.35
1990-91	199.1	596	2.99
2000-01	202.4	433	2.14
2005-06	162.9	391	2.40
2006-07	185.6	435	2.34
2010-11	213.8	657	3.08
2011-12	214.4	690	3.22

Source: GOI, Economic Survey various years

A comparison between India and other major tea producing countries in terms of the quantum of export reveal significant decline of India's share in the world market. During the year 2006, 1588.8 million kg of tea (44.4 percent of the world's total productions) had reached the world market. Significant contributions were from Sri Lanka (19.8 percent), Kenya (19.7 percent), China (18.0 percent) and India (13.8 percent). The scenario of the export market in the year 2011, however, changed rapidly. During that year 1718 million kg of tea (40.7 percent of the world's total production) had reached the world market, Kenya and China raising their share to 24.5 percent and 18.8 percent respectively. On the other hand, the share of Sri Lanka (17.5 percent) and India (11.2 percent) in the world market dropped rapidly. India's lost market has been captured by its competitors, mainly Sri Lanka, which makes high value orthodox varieties to be blended with low value fillers collected from India.

Though there has been an increase in India's volume of tea exports since 2006-07 as reported in Table 15, the tea plantation sector has been losing in terms of its relative shares in the gross export earnings (in rupee terms) of the plantation as well as agricultural sectors as evident from Table 16.

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Table 16: Trends in tea exports and its share in India's plantation and agricultural exports

Period	Exports of (Rs. Crores)			Share of tea plantation in (%)	
	Tea	All plantation crops	Total agriculture	Plantation crops exports	Agricultural exports
2000	1328	2079	12069	63.89	11.01
2001	1418	2231	13418	63.55	10.57
2002	1339	2049	16739	65.35	8.00
2003	1220	1979	16436	61.64	7.42
2004	1398	2082	19476	67.15	7.18
2005	1347	2442	22115	55.14	6.09
2006	1621	3063	27557	52.94	5.88
2010-11	3354	17260	111393	19.43	3.01
2011-12	4079	26284	180279	15.52	2.26

Note: Figures relate to April - December of respective years. P – provisional
Source: GOI, Economic Survey, various years.

The trends in producer prices of rubber in India along with other major rubber producers are shown in Figure 1 and it reveals that producer prices of rubber has declined very marginally in India and other countries between 1991 and 2000, but there were notable fluctuations in prices with peak prices reported during 1995-96. Among other countries while Indonesia, Malaysia and Thailand have reported significant drop in prices, prices in Sri Lanka had increased during the period. It may be noted that the prices remained almost stagnant for almost 6-7 years in Indian and Indonesia during the period from 1998 to 2005, while it had increased in Sri Lanka, Malaysia and Thailand.

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Figure 1: Trends in producer prices of rubber in major producing countries, 1991-2008 (US$/kg)

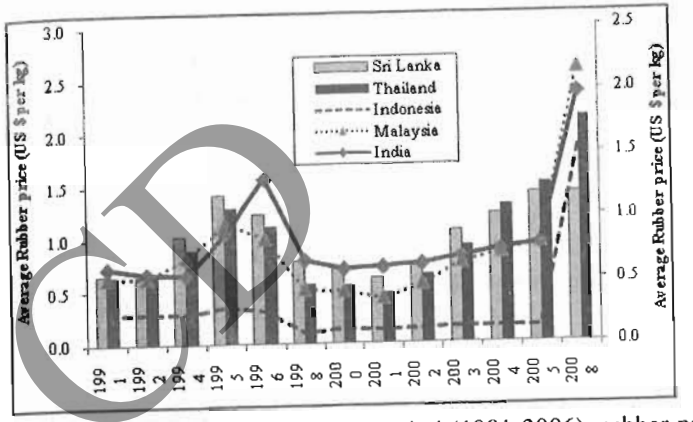
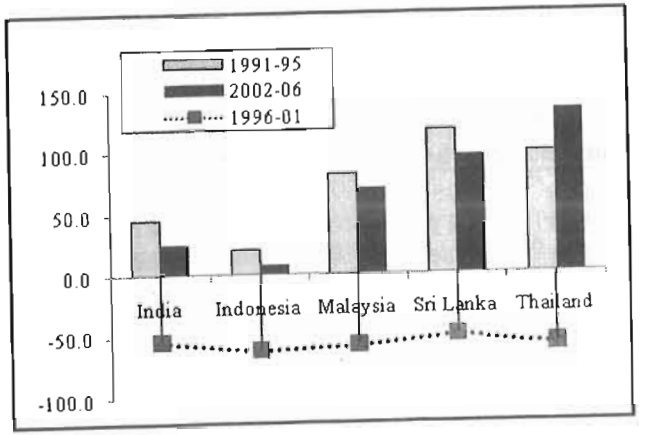


Figure 2 shows that during the 15 year period (1991-2006), rubber prices had declined the most during the six year period from 1996 to 2001 and the drop was almost uniform across the five countries. Though the period since 2001 had shown a revival in the rubber prices, the increase in prices in India and Indonesia was not quite significant in comparison to Thailand, Sri Lanka and Malaysia, indicating that the rubber producers in India and Indonesia had suffered the most as a result.

Figure 2: Changes in producer prices of rubber in major countries, 1991-2006



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Being a net importer of rubber and rubber products, India's rubber production has been geared towards catering the requirements of the dominant tyre manufacturing industry as well as the diverse non-tyre sector. Trade reforms and the subsequent opening up of the economy have resulted in a surge in imports through duty-free channels under provisions of the advance licensing scheme. Resultantly, between 2001-02 and 2010-11there was more than three-fold increase in India's imports of natural rubber from 49,769 MT to 188,333 MT (www.indiastat.com).

III.2. Viability of plantations and labour displacement

Declining exports and continued production exerted tremendous pressure on prices leading to loss in profitability[1] and loss in foreign exchange earnings in India. Trading by auction is the predominant system of trading in the major tea producing countries, including India. Following the crisis, the Indian tea auction prices have continued to be highly volatile and lower compared to that reported from Kenya (Mombassa) and Colombo (Sri Lanka). During 2010, the tea auction price of India was US$ 2.61 per kg compared to US$ 3.28 in Sri Lanka.

Table 17 shows that the tea auction prices have been oscillating over the last decade with wide variations across the tea auction centres in North and South India. Though there has been some improvement in domestic auction prices in recent years, it is still lower than the international prices. Interestingly, tea auction prices reported from South India has been considerably lower than that reported from North India as well as the prices at the national level.

Table 17: Trends in Auction prices of Tea in India, 1990- 2012

Year	Auction prices (Rs./kg)			Ratio of South Indian price to	
	North India	South India	All India	North India	All-India
1990	44.8	38.6	43.2	0.86	0.89
1995	50.9	41.3	48.0	0.81	0.86
2000	70.3	44.6	61.7	0.63	0.72
2005	63.6	42.7	58.1	0.67	0.73
2006	71.6	50.8	66.0	0.71	0.77
2012	135.6	87.4	121.8	0.64	0.72

Source: Tea Board of India

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The crisis in plantations has also been regarded as an outcome of structural issues (besides price decline) in the organisation of large corporate tea and rubber plantations. As stated elsewhere, unlike rubber production, which has already transformed into a smallholder system, tea plantations operate as corporate or private sector entities with a captive and regimented labour market attached to it. The plantations are also bound by the legislations under the PL Act 1951 to protect the labourers with various social and welfare measures. More importantly, a vast majority of the tea plantations in particular, have historically been under severe pressure to cut down operational and management costs as imposed by the structural characteristics of the production system. Tea plantations have also historically been reeling under severe management crisis[10] arising from a host of issues related to low productivity, larger proportions of old and economically unproductive plantations, high operational costs, including provisions for protecting large chunk of the labour force, etc to mention a few.

Given the scenario, tea planters in particular, have adopted various cost cutting and prudent financial management measures to overcome the crisis. Few important measures thus adopted included retrenchment of labourers, abandoning or lockouts of plantations, cutting down on the provisions of the various labour welfare measures, etc. Much of these steps were taken in the guise of abandoning of routine plantation management operations, which gives the planters sufficient reasoning to cut down the size of plantation workers.

As a cumulative effect, there has been drastic reduction in employment in tea plantations, while rubber plantations reported an increase in employment levels during the decade of the crisis (Table 18). As is evident, between 1990 and 2007, employment in tea plantations have declined almost by half of the levels that reported during 1990. The average daily employment declined from 1.02 million (1990) to 0.61 million (2007). In contrast, the aggregate employment levels reported from rubber plantations have increased by one and half time from 0.28 million to 0.42 million. In both the cases, there has been an increase in the share of employment of women workers.

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Table 18: Trends in employment in Tea and Rubber Plantations

Year	Tea Plantations ('000 nos)		Rubber Plantations ('000 nos)	
	Avg. daily employment - Total	Share of women (%)	Avg. daily employment - Total	Share of women (%)
1990	1025.0	51.7	282.7	38.1
1994	1687.1	35.4	315.9	41.4
1995	1220.5	49.5	322.3	32.8
1996	1012.7	51.5	328.9	39.1
Average (1990-1996)	1146.9	49.1	308.3	39.5
1997	763.5	51.1	335.5	40.1
1998	894.9	48.9	341.3	33.6
2000	903.0	50.1	347.7	40.4
2001	322.0	53.6	348.7	41.3
2003	615.2	53.6	372.8	42.2
2007	610.0	55.0	420.0	38.8

Source: Tea Board, Rubber Board (Estimated).

However, the aggregate level increase in employment as reported in the case of rubber plantations need to be related with the corresponding rise in area under rubber, especially that under the smallholder sector. A disaggregate level analysis of employment growth in rubber plantations with respect to the organised plantation sector (comprising corporate, private and public sector plantations) reveals a different story of drastic reduction in employment over the last one and half decade as evident from Table 19. The data shown in the Table pertains to a survey of 40 medium and large rubber estates operating in Kerala, Tamilnadu, Karnataka and Andamans owned by corporate, private and public sector companies.

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Table 19: Trends in employment in organised rubber plantations, 1990 to 2006

Year	Total employment ('000 nos)		Tapping employment ('000 nos)	
	All work-Total	Kerala's share (%)	Tapping-Total	Kerala's share (%)
1990	1738	67.3	970	59.9
1992	1730	67.4	922	59.6
1994	1686	65.4	877	53.3
1996	1685	65.6	876	54.6
1998	1586	65.4	805	57.6
2000	1308	62.1	759	56.0
2002	1175	62.8	687	58.9
2004	1069	64.5	634	59.7
2006	953	66.0	603	60.1
Change (%) 1990-1996	-3.02	—	-9.75	—
Change (%) 1997-2006	-42.30	—	-30.73	—

Source: Survey of 40 rubber plantations.

The Table clearly demonstrates that the extent of decline in employment in the total workforce as well as tapping labourers (rubber tappers) has been alarming especially during the latter period (1997-2006). The decline in the case of total workforce engaged in the plantations has been 42.3 per cent during the period 1997-2006 as against only 3 per cent during 1990-1996. Similarly, the extent of decline in tapping employment has been 31 per cent during the latter period and close to 10 per cent during the first period. In both the cases, the adversity of employment reduction has affected the plantation sector in Kerala.

III.3. Crisis as opportunities of restructuring

It now becomes evident that labour displacement has been one of the major outcomes of the interventionist strategies adopted by the tea and rubber planters to overcome the impasse caused by the crisis. There is no denying of harsh reality that a larger section of the small and medium scale planters have become bankrupt in the wake of the crisis, which

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might have resulted in widespread abandoning of non-viable plantations or closure of the same. In most cases, plantations were abandoned as the prevailing labour laws (as stipulated by the PL Act 1951) do not permit the closure of plantations. In any case, as the evidences increasingly demonstrate, 'labour' has been identified by the planting communities as the triggering factor for the crisis and the interventions were mostly geared towards either displacing the labour or disciplining him (her) or a combination of two.

Reportedly, in 2003, several violent incidents and lockouts taken place across the tea growing regions in the country. About 22 tea estates spread over 3000 ha that employed about 5000 labourers have been closed down in Kerala between 2000 and 2003 as they have become unviable, though a handful of them have become operational later on. While in West Bengal, the number of closed tea estates was over 30, Assam reported closure of about 70 plantations.

The process of restructuring has been taking place in the plantation sector through an array of disquieting developments widely reported from almost all plantation regions in the country. These developments broadly included: a) lowering or stagnant wages; b) non-revision of wages; c) non-provision of bonus; d) increase in workloads, ie., a hike in the minimum quantity of tea leaves to be collected and increase in tapping task (number of rubber trees to be tapped); e) curtailment of non-wage or extra-wage benefits and incentives; f) non-compliance of provisions of welfare measures as stipulated by the PL Act, 1951; g) closure of cresche, health centres; h) non-maintenance of labour lines, etc to mention the most pressing needs impacting the livelihoods of the plantation workers. As a matter of fact, the extent and degree of imposition of these measures varied across plantations depending on the extent to which the planters wanted to maintain their profit margins intact.

The above argument needs little elaboration in terms of examining how the big plantations have maintained their profit margins in tact even in the face of the crisis. For analysis, we consider two major plantation companies, viz., a) the Harrison Malayalam Ltd.[11] (HML), and b) Tata Tea Company[12]. Table 20 shows the major indicators of financial and economic performance of the Harrison Malayalam Plantations during 2001-10, which clearly

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demonstrates that the company has managed to weather the crisis and move forward through cutting down on staff expenditure. It may be seen that though the staff expenditure [which also includes the salary and welfare benefits provided to the managerial staff] has been on the increase over time in absolute terms, in relative terms, the company has been able to contain its share around 30 percent since 2007. The wage and related benefits (health, maternity benefits, etc) paid to the workers was found to be hardly 60-70% of the total staff expenditure reported.

Table 20: Indicators of Performance of Harrison Malayalam Plantations, 2001-2010

Year	Financial indicators (Rs. million)				Revenue accrued from		Staff exp.as
	Total Expenditure	Staff expenditure	Total Revenue	Profit after tax	Tea (%)	Rubber (%)	% of Revenue
2001	1065	567	1068	108	51.36	22.03	53.04
2002	1434	693	1412	159	63.50	24.75	49.10
2003	1258	688	1200	99	54.10	31.59	57.33
2004	1177	624	1380	52	53.41	52.58	45.25
2005	1198	605	1460	484	61.64	52.53	41.45
2006	1339	638	1525	707	58.15	47.49	41.84
2007	1840	657	2105	141	55.01	52.25	31.22
2008	2579	780	2924	60	45.13	45.82	30.26
2009	3107	862	3345	99	43.70	44.91	27.75
2010	3706	972	3759	39	32.76	52.05	26.22

Source: http://www.harrisonsmalayalam.com (estimated)

As evident from the Table, the company's revenue from both rubber and tea plantations have been more or less same since 2007 years with an exception during 2010. The company's revenue had increased more than expenditure over the years, though the profit after tax had shown a decline in the later years due to an expansion in plantation activities.

For Tata Tea, the period of crisis has been one of major restructuring and shift in orientation away from producing tea towards being sellers of tea products. Both Tata Tea and the Hindustan Unilever Ltd. (Indian subsidiary

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of Unilever) together account for almost 60 per cent (21 and 39% respectively) of the branded tea sales in the country. However, with the crisis, the Company would have realised that their profits could be kept undistributed by selling branded and processed tea products, rather than owning tea plantations. Hence, the company had taken several initiatives to overcome the crisis, one of which being wage cuts and launching of a new business model incorporating the workers into the company's tea production system. The evidences further suggests that the Tata Tea Company had cut its total wage payments by 12.5 per cent (approx. US$ 2.75 million), its provident fund payments to workers by 43 per cent (approx. US$ 3.13 million) and welfare payments by 40 per cent (US$ 4.1 million) during the five year period between 2001 and 2006 (Asian Food Worker, 2007). The company also retrenched a significant number of its workers from the tea plantation sector overtime as also evident from Table 21. While the total income of the company from its tea business had increased by 67%, the employee payment had declined by almost 47% between 2006-07 and 2010-11.

Table 21: Indicators of Performance of Tata Tea Company, 1995-96 to 2010-11

Year	Financial indicators (Rs. million)			No of employees$	Share in Total income (%)	
	Total income	Profit after taxes	Employee payment		Employee payment	Profit after taxes
1995-96	5433	461	1331	58387	24.5	8.48
1997-98	8960	1022	1697	59015	18.94	11.4
1999-00	9745	1246	2095	59740	21.5	12.78
2001-02	8161	720	2436	57736	29.85	8.82
2003-04	8392	915	2169	55665	25.85	10.91
2005-06	10401	1869	1763	34596	16.95	17.97
2007-08	12633	3129	718	2510	5.69	24.77
2009-10	18368	3915	950	2419	5.17	21.31
2010-11	19143	1806	948	2373	4.95	9.43

Note: $- The drastic decline in the number of employees 2006-07 and 2007-08 was reportedly due to the formation of the KHDP company by making about 12000 of its workers as shareholders of the company.

Source: Compiled from Tata Tea Company, Annual Reports.

Following the crisis in the tea sector, the company had launched a major initiative by which all of its workers associated with the plantations in Kannan Devan Hills in Idukki districts in Kerala have been made as shareholders of the new venture, called, the Kannan Devan Hills Plantation Company (KHDP) Pvt. Ltd[13]. As per the company reports, the current strength of the workforce attached to the tea plantations is about 12000 and these workers are also legally the shareholders of the company. However, whether and how the new restructuring initiative of the company had resulted in significant positive impacts on the livelihoods of the workers is an important question needing a critical analysis in the emerging context.

Thus, employment reduction has turned the most ostensible measure as adopted by the tea plantation Companies in the face of the crisis in plantations. Reportedly Hindustan Lever Limited (HLL) also had taken similar measures leading to a reduction of more than 12000 permanent workers from its plantations through a transfer deal signed with McLeod Russel India. In 2006, the HLL reported after tax profits of US$ 464 million, which was an increase of 32 per cent over 2005.

The state of affairs reported from the rubber plantation sector was also not much different. Following the decline in rubber prices since mid 1990s[14], the rubber planters have also been at their earnest efforts to reduce the costs of plantation management which ultimately boiled down to a drastic reduction in employment, including tapping employment. To understand the magnitude of reduction in employment and the resultant cost in the case of rubber, we have gathered time series data on the crucial indicators of plantation performance from about 20 estates located in Kerala, Tamilnadu, Karnataka and Andamans. These plantations are operated by corporate, private, public and joint venture companies. The results of the analysis are presented in Table 22.

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Table 22: Indicators of performance of rubber plantations, 1990 to 2001

Year	Rubber output (MT)	Val. of output (Rs. Mill.)	Employment ('000 nos)		Financial details (Rs. Million)			Wages as % of value of output	
			Total	Tapping	Total Exp.	Total Wages	Tapping wages	Total wages	Tapping wages
1990	9440	215.72	1738	970	116.91	54.32	28.36	25.18	13.14
1992	9009	218.75	1730	922	151.02	66.56	34.77	30.43	15.89
1994	7920	223.45	1686	877	171.29	79.46	39.97	35.56	17.89
1996	8402	330.92	1685	876	230.16	104.22	52.60	31.49	15.90
1997	8278	286.74	1651	871	248.72	116.06	58.46	40.48	20.39
1998	8133	220.56	1586	805	240.13	115.14	58.56	52.20	26.55
2000	7722	213.02	1308	759	264.22	114.85	59.34	53.91	27.86
2001	7018	198.78	1238	709	239.68	117.25	62.24	58.98	31.31
% Change (1990-2001)	-25.66	-7.86	-28.76	-26.92	105.02	115.85	119.48	—	—

Source: Data gathered from 20 rubber plantations in Kerala, Tamilnadu, Karnataka and Andamans.

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The Table reveals that value of rubber output has been on the decline since 1997 due to decline in rubber prices which had a spiraling effect on the cost of plantation management. Admittedly, during the period of crisis, the income generated from plantations has been lower than the expenditure as the companies had to maintain the overheads intact. As a result of the cost reduction measures, the extent of reduction in total workforce was 29 per cent and reduction in workers engaged in tapping was about 27 per cent during the 10 year period.

The crisis may have turned out to be a window of opportunity for a major segment of the plantation companies who have strategically implemented a series of economy measures leading to a drastic cut in the wage bills and reduction in employment of plantation workers. Also, it looms large that the post 'crisis' management interventions made by the big and corporate plantation entities have been disguised in terms of a thorough overhauling of the plantation sector and thereby to displace the plantation workers who have been the mainstay of the 'dynamic plantation sector' in India in the post-independence era.

III.4. Crisis and mounting social security concerns

The crisis, its outcomes and the ways and means through which the plantation companies tried to address these problems have in turn created greater concerns about the social as well as sustainable livelihoods of the plantation workers in the plantation sectors. Tea plantations in particular have distinct features in terms of: a) largest workforce and population dependence; b) half of the workforce being women; c) major segment of the workforce being tribals; and d) a greater proportion of workforce being migrants. These distinctive features relating to the workforce and dependent population attached to the tea plantations underscore the fact these are the sections of population who are the most vulnerable to the socio-economic disturbances caused by poverty, illiteracy, lack of access to resources, ill-health, to mention a few. This being so, it is highly likely that the crisis as experienced in the plantation sector would have destabilised the livelihoods of the workforce and the dependent households. Moreover, since plantations are situated in isolated and remote areas, there are no alternative means of earning better livelihoods. Obviously, a loss in employment due to retrenchment or closure of plantations in this regard would mean abject poverty and despair to the households.

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Other than retrenchment or closure of plantations, the tea planters also increasingly adopted a new strategy of sub-dividing and fragmenting the plantations into smaller parcels below 10 ha so that they could escape themselves from providing the non-wage benefits and the welfare measures as stipulated by the PL Act. This tendency has been on the rise especially in Nilgiris in Tamilnadu where there has been a surge in the number of registered tea plantations ever since 1993. Between 1993 and 2004, the number of newly registered tea plantations had increased from 25746 to 62145 in the Nilgiris. This in fact has resulted in a gross exclusion of a major chunk of plantation workers from the protective provision of labour legislation.

These eventualities underlie the mounting social security problems in the plantation sectors in the country apparently ignited by the crisis. In fact, there are a number of legislations other than the PL Act 1951, like the Minimum Wages Act, 1948, the Employees Provident Fund and Miscellaneous Act, 1952, the Maternity Benefit Act, 1961, the Payment of Bonus Act, 1965, the Payment of Gratuity Act, 1972 and the Equal Remuneration Act, 1976, which are applicable to the tea and rubber plantations. There are also a number of other legislations related to land laws of the States, revenue, standard of quality of tea apart from the Factories Act, 1948 and the Standard of Weights and Measures Act, 1976 etc.

However, despite such legislations, a vast majority of the plantation companies have become lethargic in provisioning labour welfare and social security measures. Health services are seriously compromised and not extended to all types of ailments and types of workforce. In majority of cases, health care services are extended to minor ailments and major diseases are least attended to or treatments at private health centres are rarely reimbursed in full. All children in the age group of 1-14 do not get enrolled into the schools. Instead, they get enrolled into the plantation workforce as the families find it worth rather than sending their wards to school[15].

The latest report on the working of the PLA (1951) published in 2005 highlight some important aspects of the actual working status of the Act. The data as provided in the report indicates that only 50 per cent of the

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plantations are regularly submitting returns about the plantation activities. Hardly 17 per cent of the plantations provide canteen facilities and only 26 per cent of them have crèches. As regards the provision of housing units within the plantations, the report shows that when almost 65 per cent of the 6.7 lakh plantation workers are eligible for housing, only 9 per cent of them have been provided with housing facilities (GOI, 2008).

III.4.1. Low-wage trap

Data reflects that a vast majority of the plantation workers have been deprived of almost all sorts of welfare provisions that they are entitled under the cover of the PLA, 1951. The scenario becomes difficult to comprehend when we realise the fact that plantations in general and tea plantations in particular have been historically entangled by a low wage trap when compared to the wages of semi-skilled workers in the manufacturing and construction segments. The historic trends in plantation wages as captured by the periodic Occupational Wage Surveys (OWS) conducted by the Labour Bureau, (Government of India) reveals the low wage syndrome afflicting the plantation sector in India (Table 23).

Table 23: Wages of workers in plantations over OWS rounds

		Plantations wages (Rs./day)			Tea plantations (Rs./day)			Rubber plantations (Rs./day)		
OWS	Year	Tea	Rubber	Difference (%)	Male	Female	Difference (%)	Male	Female	Difference (%)
First	1958	2.26	2.17	3.98	1.76	1.65	-6.70	1.98	1.50	-32.0
Second	1963	3.05	1.82	40.33	3.16	1.81	-74.60	1.96	1.47	-33.3
Third	1974	4.67	7.79	-66.81	4.74	5.00	5.20	7.95	7.51	-5.9
Fourth	1985	13.33	20.71	-55.36	13.65	14.22	4.00	21.4	19.38	-10.4
Fifth	1993	23.68	40.53	-71.16	24.21	24.29	0.30	41.37	39.29	-5.3
Sixth	2006	54.27	89.77	-65.41	55.76	53.62	-4.00	91.43	87.5	-4.5

Note: OWS – Occupational Wage Surveys; *Source:* Labour Bureau, Government of India (compiled).

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As evident from Table 23, wages of tea plantation workers have been higher than rubber plantation workers until the Second Round of OWS. In rest of the OWS rounds, the wage gap between the two plantations has been widening with wages of rubber plantation workers being significantly higher than that of tea plantation workers. Though the gender differences in wages has not been much revealing in the case of tea plantations in the later rounds of OWS, wages of male workers in tea plantations have been significantly lower than that of wages of male rubber plantation workers and the wage gap between the two plantations have also been widening.

It may be relevant to examine how the low wage levels are distributed across the plantation workers. Data of the Labour Bureau (2006) show distribution of plantation workers according to different wage classes. It suggests (Table 24) that almost 74 per cent of the plantation workers belong to the low wage classes below Rs. 75 per day at the aggregate level. The magnitude of the problem of low wages is more revealing in the case of tea plantations where about 78 per cent of the plantation workers receive a daily wage below Rs. 75. Further, within the tea plantation sector, the status of workers in West Bengal and Assam is precarious as more than 90 per cent (98 and 93% respectively) of the workers fall in the lowest wage categories of Rs. 75 and below. The plight of rubber plantation workers appears to be somewhat better as almost 82 per cent of the workers fall in the wage class of Rs. 76-100, the proportion being 88 per cent in Tamilnadu and Karnataka and 82 per cent in Kerala. The wage levels and its distribution seem to be somewhat better in rubber plantations in Kerala where 11 per cent of the rubber plantation workers earn a daily wage in the range of Rs. 100-125 and about 5 per cent of the workers get a wage in the range of Rs. 125-150.

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Table 24: Selected State/Income group-wise distribution of workers based on daily earnings in Plantation industries in India, Sixth OWS (2006)

Wage class (Rs.)	Rubber Plantations (% of workers)			Tea Plantations (% of workers)					All Plantations
	Kerala	Tamil Nadu & Karnataka	Overall	Assam	West Bengal	Tamil Nadu	Kerala	Overall	
25-50	0.37	0.22	0.36	12.19	17.29	0.89	0	12.47	10.44
51-75	2.01	5.89	2.42	80.75	80.51	28.05	0	65.98	62.60
76-100	81.66	87.76	82.31	5.89	1.74	49.1	99.53	19.38	23.88
101-125	11.14	0	9.95	0.21	0.44	17.32	0.36	1.29	1.97
126-150	4.55	0.71	4.14	0.41	0.02	1.74	0.11	0.37	0.61
151-175	0.21	0	0.19	0.21	0	1.78	0	0.23	0.23
176-200	0	0.63	0.07	0.11	0	0.39	0	0.09	0.08
201-225	0	0.18	0.02	0.11	0	0.59	0	0.10	0.09
226-250	0.03	0	0.02	0.08	0	0.14	0	0.06	0.05
> 251	0.03	4.61	0.52	0.04	0	0	0	0.03	0.05
Total (No)	57166	7064	64230	487338	161911	49757	103502	825192	997826

Note: The Occupational Wage Survey data pertain to only the plantations submitting returns to the Labour Bureau.

Source: Labour Bureau, Government of India.

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The distribution of tea and rubber plantation workers based on the daily wages as shown in the Table may offer useful insights to draw conclusions about the likely implications of such low paid employment status on the livelihoods and socio-economic security of the workers. There persists a clear vacuum of thorough empirical assessment on various aspects relating to: a) the impact of the crisis on the socio-economic status of plantation workers in region and plantation-specific contexts; b) the coping mechanisms adopted by the plantation workers; c) the implications on their livelihoods, health, nutritional status and poverty, etc. It may be observed that these issues need detailed empirical analysis in a multi-disciplinary perspective.

IV. CHALLENGES AND WAY FORWARD

This section tries to conclude contemplating on the major challenges that circumscribe India's plantation sector and exploring the possible ways of overcome the impasse. As a matter of fact, crisis in the plantations has overarching implications on heterogeneous segments of population and industrial activities which include the large and small tea as well as rubber plantation producers, plantation workers, processing, manufacturing and export oriented industries.

Evidently, a vast majority of the tea plantations in particular have vehemently responded to the crisis by adopting economy measures leading to a significant reduction in employment. Arguably, it is erroneous to assume that labour has been the major triggering factor behind the crisis in the plantation sector. In fact, the challenges emerging in the wake of the trade reforms and the global economic integration are not only in terms of reducing the costs, especially by labour displacement. Rather the challenges are much larger and more fundamental, which entail an array of issues pertaining to the structure and organisation of plantation crops in question, their market orientation, institutional impediments, resource use and management regimes, etc.

It emerges from the above analysis that the two plantation sectors bring out a sharp contrast in terms of the structure and organisation of production systems as they evolved after the colonial era. While rubber plantations witnessed a significant structural transformation in production from the

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plantation mode to the smallholder system, tea production still remains to be a plantation system with all its colonial appendages of control of output and labour by the big plantation entities in the corporate, private and public sectors. The skewed distribution characterised by the predominance of the medium and large plantations in the case of tea is the outcome of the indivisibility of the processing technology and the advantages of vertical integration as provided by such processing technology. Thus, though the tea smallholders outnumbered the medium and large-scale planters in terms of number of plantations, their technological incapabilities always put them at a disadvantageous position, adversely affecting their socio-economic wellbeing and livelihoods despite their pursuit of plantation life over generations.

A comparison between manufacturing of 'black tea' and 'green tea' best explains the technological incompetence of the small tea producers compared to the large tea plantations. The manufacturing of black tea at standardised quality for exports requires a large scale fermentation plant in which fresh leaves need to be fed within few hours of picking. The need for close coordination between farm production and large scale processing underlies the structural impediment that the tea smallholders are facing in India. On the other hand, the case of rubber stands distinct as the rubber processing does not call for a centralised processing and marketing system. As a result, rubber smallholders have also gained competitive advantage on par with the large plantations. The wide-scale of promotion of rubber rollers (rubber sheet making machines) through financial subsidies and incentives by institutional agencies like the Rubber Board has made farm level processing of rubber easier and affordable for smallholders. This, along with the subsidies, institutional, R&D and extension support offered to the small producers by the Rubber Board had resulted in proliferation of rubber holdings leading to the disintegration of the plantation mode of production system in the case of rubber. Whereas, tea plantations did not experience such a structural transformation despite it having an institutional intervention system as offered by the Tea Board.

A yet another structural challenge that augured the crisis in tea plantations in particular pertains to the age profile of the existing tea plantations in the country. In India more than 50 percent tea plantations are unproductive or non-viable as they fall in the upper ages of 40 years and above. This

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certainly reflects on the gross neglect of investments by the planters for plantation regeneration activities, especially, replanting and replacement of older and weaker tea bushes on a systematic basis. The case of plantations in South India stands out (about 80% tea bushes in Kerala and 37% in Tamil Nadu are more than 40 years of age) as these states have not been making any significant investments for replenishing the plantation stock over time.

On the other hand, the structural transformation in the rubber plantation sector caused by the large-scale entry of smallholders had resulted in substantial decline in the size of operational holdings, leading to the proliferation of small and marginal rubber holdings below 2 ha. As a result, the average size of operational holdings below 2 ha had declined by almost a factor of two from 0.78 ha in 1955–1956 to 0.44 ha in 2002–2003. The emerging scenario clearly demonstrates that the growing fragmentation of smallholdings on the one hand and the constraints posed by the socio-economic as well as institutional factors and the non-availability of profitable alternate cropping options, rubber has turned into a monoculture system posing greater risks to the farming communities arising from volatility in prices and the threat of cheaper imports of rubber in the context of new trade policy. Further, the proliferation of small and marginal holdings also had its impact on the labour market, as the young and skilled rubber tappers tends to retreat from rubber tapping as they are unable to earn a reasonable daily income by tapping rubber trees from a small/marginal holding[16] (Viswanathan and Shivakoti, 2008). Invariably, this suggests the double dis-advantages of 'competitiveness' in the context of liberalisation and market integration on the one hand, and non-viable holdings along with non-sustainable production system on the other particularly in the case of rubber.

A major challenge before tea plantation sector is to think in terms of alternative strategies of dismantling the existing plantation system and reinvent a new production system under the control of the smallholder co-operatives. The idea that a well organised smallholder sector could make use of India's tea corporate expertise to process, package and market tea for export sales, rather than relying on TNC brands, could be of much relevant in the present context. Certainly, other means of value added supply chains also need to be explored, like the radical transformation

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towards implementation of fair trade principles such that the tea smallholders get an assured margin. In this regard, some of the points of Doha negotiations designating agricultural products as 'special products' would help insulate the tea smallholders of India in particular from the threat of cheaper imports. In this regard, both tea and rubber can match the second objective as put forward by the Doha Development Agenda (DDA) so as to consider these crops as 'special products' as they sustain and enhance the employment, food security and livelihood opportunities of millions of small producers.

The loss of competitive advantage in export market, also poses a major challenge, which necessitates that India has to devise a careful strategy to improve and sustain the performance of the tea industry. In fact, Kenya and Sri Lanka provide institutional support to the smallholders to strengthen their stake in the industry. For instance, the small tea holders in these countries are supported through dedicated government institutions, such as the Tea Small Holdings Development Authority (TSHDA) in Sri Lanka and the Kenya Tea Development Agency (KTDA). There are also programmes and projects that are assisted by multilateral financial institutions, such as the World Bank or the Asian Development Bank, who provide all kinds of extension services, training, loans and planting materials. In Kenya, this has resulted in a tremendous growth of smallholder tea production from barely 2 per cent of national production in 1963 to 60 per cent in 2005 (Wal, Sanne van der, 2008). In Sri Lanka, the tea smallholders now contribute 66 percent of total production occupying 44 percent of total tea acreages. The structural changes promoting smallholders are desired by the government for equity reasons and land redistribution policies have been used as a means to enforce this change (Herath and Weersink, 2007).

In sharp contrast, though development of tea plantations in India have been ably supported by the institutional support mechanisms as provided by the Tea Board, the entire development process has ignored the smallholders. A major segment of small tea producers do not even have registrations with the Tea Board, which is mandatory for receiving the institutional support for plantation development. This has been due mainly to the lack of title deeds for cultivable land operated by the tea smallholders. Thus, the absence of title deeds prevents them from registering with the

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Tea Board thereby failing to avail themselves of subsidies and financial assistance under various schemes of the Tea Board and other financial institutions.

It becomes also important to understand the domestic as well as trade scenarios whereby solutions may be sought to simultaneously improve the production structure along with better negotiations on the trade front. In other words, it is imperative to explore how far trade liberalisation offers an opportunity to restructure the domestic production scenario in order to enhance the competitiveness on the one hand, and strengthen the stakes of smallholders, and thereby make a better plea for protecting their livelihoods in the context of the trade policy changes. This also calls for a clear understanding of the perceptible shift (if any) in the conventional land use and management policies or diversification strategies as adopted by the tea and rubber planters as a dynamic response to overcome the crisis.

On the trade front, an important development challenge in recent times has been the emergence of various forms of regional trade agreements (RTAs)/ free trade areas (FTAs)/ preferential trade agreements (PTAs). Obviously, the emerging scenario would have serious implications for India's trade in tea and rubber and rubber products in particular. This is because; some of the effective RTAs are signed between India and the countries within the South and South East Asian region, who are also producers of the same plantation crops, particularly, rubber and tea. More importantly, there are serious apprehensions as regards the welfare effects of the RTAs in country-specific contexts as countries differ as regards extending MFN status to the neighbouring countries within the same regional/ geographical contexts. In this regard, it may not be possible to rule out the 'unfair' practices such as dumping[17] or prevalence of higher levels of export subsidies in the competing countries within the RTA network. Incidentally, India's major competitors in both tea and natural rubber are from the Asian region, *viz.*, Sri Lanka, China and Thailand. This scenario calls for examining the impact of RTAs on the domestic production and trade segments and the resultant performance efficiency of the tea and rubber plantations in India.

Last, but not least, the biggest challenge seeking a perennial solution for sustaining the dynamism of the two plantation sectors in India is socio-

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economic security of the workers, especially, women workers who account for more than half of the plantation workforce. The labour welfare and social security measures as being provided under the prerogatives of the PLA, 1951 have been proven to be far from satisfactory and time-redundant, thus calling for new innovative means of social security provisions. As emerge from the analysis, the crisis has been turned as an opportunity by the plantation entities to do away with all social security and welfare provisions that have been in place (though with varying degrees of performance efficacies) since the post-colonial period. The emerging scenario invariably calls for devising 'new labour management regime' in place of the 'command and control regime' that currently exist in the plantations. Such new labour management strategies should strive towards incorporating the labour process as an integral aspect of sustainable plantation development programmes. Legislations need to be effected to set appropriate labour standards in which the socio-economic security and sustainability of the livelihoods of the plantation workers and their dependent households should form the basic premises. Moreover, enactments are needed that the plantation companies and individual plantation entities should comply with their corporate social responsibilities.

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Notes:

[1] The plantation sector comprise of multiple stakeholders, including big and medium scale tea, rubber and coffee planters, small-scale tea, rubber and coffee producers, and both organized and unorganized plantation and smallholder workers associated with the tea, rubber and coffee production sectors.

[2] The crop-specific promotional agencies have been set up by the Government of India in the post-independence period, which included the commodity boards like the Coffee Board (1942), Tea Board (1953), Rubber Board (1954) and the Cardamom/ Spices Board (1968). These

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boards have been set up through various enactments of the Indian Parliament and are under the administrative jurisdiction of the Ministry of Commerce and Industry, Government of India. The major functions of these agencies are to act as catalysts in the process of area expansion, production and productivity enhancement through various R&D and institutional support measures, including subsidy, technical and extension support (Viswanathan, 2006).

[3] In that year, Charles Goodyear accidentally dropped rubber and sulfur on a hot stovetop, causing it to char like leather yet remain plastic and elastic. Vulcanization, a refined version of this process, transformed the white sap from the bark of the *Hevea* tree into an essential product for the industrial age.

[4] The English East India Company which had a virtual monopoly of British overseas trade with China and India and carried out a profitable trade in Chinese tea was forced under various circumstances to develop alternate tea growing area in Guwahati and Brahmaputra Valley in Assam in 1820s and North Bengal in 1830s. Soon after the tracing of indigenous tea plants in Assam in 1823, a few tea plants were sent in 1835 from Calcutta to the Nilgiris, Coorg, Mysore and Madras (George and Tharakan, 1985; Guha, 1991; Gadgil and Guha, 1993; Baruah, 2001; Misra, 2003).

[5] The indivisibility of the manufacturing technology of black tea requires minimum farm size to achieve scale economies (Hayami, 2004; George and Tharakan, 1984).

[6] This was, facilitated by a host of socioeconomic, political, and institutional factors, including land reforms and effective institutional support mechanisms provided by the Indian Rubber Board, in addition to favourable agro-climatic conditions (Varghese 1970; Raj and Tharakan 1983; George *et al.* 1988; Lekshmi and George 2003).

[7] The expansion of rubber cultivation beyond the traditional regions of Kerala, Tamilnadu and Karnataka to the non-traditional areas of the NE states became imperative, because of the non-availability of agro-climatically suitable land for further expansion in the traditional regions. Since majority of the population in the NE states are tribal communities following swidden agriculture, rubber development in the region is being promoted with the social objective of uplifting the tribal

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communities and weaning them away from shifting cultivation (Viswanathan, 2006).

[8] Reportedly, the South Indian tea plantations as a whole depended on immigrant labour and as early as 1865, four- fifths of the workers on estates in Nilgiris (in Tamilnadu) came from Mysore (George and Tharakan, 1985).

[9] It has been found that during the late 1990s and after the cost of tea production has been higher than the domestic tea prices by 20-25 per cent as compared to significant levels of profit as reported from Indonesia (64-67%), Sri Lanka (25-31%) and Bangladesh (7-19%).

[10] Certainly, tea plantations have had undergone severe crisis especially in South India during the 1970s and 1980s. There have been incidents of distress sales of tea estates in Kerala and conversion of tea gardens (both small and large) for producing more profitable crops like rubber, thereby reducing the effective area under tea. In fact, the area under tea had declined in Kerala by 10 per cent during the period. The situation has also brought in several new ideas among the planters, such as conversion of weaker and uneconomic plantations into mixed estates of tea, coffee and cardamom. This was thought to smoothen the bad year of tea with other crops which may earn better prices against tea. This was also thought as a strategy to effectively utilize the available labour force in the plantations (George, 1984).

[11] Harrison Malayalam Ltd. (HML) is one of the oldest plantations operating in South India and has a history that goes back to over hundred and fifty years. It has been a pioneer in corporate farming and has, over this period, established and run plantations for Tea, Rubber, Cocoa, Coffee and a wide variety of Spices. Currently, the company cultivates about 14,000 ha comprising 7400 ha of tea (10 estates, 12 factories) and 6000 ha of rubber (10 estates) plantations (www.harrisonsmalayalam.com).

[12] Set up in 1964 as a joint venture with UK-based James Finlay and Company to develop value-added tea, the Tata Tea Group of Companies, which includes Tata Tea and the UK-based Tetley Group, today represent the world's second largest global branded tea operation with product and brand presence in 40 countries. Among India's first multinational companies, the operations of Tata Tea and its subsidiaries focus on

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branded product offerings in tea but with a significant presence in plantation activity in India and Sri Lanka. The Company, headquartered in Kolkata owns 27 tea estates in the states of Assam and West Bengal in eastern India, and Kerala in the south. With an area of approx 15,900 hectares under tea cultivation, Tata Tea produces around 30 million kg of Black Tea annually (www.tatatea.com).

[13] The Kanan Devan Hills Plantations Company Private Limited (KDHP) succeeded Tata Tea Limited on 1st April 2005, when the latter exited most of its plantations in Munnar to focus on the growth of its branded tea business. With its 7 extensive gardens covering approximately 24,000 hectares, the company is today the largest tea corporate in South India with an annual production of 21 million kg of tea. Virtually all its 12,000 - plus employees are its shareholders (http://www.kdhptea.com/CompanyProfile.html).

[14] Due to this unprecedented fall in rubber price, rubber planters, especially, small growers in Kerala were finding it difficult to pay even the wages. To minimize cost of production, reduction in workers, wage cuts and deferments in payment of wages or other monetary benefits were resorted to by the planters to continue with rubber production. Several planters had resorted to large scale cost cutting of various plantation related activities leading to reduction in fertilizer use, pesticide spraying, soil developments, land up gradation and even deferring replanting (Viswanathan and Rajasekharan, 2001).

[15] On this and so many other counts the PL Act becomes highly redundant. For instance, the PL Act as amended in late 1980s does not stipulate a minimum age for a worker to be employed in any capacity in the plantations. In sharp contrast, the Child Labour (Prohibition and Regulation) Act 1986, which regulates the employment of children in the informal sector, stipulates 14 years as the minimum age of the employment, but this Act does not cover plantations. This underscores the necessity of amending the PL Act such that children below the age of 14 years should not be employed in the tea gardens.

[16] In other words, the decline in rubber holdings resulted in a decline in the number of rubber trees available for tapping on a daily basis. Since tapping wages are determined on the basis of the number of trees being tapped by a rubber tapper per day, the decline in holding size virtually reduces the number of trees available for tapping from a single holding,

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leading to lower daily earnings. There has, reportedly, been a growing trend toward rubber tappers attaching themselves to more than one rubber holding (multiple grower dependence) to obtain an adequate number of trees for tapping (Viswanathan and Shivakoti, 2008:7).

[17] A study by Assocham pointed out that countries like China, Philippines, Malaysia, Indonesia and even Taiwan used Sri Lanka and Thailand as "Conventional destinations" to dump them. The study concluded that due to this Sri Lankan exports to India grew from $90.80 million in 2002-03 to $ 364.39 million towards the end of 2002-03 to $ 364.39 million towards the end of 2004-05 (Assocham 2006). It pointed out that while India's exports to Sri Lanka and Thailand rose by 47 per cent and 19 percent respectively, imports to India from these countries went up by 300 percent and 125 percent respectively, between 2002-03 and 2004-05. At the same time India's exports to non-FTA partners like Bangladesh, Bhutan, Myanmar & Nepal increased at a much higher rate than her exports to Sri Lanka and Thailand.

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Production Growth and Adoption of Technology in Agriculture: A Case of Central Brahmaputra Valley Zone, Assam

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Abstract

The Central Brahmaputra Valley zone, in the middle of the state Assam is basically rural and agro-based region. Yet agricultural sector of the zone has made very little headway towards modernisation, characterised by small holdings, low crop intensity and meagre irrigation facilities. The paper analyses the growth pattern of agricultural production and yield in the zone and compares with the state average for the period 1971-2010. The zone shows structural rigidity and foodgrains have remained the predominant crop accounting for more than three- fourths of the gross cropped area. Production and yield of major foodgrain and non-foodgrain crops though have witnessed positive growth during the study period, last decade (2001-10), however shows deceleration, culminating in negative growth rate in production and low growth rate of yield for most of the crops. Still, analysis reveals that growth rate of production of most of the foodgrain and non-foodgrain crops in Central Brahmaputra Valley is higher than the state average which could be attributed to adoption of new technology.

Introduction

Agriculture still continues to be a fundamental instrument for sustainable development and poverty reduction in developing countries where three fourth of poor people live in rural areas (Yila and Thapa, 2008). In such

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economies agricultural sector is the chief contributor to the GNP, and the proportion of work force engaged in agriculture is also asymmetrically high. In India for e.g. agriculture and allied sector is the largest contributor in its economy though it contributes a meagre 13.9 percent to the total GDP (at constant 2004-05 prices) during 2011-12 (Government of India, 2012) and this sector employs 58.2 percent of India's work force (Census of India, 2001). The Braphmaputra valley in the state Assam with the vast tract of fertile land supposed to be immensely helpful for agricultural development, but the agricultural sector of the state could not make the desired progress over the years. Agriculture in Assam is still characterised by small holdings, low crop intensity, low productivity and meagre irrigation facilities. Recurring floods and irregular rainfall often add fuel to the problem. Despite all these impediments, a significant proportion of the population still depends on agriculture in the state. Census report 2011 shows that the rural population in Central Brahmaputra Valley is 88.33 percent of the total population which is higher than Assam (85.92 percent) and national average of 68.84 percent. As per the Agricultural Census 2005-06, the average size of holding in Central Brahmaputra Valley is only 0.99 hectare, which is less than state average holding of 1.1 hectare (Government of Assam 2013). This zone needs a sound agricultural sector to ensure sustained livelihood opportunities particularly for the rural masses. In this context transfer of agriculture technologies in appropriate manner and adoption would induce a desired result. Adoption of technological innovations in agriculture has attracted the attention of development economists and policy makers since it is commonly believed that introduction of new technology increases productivity (Feder *et al*, 1985). Given this background, the note have addressed two broad objectives- (1) analyse of the growth pattern of agricultural production and yield and (2) analysis the status of adoption of agricultural technology in the Central Brahmaputra valley zone of Assam.

Review of literature

In one of the earliest study on technology adoption in agriculture, Rogers (1983) argued that the adoption of an innovation goes through a decision-making process beginning with awareness, then the formation of positive or negative attitudes, and finally deciding whether to adopt the technology. The technology involves both improved cultivation practices (e.g., proper spacing, proper timing of planting and irrigations) and the use of a variable

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input (e.g., fertilisers, pesticides) with which the farmers are not familiar (Feder and Slade, 1984). Some of the improved technologies are the use of tractors (mechanisation), application of fertilisers and insecticides, adoption of improved spacing, treatment of seed before planting, improved storage techniques and a host of others (Oluyole, 2005). Chandra and Singh (1992) made an attempt to identify the level and determinants of the adoption of new technology of tribal farms in Bihar. They found that adoption of technology had not made an appreciable headway and traditional methods of crop cultivation were still predominant on small farms. This indicates that farm size may be an important determinant of technology adoption. Bezbaruah and Roy (2002) stated that in comparison to all India standards, all the agriculture zones of Assam continue to lag behind. Agarwala and Hazarika (2004) found that out of six agro-climatic zones, only two zones namely "Central Brahmaputra valley" and "Lower Brahmaputra valley" can be classified as developed relatively or moderately.

Methodology

The state of Assam has six agro-climatic zones based on rainfall, terrain, soil and crop characteristics[1]. Field study was carried out in the Central Brahmaputra Valley (CBV) zone, which covers an area of 5524 sq. km. The valley occupies 7 percent of geographical area of the state. The two districts in the zone, namely, Nagaon and Morigaon have total population of 3,783,859 (Census of India, 2011) with density of 685 persons per sq.km. This density outstrips the state average of 397 and the national average of 382. This is an indication that the CBV is land constrained and have high percentage of small and marginal farmers. This is an important argument for selection of this study area.

[1] 1. Upper Brahmaputra valley comprised of the districts of Dibrughar, Sibsagar, Jorhat, Golaghat and Tinsukia; 2 Central Brahmaputra valley comprised of the districts of Nagaon and Morigaon in the center of the state; 3. Lower Brahmaputra valley comprised of the districts of Kamrup (Metro and Rural), Nalbari, Barpeta, Dhubri, Kokrajhar, Bongaigaon, Chirang, Baksa and Goalpara; 4.Hill zones comprised of district of Karbi Anglong and North Cachar hills; 5.Barak valley comprised of Cachar, karimganj and Hailakandi districts and 6 North Bank zones comprised of the districts of Lakhimpur, Sonitpur, Dhemaji, Sonitpur and Darrang on the north bank of the river Brahmaputra (Government of Assam, 2013).

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Apart from the secondary data made available from publications of Department of Agriculture and Department of Economics and Statistics, Government of Assam, a primary survey was conducted during April-June 2012. The CBV has five Agricultural Sub-Divisions, four in Nagaon district and one in Morigaon district. From each of the five subdivisions, one Agricultural Development Officer's (ADO) circle is selected and then one village is selected from each ADO circle randomly. Finally, farm households are selected from each of the selected village using Yamane (1967) formula to calculate sample sizes[2].

The sample of the study comprises of 378 farm households. Data from households are collected using a pre-tested structured questionnaire. In addition to this discussions were held with extension officers to understand use of improved agricultural technologies for the study area.

The growth rate of agricultural production and yield are calculated using the formula

$$\frac{Y_t - Y_{t-1}}{Y_{t-1}} \times 100$$

After reviewing some of the standard studies (Das Gupta and Chowdhury, 2002: Kumar and Popat, 2010) a technology adoption index (TAI) for individual farmers is developed as follows:

$$TAI = \frac{\text{Total adoption score obtained by an individual farmer}}{\text{Maximum score one can obtain}} \quad \ldots\ldots\ldots (1)$$

The agricultural technologies considered for the study have been finalised in consultation with Agricultural Development Officers and officers of Regional Agricultural Research Station located in Nagaon district. These are- improved seed variety, organic manure, urea, Single Superphosphate (SSP) / Diammonium Phosphate (DAP), *Muriate of Potash* (MOP), micro nutrient, pesticides, bio-pesticides, lime, Soil testing practice, use of fungicide (disease management), line sowing, use of weedicide, use of chemical for pests in storage, use of power tiller/tractor, rotavator, roller marker, shallow tube well, electrical water pumpset, weeder, hand

[2] Yamane (1967:886) provides a simplified formula to calculate sample sizes. It assumes 95% confidence level and .5 as assumed level of precision.

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sprayer, power sprayer and duster. The respondents' responses are recorded as adopted and not adopted against each item with scores of one and zero. Based on the extent of adoption, farmers are categorized into-

(1) Low adoption (< 0.33)

(2) Medium adoption (0.34-0.66), and

(3) High adoption (>0.66) groups.

Results and discussion

Growth pattern of agricultural production and yield of Central Brahmaputra Valley

In CBV, area allocation among various crops has shown a measure of structural rigidity that reflects the traditional character of agriculture where foodgrains have remained the predominant crop accounting for more than three fourths of the gross cropped area since the early 1970's. In this valley only 18.2 percent area under non-food crops and economy is largely subsistent. Cereal (95.8 percent) is the dominant food crop in this zone and pulses form only a negligible proportion (4.2 percent). The decadal annual average growth rate of production and yield of major crops in CBV and for the state of Assam over the period of 40 years since 1970 are presented in Table 1. The growth rate has been calculated for five periods, 1971-80, 1981-90, 1991-2000, 2001-10 and 1971-2010. Annual average growth rate denotes the percentage change in the value of production and yield of crops per hectare of land over the period of a year.

The estimates of decadal growth rate reveals that the growth of production of total foodgrains in CBV during the entire period 1971-2010 had increased by 3.7 percent whereas the average growth rate of yield had shown an increase by 2.6 percent (Table 3). Growth rate of production of total foodgrains in CBV showed an increasing trend and became more impressive (8.1 percent) during 1991-2000. This was largely on account of high yield growth rate of 2.2 and 6.4 percent respectively. During 1991-2000, the growth rate of production for state as a whole (3.4 percent) was much lower than CBV (8.1 percent), which might be caused by much lower

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yield growth rate (2.7 percent) than the CBV (6.3 percent). It was only during 2001-10, the state as a whole attained higher growth rate of production of all foodgrains.

The difference in the growth rate of production and yield of total cereals between CBV Valley and average of Assam was significant during 1991-2000. This could be due to the difference in the adoption of technologies. In subsequent years the CBV showed shrinkage in production of total cereals (-1.7 percent per annum during 2001-10), whereas the average for Assam had increased at the rate of 1.8 percent per annum. It is important to note that the growth rate in production and yield for total rice, total cereals and total foodgrains have shown almost similar trend for the reason that rice is the most important cereal crop occupying more than 90 percent of the cropped area under total foodgrains. Growth rate of production of total pulses and total oilseed in both the CBV and in Assam however had showed declining trend. As reported lack of optimum rainfall during flowering to maturity stage and decrease in area under production are mainly the reasons for low level production of both pulses and oilseeds.

Table 2 presents the annual average growth rate of production of foodgrain crops of CBV and Assam. It is revealed that during 1971-80 performance of CBV was better than the state average in case of almost all the major foodgrain crops and this continued till 1981-90 with the exception of winter rice and pulses. During the period 1991-2000 however, among the foodgrain crops Assam recorded higher production growth rate than CBV only in case of summer rice (marginally), wheat and pulses. The subsequent period, however, witnessed a reverse situation where Assam as a whole recorded higher production growth rate in case of major foodgrain crops except wheat, tur, other cereals and small millets. Analysis of the trend rates of growth separately for the three types of rice suggests that although winter paddy was dominant in terms of area and production, summer paddy had shown marked improvement due to its higher productivity. During 1971-80 wheat showed significant production growth. Succeeding periods however it recorded low growth in the CBV and in the state as a whole till 2000. Surprisingly, during 2001-10, when most of the foodgrain crops showed declining trend, wheat showed a rising trend.

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Table 1: Annual Average Growth Rate of Agriculture Production (in %)

Crops	Central Brahmaputra Valley and Assam					
	1971-80	1981-90	1991-2000	2001-10	1971-2010	t value
Total Rice	3.7 (0.2)	4.6 (4.4)	8.7 (3.5)	-1.7 (1.9)	3.8 (2.6)	0.396
Total Cereals	3.9 (0.7)	4.3 (4.1)	8.3 (3.5)	-1.7 (1.8)	3.7 (2.6)	0.387
Total Pulses	5.3 (3.8)	2.2 (2.4)	0.6 (2.8)	-1.3 (0.5)	1.6 (2.3)	0.227
Total Foodgrain	3.9 (0.8)	4.3 (4.1)	8.1 (3.4)	-1.7 (1.8)	3.7 (2.5)	0.376
Total Fibres	-0.7 (1.0)	4.4 (0.96)	4.3 (-0.1)	2.4 (2.5)	2.7 (1.1)	0.3
Total Oilseed	11 (6.6)	11.2 (4.8)	2.5 (0.5)	2.1 (0.5)	6.6 (3.0)	0.585

Source: Directorate of Economics and Statistics, Government of Assam.
Note: 1. Figures in the parentheses represent respective growth rate for the state as a whole.
2. The calculated t values are not significant. Thus there is no significant difference in the growth of production between Central Brahmaputra valley and Assam.

Table 2: Annual Average Growth Rate of Production of Foodgrain (in %)

Crops	Central Brahmaputra Valley and Assam					
	1971-80	1981-90	1991-2000	2001-10	1971-2010	t value
Autumn Rice	4.5(-0.2)	9.4 (5.3)	6.9 (2.3)	-6.4 (-2.6)	3.6 (1.2)	0.466
Winter Rice	3.8 (0.3)	3.3 (4.3)	5.9 (2.2)	-0.4 (2.7)	3.1 (2.4)	0.195
Summer Rice	27.5 (11.3)	20.8 (13.1)	20.9 (21.7)	0.3 (3.1)	17.1 (12.3)	0.627
Wheat	75.2 (53.6)	12.9 (2.4)	0.6 (2.6)	39.7 (8.8)	31.0 (15.9)	0.736
Other Cereals and Small Millets	92.8 (30.5)	3.2 (-2.4)	1.1 (0.96)	2.3 (-4.9)	23.1 (5.4)	0.983
Gram	15.6 (13.4)	6.1 (0.4)	-5.6 (-1.9)	-2.3 (0.67)	3.1 (2.9)	0.036
Tur	21.2 (6.9)	15.6 (2.2)	-1.2 (0.6)	-0.2 (-1.2)	8.5 (2.0)	1.071
Other Rabi Pulses	4.6 (3.6)	1.2 (2.7)	1.7 (3.2)	-0.2 (0.7)	1.8 (2.5)	0.229

Sources: Directorate of Economics and Statistics, Government of Assam.
Note: 1. Figures in the parentheses represent respective growth rate for the state as a whole.
2. The calculated t values are not significant.

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Table 3: Annual Average Growth Rate of Yield (in %)

Crops	Central Brahmaputra Valley and Assam					
	1971-80	1981-90	1991-2000	2001-10	1971-2010	*t value*
Autumn Rice	1.9 (-1.3)	4.2 (3.2)	8.8 (3.4)	2.3 (2,7)	4.3 (2.1)	0.514
Winter Rice	1.1 (-1.1)	2.8 (3.1)	4.9 (1.8)	1.4 (2.3)	2.6 (1.6)	0.34
Summer Rice	1.3 (6.2)	7.8 (3.7)	4.5 (4.9)	0.05 (0.14)	3.5 (3.7)	-0.04
Total Rice	1 (-1.1)	2.5 (3.0)	6.3 (2.7)	1.19 (2.1)	2.8 (1.7)	0.43
Total Cereals	1.03 (-0.97)	2.1 (2.8)	6.3 (2.7)	1.03 (2.1)	2.7 (1.7)	0.4
Total Foodgrain	0.9 (-0.95)	2.2 (2.7)	6.3 (2.7)	1.03 (2.01)	2.6 (1.7)	0.42
Total Pulses	1.1 (1.5)	0.9 (1.3)	1.2 (2.3)	1.12 (0.04)	1.06 (1.3)	-0.1
Total Fibres	1.4 (1.99)	7.0 (1.9)	5.5 (1.6)	2.51 (3.3)	4.2 (2.2)	0.41
Total Oilseeds	4.4 (1.8)	9.1 (0.5)	1.7 (0.8)	3.38 (1.7)	4.7 (1.2)	0.72

Sources: Directorate of Economics and Statistics, Government of Assam.
Note: 1. Figures in the parentheses represent respective growth rate for the state as a whole.
2. The calculated t values are not significant.

Table 3 shows the annual average growth rate of yield of major crops in both CBV zone and Assam. The table reveals that the annual average growth rate of yield of most of the major crops for the entire study period (1971-2000) was higher in CBV than Assam as a whole. As the calculated t values are not significant, there is no significant difference in the growth of yield between Central Brahmaputra valley and Assam.

Status of adoption of new technology

New agricultural technologies/practices are usually recommended in a set or package form for the use of the farmers. However, for several reasons, farmers usually adopt only certain components of the package. Moreover, in most cases there is variation in level of use of a given technology or practice by the farmers. Such variation in farmers' level of adoption of technologies could be related to economic, social, personal, institutional and psychological factors.

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Table 4 presents crop-wise distribution of respondents according to extent of adoption. The findings reveal that overall most of the respondents (50.5 per cent) are falling under low adoption level and 43.7 percent are in medium adoption level. In case of winter rice the majority (54.9 percent) of respondents belong to low adoption category. In case of summer rice, however, a majority (64.62 percent) of the respondents are in medium adoption category. In case of autumn rice, majority (78.57 percent) of respondents are in low adoption category. Table 5 shows that mean value of technology adoption of all the agricultural subdivisions is higher in case of summer rice compared to other two rice varieties. Summer rice planted during off-monsoon period is mostly of HYV seeds and subsequently needs more operational inputs to ensure yields. In case of rape and mustards 58.1 percent and 51.3 percent of the respondents are in low adoption category respectively. In case of potato, 72.5 percent farmers are in medium adoption category. In case of cauliflower and cabbage, majority of the farmers (78.5 and 84.6 percent respectively) are in the medium category. It has emerged that the average value of technology adoption in case of crops like potato, cauliflower, cabbage is more than the foodgrain crops (Table 5).

Mean difference test was conducted using ANOVA to find subdivision wise difference in technology adoption and it showed that in case of total crop there is significant mean difference in technology adoption among the agricultural sub-divisions. The ANOVA test result for subdivision wise difference in technology adoption is represented in Table-5.

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Table 4: Crop-wise Distribution of Respondents to the Extent of Technology Adoption

Crops	Category of technology Adopter	Number of Respondents					
		Nagaon sub division	Kaliabor sub division	Raha sub division	Hojai sub division	Morigaon sub division	Total respondents
Winter rice	Low adopter	41	33	51	35	32	192 (54.9)
	Medium adopter	38	37	26	38	15	154 (44)
	High adopter	3	1	0	0	0	4 (1.1)
Summer rice	Low adopter	25	22	10	0	29	86 (31.05)
	Medium adopter	49	46	49	4	31	179 (64.62)
	High adopter	8	3	0	0	1	12 (4.33)
Autumn rice	Low adopter	NA	4	1	NA	6	11 (78.57)
	Medium adopter	NA	0	1	NA	2	3 (21.43)
	High adopter	NA	0	0	NA	0	0 (0)
Rape and mustard	Low adopter	13	14	8	NA	1	36 (58.06)
	Medium adopter	7	12	4	NA	2	25 (40.32)
	High adopter	1	0	0	NA	0	1 (1.61)
Jute	Low adopter	41	31	NA	NA	26	98 (51.31)
	Medium adopter	41	40	NA	NA	12	93 (48.69)
	High adopter	0	0	NA	NA	0	0 (0)

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Crops	Category of technology Adopter	Number of Respondents					
		Nagaon sub division	Kaliabor sub division	Raha sub division	Hojai sub division	Morigaon sub division	Total respondents
Potato	Low adopter	13	14	NA	0	0	27 (20.61)
	Medium adopter	51	42	NA	1	1	95 (72.52)
	High adopter	6	3	NA	0	0	9 (6.87)
Cauliflower	Low adopter	0	0	NA	18	NA	18 (20.22)
	Medium adopter	5	6	NA	59	NA	70 (78.65)
	High adopter	0	1	NA	0	NA	1 (1.12)
Cabbage	Low adopter	1	0	NA	1	NA	2 (15.38)
	Medium adopter	4	4	NA	3	NA	11 (84.62)
	High adopter	0	0	NA	0	NA	0 (0)
Total	Low adopter	36	29	49	32	45	191 (50.53)
	Medium adopter	44	41	28	46	25	184 (48.68)
	High adopter	2	1	0	0	0	3 (0.79)

Source: *Field Survey*

Note: *NA stands for not available. These crops are not produced by the respondents of belonging subdivisions. Figures in the parentheses represent percentages of total of respective category.*

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Table 5: Variation in Technology Adoption across Sub-Divisions

Crops	Average Technology Adoption Index Score (TAI) #					F-Stat	Total respondents
	Nagaon sub division	Kaliabor sub division	Raha sub division	Hojai sub division	Morigaon sub division		
Winter rice	0.34	0.32	0.26	0.35	0.27	6.07*	350 (92.6%)
Summer rice	0.43	0.41	0.42	0.46	0.34	4.18*	277 (73.3%)
Autumn rice	NA	0.23	0.3	NA	o.25	0.4	14 (3.7%)
Rape and mustard	0.33	0.30	0.34	NA	0.35	0.5	62 (16.4%)
Jute	0.33	0.35	NA	NA	0.28	7.31*	191 (50.5%)
Potato	0.45	0.45	NA	0.61	0.39	0.5	131 (34.7%)
Cauliflower	0.53	0.58	NA	0.41	NA	13.43*	89 (23.5%)
Cabbage	0.51	0.59	NA	0.42	NA	1.49	13 (3.4%)
Total	0.38	0.38	0.32	0.38	0.29	9.6*	378

Source: *Field Survey*

*Note: (i)*significance level at 1%,(ii) # value of TA1 lies between 0 and 1,see section 3 for details, and (iii) NA stands for not available. These crops are not produced by the respondents of belonging subdivisions.*

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The results as depicted in Table 5 show that, there is a significant difference in technology adoption in case of winter rice, summer rice, jute and cauliflower individually. For total crop also the F value is highly significant representing a significant difference in technology adoption among the agricultural subdivisions. The mean value of technology adoption for winter rice, summer rice and potato is the highest for Hojai subdivision, whereas for jute, cauliflower and cabbage it is highest in Kaliabor subdivision. Morigaon subdivision has witnessed the highest mean technology adoption index in case of autumn rice and rape and mustard produced by a few sample farm households.

Conclusion

The note has assessed the growth rate of production of foodgrains during 1971-2010 and finds that the rate was higher for Central Brahmaputra Valley than the average of the Assam till the year 2000; the difference was more prominent during 1991-2000. The decade 2001-10, the state as a whole however attained higher growth rate of production of total foodgrains. Interestingly, summer paddy had shown marked improvement in the growth rate of production and yield compared to other two paddy varieties, where technology adoption and rise in acreages under cultivation play significant role. However, the growth rate of production of total pulses and total oilseed in Central Brahmaputra Valley and the state as a whole showed declining trend consistently rainfall inadequacy (or lack of irrigation during the *Rabi* period) as well as shrinkage in area under production. The status of technology adoption overall in the zone is not satisfactory, the farmers showing low and medium level of adoption of technologies and there is significant difference in the extent of technology adoption among the five subdivisions of central Brahmaputra valley zone of Assam. It has been observed that winter rice still covers larger share of land area under cultivation but yield showing low growth rate. There is the need of adopting policy for promotion and dissemination of agricultural technologies for winter paddy (*Kharif*) as well as for pulses and oilseed crops. It has also emerged that development of irrigation facility and other provisioning such as credit and orientation would facilitate faster spread of agricultural technology.

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Functioning Village Councils in Mizoram, Manipur, Meghalaya and Nagaland

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Abstract

The continuation of traditional village councils to administer day-to-day functioning of village life is an important hallmark of the various communities in the hills of Northeast India. Since pre-colonial period the village institutions of different communities have been incorporated in the formal mechanics of governance. The arrangements differ from place to place. However, it has been observed that in spite of having a strong tradition of local self governance, the power and function of these institutions have been on the wane. The crisis is more acutely felt with the legislation of 73rd and 74th amendment of the Constitution of India that provides immense power to the local bodies in the rural and urban areas of India. The hill areas of the Northeast India have been kept away from the jurisdiction of the amendments. But serious questions have been asked how to incorporate the traditional functions of the village councils within the framework of the amendments and these institutions get strengthened. This paper gives a vignette of village institutions in four states of Northeast India and seeks to answer its decline and the efforts needed to be taken to strengthen the institution.

The practicing governance of the communities of Northeast India particularly those living in the hills has been a riddle to both the colonial bureaucracy as well as to its post colonial legatee – the mix of bureaucracy and democratically elected executive. The colonial bureaucracy accommodated the polities of these communities in their formal governing structures so that their economic enterprises do not come in conflict with

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the interests of the numerous communities of the region. To a large extent, they were successful in not alienating the ruling elites of the communities. In the post-colonial period, however the state is in a continuous dilemma of how to co-opt the existing structures of governance within its avowed democratic credos. It posed a dilemma due to the understanding of democracy in the spirit of its Western provenance where the citizen is at the centre of the universe who decides upon how s/he would be governed by accepting the mandate of the majority fellow citizens. However, the governance of the communities of the region has often been marked by the representations in the line of tribe, clan or family and the locus is often the collective rather than the individual. This dilemma has been dealt with in the working mechanics of Indian political system in the form of autonomy provisions for the region.

One of the most important projects undertaken by the Indian State in the Northeast India during the post colonial period was its effort of integrating hill areas with the political processes of rest of India. As part of the initiation of this project, the Interim Government of India appointed one sub-committee of the Constituent Assembly known as the North-East Frontier (Assam) Tribal and Excluded Areas Subcommittee under the chairmanship of Gopinath Bordoloi. This instrument of integration with a strong notion of democratic decentralisation of powers was passed by the Constituent Assembly with certain modifications, and it constituted the Sixth Schedule of the Constitution of India (Hansaria, 2005: 8-18).

A major objective of the Sixth Schedule was to allow the tribal people to administer themselves in all matters of vital local concern in the ethos of their customs and traditions. One has to probe in depth whether the structure of autonomies created in this region has indeed meant devolution of power. An important indicator of the devolution of power at the grassroots in the Northeast India is the functioning of Village Councils, a traditional form of village administration incorporated in the formal form of governance since pre-colonial period. This paper looks at the structures of the village councils and the changes that have occurred over the period of time in four northeastern states namely Mizoram, Manipur, Meghalaya and Nagaland. Along with the descriptions of the structures of village governance it has come up

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with some startling facts that dispel the myth of autonomy in the region. It shows how power, provided under the special autonomy provisions is actually wielded by only few political elites and still largely exercised by the state bureaucracy in contravention to the principles of autonomy. Let us look at each state separately to understand the dynamics better.

Mizoram

Traditionally, in Mizoram the village was the basic unit of governance among the Mizos with the hereditary autocratic chief called *Lal* at the helm of the affairs and he exercised both judicial and administrative power. The chief was assisted by his *Upa*s or the elders who formed his 'Council of Advisers' in administering the day-to-day life activities of the people (Thanhranga, 2007:19-22; Sen, 1992: 26). During the colonial period, though much of the power of the chief was curtailed, the basic structure was kept intact. However, during the post-colonial period a slew of administrative measures were undertaken to bring in new changes. In 1953, chieftainship was abolished in the Lushai Hills District and a new form of village council was based on democratic principle constituted (Ray, 2002: 145-156). Though changes were brought in 1970, 1991, 1999 and 2006, most of these changes were pertaining to the number of households per representative. The important functions of a Village Council include: distribution of jhumland; enforcement and regulation of *Hnatlang*, the age-old practice of community service to be rendered by a villager; the control and taxation of animals; allotment of housing sites for the villagers, prevention and control of the outbreak of fire and sanitation of the village. The Council is also entrusted with judicial power. It can try petty cases, but must avoid those cases that warrant punishments obligatory under Indian Penal Code (GOM, 2009). However, as it has emerged, there are two grave challenges faced by Village Councils in Mizoram – mobilisation of fund and bureaucratic meddling in its functioning. The traditional form of revenue generation is still extant the Village Councils in Mizoram. The Council collects *Ranchhiah* or animal tax of which fifty percent comes to it and the other fifty percent is given to the government. Another important financial resource of the Council is the fine collected by the Village Court. Although Village Councils generate fund by supervising and being a part of the development projects funded by State

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and Union Government, the sum is not assured. The State government also funds the Councils in the form of grant-in-aid which is also not mandatory. The bureaucratic interference in the functioning of Village Councils is even greater an impediment to its independent existence. After the conversion of Mizo Hills District into a Union Territory in 1972, a separate department was created to look after the affairs of Village Council and it was named as Local Administration Department. With the formation of this department, the power of Village Councils got eroded gradually in Mizoram.

Manipur

The traditional Village Councils have been functional for hundreds of years among the various tribes in Manipur. For the paucity of space, it is not possible to give a description of each and every traditional institution that got evolved over the years[1]. But what was extraordinary was the standardisation and legitimisation of the system by the princely state of Manipur. The Manipur State Hill Peoples (administration) Regulation Act, 1947 laid down in detail the administration of the tribal people in civil, criminal and revenue matters (Sanajaoba, 1993: 379-433). However, after the accession of Manipur to the Indian Union and recognition of it as a Union Territory, a new regulation, Manipur (Village Authorities in Hill Areas) Act, 1956 was passed repealing the older legislation. Although it introduced election of the members of the village authority on the basis of adult franchise, the hereditary chieftainship continued to function in Manipur. The state legislature passed the Manipur Hill Areas (Acquisition of Chiefs Rights) Act, 1967, on 14th June 1967, which authorised the Government to acquire the rights, title and interest of Chiefs over land in the hill areas of Manipur (Devi, 2010: 296). However, the Act could not be implemented and remained only on paper. Chieftainship continues to exist with all its traditional rights and privileges in the hill areas of Manipur as before. The successive governments in Manipur failed to blend the traditional system of local self governance which the hill communities have steadfastly hold themselves to with the modern system of governance.

[1] Different communities of the hills of Manipur like Anal, Aimol, Chiru, Chote, Gangte, Hmar, Kacha Naga, Kairao, Koireng, Kom, Liangmai, Mao, Maram, Paite, Rongmei, Tangkhul, Zeilangrong etc have developed their own traditional village institutions.

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As a result, the traditional form of local self governance got eroded in the hill areas of Manipur with the state and its bureaucracy relegating the Village Councils to mere monitoring agencies of government schemes like MGNREGS at the village level. However, Manipur Government has proposed Manipur Village Authorities in Hill Areas (Amendment) Act, 2011 which was in the tune with the 73rd Amendment of the Constitution of India that brought radical changes to the Panchayati Raj Institutions of the country. One of the salient features of this proposed Act which had to be promulgated in the hill areas of the State includes the incorporation of *Gram Sabha* as a mandatory body. It vested upon *Gram Sabha,* the power of approving the developmental plans, programs, projects etc. The amendment further involves making of State Election Commission as the body that would constitute the Village Authorities. Reservation of not less than one third of the seats for women is suggested in the new amendment which is a radical shift in the making of a representative democracy with the inclusion of marginalised groups. However, the Act has created such a controversy in the state of Manipur that there is a huge mobilisation against it. According to the Government sources the purpose of this Act is to make the Village Authority function in a more democratic fashion and to make the village a viable unit for development purpose. The mobilisation against the Act has taken place on the ground that the new Act is infringing upon the traditional rights of the tribal chiefs. Those who oppose it complain that the very purpose of bringing this Act is to dominate and control the people of the hills. Due to this controversy, the Act has been put on hold.

Nagaland

The village occupies centrality in the existence of the Naga society. Naga society represented a varied pattern of village governance ranging between near dictatorship and extreme democracy (Elwin, 1997: 6-7). After Independence, the Naga people did not accept the provisions of autonomy enshrined in the Sixth Schedule of the Constitution. Instead they rose in rebellion against the Indian state demanding sovereignty. As the context of the study does not permit going deep into the debate, suffice is to say that along with severe repression, a slew of administrative measures were initiated by the Union Government to quell the rebellion. As part of it, Nagaland was created on December 1, 1963 as the sixteenth state of

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Indian Union. In 1970 the Government of Nagaland decided to bring an Act called the Nagaland Village, Area and Regional Council Act, 1970 to give traditional Village Councils official legitimacy (http://nagaland.gov.in/). But this Act was restricted only to the districts of Kohima and Mokokchung. According to this Act, a three tier administrative structure was devised with Village Council at the bottom of it. Above the Village Council, there existed the Area Council and above Area Council was the Regional Council. The Act provided that Village institutions which were traditionally established in these two districts shall continue to function as Village Council, consisting of members chosen by the villagers according to respective customary practices and usages. The duration of the Council was also determined by the customary practice of the tribe. In 1978 the Government decided to extend the provisions of the Village Councils to the other areas of Nagaland and accordingly Nagaland Village and Area Council, 1978 was brought in the Legislative Assembly. Two important changes were brought into this Act. First the provision of the Regional Council was deleted and second the functioning of Village Development Board was linked to the functioning of the Village Councils. However, in 2009, radical changes were brought in to the system of local self governance in Nagaland. Instead of Area Council, Tribal Council was introduced and each group was accorded with one council. Significantly, Village Councils were brought under the purview of the respective Tribal Councils. This improvisation is in contrast to other three states of our study in the sense that Nagaland has recognized the role of community in the management of day to day activities.

Meghalaya

The three major tribal groups the Khasis, the Jaintias and the Garos over the period of time have developed their own self-governing institutions. Although, these institutions have undergone different changes, their institutional lineages continue till date, with varying power and function (Chattopadhyay, 1985). Both the Khasis and the Pnars have a three-tier system of governance with village at the lowest level. In the well-developed system of the Khasis and Pnars, the *Syiem* who is the supreme authority has the jurisdiction over the *Raid Council,* a mid level administration which in turn had the power over the Village Council or *Durbar Shnong*. In the traditional political system of the Garos a group of Garo villages

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comprised the *A'king*. The *A'king* functioned under the supervision of the Nokmas, which was the only political and administrative authority in the political institution of the Garos. Under the British Government, the powers and functions of the traditional institutions had been on the wane and it further got eroded during the post-colonial period under the District Council and later on under the state-bureaucracy (Gassah, 2002: 180-193).

Conclusion

Although the states discussed so far have traversed different trajectories in terms of local self governance at the village level, there emerge some broad trends indicative of its functioning. Sadly, it is in gradual decline all across the states and as compared to the Panchayati-Raj institutions after 73rd amendment, the local self governing institutions in all the four states have very little power in development processes. The biggest hurdle before the Village Councils is the financial constraint. There is no mandatory sum earmarked for the Village Councils. Though they receive grant-in-aid from the state government, the sum is not assured or mandatory. The Village Councils when it comes to the developmental projects have been relegated to a lower rung in the structure of the bureaucracy. Though judicial power is still exercised by the Village Councils, it is confined only to petty crimes and its punishing power is also limited only to exacting fine or banishment. It has also been observed with much dismay that no traditional Village Council allows women to participate in the decision making process. So, the provision of the reservation of seats for women would be a welcome change.

After the 73rd amendment, there have been attempts to extend the provisions of the Act to the scheduled areas of the country. A modified version of the Act known as the Panchayats (Extension to the Scheduled Areas) Act, 1996 was promulgated in the Fifth Scheduled Areas. However, the original Sixth Scheduled areas are kept out of its purview. It is quite evident from the study that the institution of Village Council which has been in existence for centuries needs immediate revamping. With the philosophy of strengthening of village-level local self governing institutions in India gaining grounds, some efforts have been made by the states of Northeast India to implements the tenets of 73rd amendments. But any decision in haste however may backfire as seen in the case of Manipur.

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Determinants of Poor Educational Attainment in Minority Concentrated Districts of Assam

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Abstract

This paper assesses the determinants of poor educational attainments in minority concentrated districts of Brahmaputra valley of Assam. Field data reveals several reasons for dropout of students – there is need to earn and supplement family income, unaffordable fees, work at home, failure in examination, lack of interest in studies and marriages. The analysis overall reveals two dimensions in cases of dropouts – poverty and a congenial environment in the localities. In the context of female dropouts the environment the girls face in the poor development context may need detailed investigations.

Introduction

The Assam Human Development report (2003) had revealed poor ranking of the districts having concentration of religious minorities in overall human development and educational index (Government of Assam, 2003 and Table 1). Taking this co-linearity forward there is ground to argue that education is one of the prime determinants to achieve development goals (UNESCO, 2005).

This note is based on the database of the survey[1] on minority concentrated districts (MCDs) of Assam (2008), indicates significant gap in educational development. This note assesses the level of educational development in the MCDs based on indicators – literacy rate, educational attainment level,

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[1] The baseline survey of MCD, 2008 was conducted in Assam by OKD Institute of Social Change and Development on the behest of Ministry of Minority Affairs, Government of India. This note however takes into account only the Brahmaputra Valley districts of Assam. The author is grateful to OKDISCD to make the data available to write this note.

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types of school attended, reasons for dropouts and aspiration level of parents on their wards.

Underperformance in literacy and educational attainment

The survey data reveal a clear gap in literacy level in most of the MCDs. The difference and pattern though remain the same in the 2011 census, but it shows a much lower level of literacy compared to the 2008 sample survey data. Except in few districts an improvement of female literacy is not seen and the gap with total literacy rate persists. Low level of literacy and consequent educational attainment level has bearing on the employment and livelihood opportunities. According to Sachar Committee Report, 2006, the main reason for educational backwardness of Muslims is poverty and it forces children to drop out after the first few classes. This is particularly high for Muslim girls. Little children are expected to provide support for their families by working in workshops, as domestic help or by looking after their siblings while their mothers go to work. The opportunity costs involved in sending children to school is also high for poor and illiterate parents. The community-specific factor for low educational achievement is that Muslims do not see education as necessarily translating into formal employment (Government of India, 2006).

Table 1: Literacy rate revealed by MCD survey 2008 and census 2011

	Percentage of Muslim 2001	Survey data 2008				Census 2011		
		Total	Female	Difference, male-female	Muslim women	Total	Female	Difference, male-female
Assam	30.9	-	-	-		72.2	66.3	5.9
Barpeta	58.4	73.3	68.2	5.1	64.8	63.8	58.1	5.7
Bongaigaon	38.5	69.0	63.4	5.6	62.8	69.7	64.4	5.3
Darrang	35.5	74.7	67.3	7.4	65.7	63.1	58.0	5.1
Dhubri	74.4	69.3	63.9	5.4	63.7	58.3	53.3	5.0
Goalpara	53.7	70.0	64.8	5.2	64.7	67.4	63.1	4.3
Kamrup	25.0	75.9	68.8	7.1	65.8	75.5	69.5	6.0
Kokrajhar	20.0	62.8	55.4	7.4	49.3	65.2	58.3	6.9
Marigaon	46.8	59.3	49.0	10.3	73.1	68.0	64.0	4.0
Nagaon	57.4	74.1	68.2	5.9	70.3	72.4	68.1	4.3

* Source: Census of India, 2001 and 2011; Base line survey of MCD, 2008

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Level of educational attainment

Educational attainment level of people by the two major religions (Hindu, and Muslim) reveals that percentage of people from Muslim community completing the high school is much lower than the people of Hindu community (Table 2). Educational attainment beyond the high school level (graduation, post graduation and technical degrees) is found to be insignificant in both the communities, but the position of Hindu community is marginally better. Survey data show poor enrollment after matriculation. Overall in the MCDs of Brahmaputra valley of the state less than five per cent population is graduates (among all communities). In addition to this less than one per cent population is found to have managerial, technical or post-graduate qualification. As a whole it shows concentration of people in the primary and middle levels education.

Table 2: Percentage of population with completed level of education

	Completed high school		Graduate		Technical and post graduate	
	Muslims	Hindus	Muslims	Hindus	Muslims	Hindus
Barpeta	11.0	20.2	1.6	5.6	0.8	2.9
Bongaigaon	7.8	16.0	1.7	0.8	0.2	1.1
Darrang	12.8	24.6	0.9	2.1	0.6	0.4
Dhubri	10.5	20.0	1.5	1.1	0.3	0.2
Goalpara	6.3	21.6	1.0	1.2	0.2	0.2
Kamrup	14.1	17.1	1.0	2.2	0.2	0.5
Kokrajhar	4.1	11.0	0.8	1.3	0.1	0.4
Marigaon	5.0	16.9	0.7	1.7	0.2	0.4
Nagaon	9.2	17.6	0.9	1.0	0.0	0.2

* Source: Baseline survey of MCDs, 2008

The baseline survey data for the age group of 5-25 years show that never enrolled students are relatively higher among Muslim community in all the MCDs except in Marigaon. Survey data reveal that students left after enrollment is relatively lower in Muslim community; but among the Hindus

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dropouts are more among the SC, ST and OBC communities. It may be noted that in the Muslim community many students go for informal educational institutions.

The students 'left after enrollment' and 'enrolled but does not go to school' category can be considered as dropouts. The dropout rates (dividing number of dropout students by total number of students of age 5 to 25 years) for the nine MCDs are presented in Table 3.

Table3: Dropout rates in the MCD districts of Assam, 2008

Districts	Male	Female	Total
Barpeta	8.86	2.58	5.88
Bongaigaon	17.13	9.41	13.59
Darrang	12.92	8.99	11.00
Dhubri	7.18	4.58	5.97
Goalpara	13.26	6.09	9.93
Kamrup	14.01	12.84	13.49
Kokrajhar	20.52	18.10	19.39
Marigaon	23.53	20.57	22.20
Nagaon	15.51	12.62	14.20

* Source: Baseline survey of MCDs, 2008

The Annual Status of Education Report (ASER), 2010, revealed school dropout rate at 5 percent in Assam. Field data reveal wide variations in the dropout rates across the MCDs. There could be certain locality specific reasons for wide variations in the MCDs having more or less uniform demographic characteristics. Moreover, the dropout rates by religion and caste show that it is more in case of scheduled caste (total 15.8 and female 13.6), scheduled tribes (total 15.6 and female 15.6) and Hindu backward classes (total 14.8 and female 14.8) than among Muslims (total 11.8 and female 8.7) and Christians (total 11.0 and female 9.7). The survey data also reveals that dropout rate among female is less than the total dropout in the communities. In this context some inference can be drawn that boys are dropped out because of economic compulsion to support their families[2].

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It was also found that the students (85 to 90 per cent) across the Hindu and Muslim communities primarily attend government schools, and this proportion is marginally lower among the Christians[3].

Determinants of dropouts

Field data reveals several reasons for dropout of students in the age group of 5-25 years. The need to earn and supplement family income, unaffordable fees, work at home, failure in examination, lack of interest in studies and marriages were cited as reasons. The reason 'need to earn' is more prominent among Muslim community compared to other castes in Hindu community and the Christians in most of the MCDs. Here an attempt is made to examine whether the factors behind the dropout rates are significant in the MCDs of Brahmaputra valley of Assam.

The calculation of dropout rates varies according to how the concept is defined. Studies show that a variety of definitions are used to define the concept (Lehr *et al.*, 2004). Event Rate (also referred as the annual rate or incidence rate) measures the proportion of students who drop out in a single year without completing high school. Status Rate (referred as the prevalence rate) measures the proportion of students who have not completed high school and are not enrolled at one point in time, regardless of when they dropped out. Cohort Rate (referred as the longitudinal rate) measures the case to a single group (or cohort) of students over a period of time (Lehr *et al.*, 2004). Dropout figures or rate would vary depending on use of these dropout or school completion measure. The variance occurs because local, state, and federal calculations often use different age groups, data, and definitions in classifying dropouts (Bhanpuri and Reynolds, 2003).

[2] Inference is that one major reasons for higher drop out among boys than the girls is post SSA and mid day phenomenon. The wage rate for girl child worker is less than the boy child worker and hence boys are withdrawn from schools to join the labour market while girls continue in schools as they are served the mid day meal which saves food consumption for one member in the family.

[3] The reason for Christians with low attendance in Govt. school is historical. The Christain missionary schools are more widespread in the Christian dominated areas and these schools offer various concessional education to the children along with other technical skills.

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In our measurement categories of students 'left after enrollment' and 'enrolled but does not go to school' are considered as dropouts. Dropout rate is calculated by dividing the total number of dropout students across castes by the total number students across castes of the age between 5 to 25 years.

To test the significant reasons behind the dropouts of the students, a multiple regression model is constructed following of Bean (1980) and Hallstrand and Upadhyay (2010).

In the constructed multiple regression model[4], dropout rate (*drop*) is considered as the dependent variable which is regressed on the explanatory variables work at home (*homework*), need to earn (*earn*), distance to school (*schooldistance*), lack of facility at School (*schoolfacility*), punishment at school (*punish*), teacher don't teach (*teachnot*), failed in examination (*fail*), fees/expenditure cannot afford (*affordability*), not interested in study (*notinterested*), marriage (*marry*) and Others (O). The relationship between the dependent variable *drop* and each of the independent variable is expected to be positive.

The model is as follows:

$$(drop)_i = a_0 + a_1(homework)_i + a_2(earn)_i + a_3(schooldistance)_i + a_4(schoolfacility)_i + a_5(punish)_i + a_6(teachnot)_i + a_7(fail)_i + a_8(affordability)_i + a_9(notinterested) + a_{10}(marriage)_i + a_{11}(O)i + U_i$$

Here, $i=61$ *numbers of observations*

U = *Random Error*

The estimates shown by Ordinary Least Square (OLS) method are presented in Table 4.

[4] The model takes into account all the communities together in the MCDs. The reason is that the observation in certain categories (Christian) is low. Moreover, community subgroups in the sample of Hindu communities have dropouts higher than the Muslims in many districts. This also brings in the dimension/ argument of poverty across all the communities.

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The value of the adjusted coefficient of determination[5] (R^2) of the model is found to be 0.548 indicating good fit to the data. The F-statistics for overall regression is also highly significant. Thus, on the whole, the results obtained from the analysis are convincing.

Regression results show that the variables need to earn, distance from the school, failure in examination, affordability to pay fees and expenditure, not interested in reading and marriages are positively significant; all revealing as significant determinants of dropouts in MCDs in Assam. Test of Tolerance and Variance Inflation Factor of each of the coefficient (VIF) (Gujarati, 1995) reveal that there is no high multicollinearity among the explanatory variables in the model.

Table 4: Results of the multiple regression analysis of reasons for dropouts

Variables	Estimated Coefficients	t-statistic
Constant	0.117 (1.825)	0.064
homework	0.006 (0.068)	0.083
earn	0.082 (0.040)	2.031**
schooldistance	1.095 (0.310)	3.535***
schoolfacility	-0.758 (0.482)	-1.573
punish	0.225 (7.242)	0.031
teachnot	0.860 (1.149)	0.749
fail	0.286 (0.071)	4.030***
affordabiliy	0.086 (0.029)	3.012***
notinterested	0.151 (0.040)	3.753***
marriage	0.347 (0.094)	3.724***
Others	0.376 (0.094)	4.002***
R^2	0.631	
Adjusted R^2	0.548	
F - Statistics (n_1=11; n_2=49)	7.606***	

Notes: Figures in the parentheses show the standard error; *** and ** indicate significant at 0.01, and 0.05 level respectively.

[5] For a cross-section model, adjusted R^2 is used when the number of explanatory variables is not very small compared to the number of observations (Gujarati, 1995).

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The result shows that highly significant factors are failure in the exam, disinterest in studies and the distance of the school. Earning is a major reason but other three factors are more significant. This shows that it is something to do with the structural system of the school education rather than the earning compulsions. It may also be the fact that as children fail and lose interest in studies the parents prefer to engage them for earning.

Determinants of female dropouts

To examine the significant reasons behind the female dropouts, the above regression model is constructed for female dropout (61 observations). The results of the regression model are presented in Table 5.

Table 5: Results of the multiple regression analysis of reasons for female dropouts

Variables	Estimated Coefficients	t-statistic
Constant	0.578 (2.201)	0.263
homework	0.037 (0.045)	0.821
earn	0.149 (0.071)	2.097**
schooldistance	-0.100 (0.285)	-0.352
schoolfacility	-0.144 (0.130)	-1.108
punish	-1.276 (3.119)	-0.409
fail	0.337 (0.068)	4.979***
affordabiliy	0.066 (0.039)	1.671*
notinterested	0.132 (0.043)	3.102***
marriage	0.162 (0.065)	2.488**
others (O)	0.112 (0.217)	0.518
R^2	0.474	
Adjusted R^2	0.369	
F - Statistics (n_1=10; n_2=50)	4.506***	

Notes: Figures in the parentheses show the standard error; ***, ** and * indicate significance at 0.01, 0.05 and 0.10 level respectively.

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The value of the adjusted coefficient of determination (R^2) of the model is found to be 0.369 indicating not very bad fit to the data[6]. The F-statistics for overall regression is also significant. Thus, on the whole, the results obtained from the analysis are credible. The coefficients of the variable failed in the Examination, not interested in study have come out to be statistically significant at 1 per cent level with expected positive sign. Other variables need to earn and marriage also have come out as significant factors of dropout. Study by Kotwal *et al.* (2007) found that reluctance of parents and participation in domestic activities, problem of financial constraints are the significant reasons of dropouts. After Testing VIF for each of the coefficient, it is found that there is no high multicollinearity among the explanatory variables in the model.

Since the results for the females show no variability than the total in case of most significant factor, this implies that structural system of school education is what effects the dropout rate and for females dropout due to marriage is an observed phenomenon and have been confirmed by different studies at different points of time.

Concluding remarks

The analysis reveals two dimensions in cases of dropouts – poverty (need to earn, affordability) and environment (not interested in study, failed in the examination) in the localities. In the context of female dropouts the environment the girls face in the poor development context (as indicated by the Human Development Report) may need detailed investigations. Failure in examination, not interested in the study and marriage as factors of dropout in case of girls indicate lack of appropriate attentions and motivational supports on the need of basic as well as higher education. In this context infrastructure facilities at schools (including sanitations), efforts of the teachers and curriculum may also come to the fore. The baseline survey (2008) data indicate significant gender differences in parental preferences as percentage of parents aspiring for completion of graduation of their boys is higher than that for the females in all the religious groups. Across the religious group aspiration of Hindu parents also found to be

[6] If a high adjusted R^2 is obtained, well and good; however, if adjusted R^2 is low, it does not mean that the model is necessarily bad (Gujarati, 1995).

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higher (about 40 percent parents aspire) among the religious communities (about 30 percent Muslim parents aspire) that their children complete graduation. One of the reasons for gender biasness in respect of higher education may be attributed to the geographical distances in accessibility to institutions of higher education for girls. However, it cannot be singled out to accessibility alone. Higher education is also an investment for future flow of earning and in patriarchal societies consideration is that the benefit of investing in males for higher education result in net inflow of income to the family. The gender biasness for higher education is a social process and is not specific to Assam alone.

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How Does an Informal Credit System Affect Lives and Livelihoods! Case of Fishermen of Chilka Lagoon, Odisha

Soumen Ray *

Abstract

This note on fishermen of Chilka region of Odisha substantiates how the fishermen have been subjugated by the external forces - middlemen and money lenders. Field interactions reveal a distinct informal financial market, where entities with commercial interest are providing credit facilities. The fishermen, who take loan primarily for economically productive purposes, effectively keep bondage to part with their earnings from the next season's fishing. This finally limits their marketing opportunities, to place the catches at a remunerative market of their choice. The outcome is unsustainable use of open sources under constrained situation.

The issue is that such form is operating in the presence of a distinct formal credit market. It is an odd question how the moneylenders have their presence felt in front of the formal institutions, which have the business strategy to lend, a pre-determined budget, investment planning and accountability to be responsive to clients' needs (social responsibility). It also appears that the opportunity cost for negotiating with the formal institutions for loan is high compared to the interest rates paid under the informal credit systems.

Introduction

Small-scale fishermen largely depend on open sources for livelihood. Subjugated by external forces for the money required for day to day operation and high interest rates force the fishermen to go for over exploitation and unsustainable use of open sources. This note describes

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the dynamics of informal financial support among the poor fishermen of Chilika Lake of Odisha. Assumption is that requirement of credit largely emerges because of lack of access to sell in the right market and subsequent poor returns; which in turn is determined by certain institutional constraints.

To cope up with complex situations in day to day life and to meet the basic needs, in absence of a decent livelihood, common men often gets into perpetual debt. In India, informal credit market is more visible in the rural areas. Lamberte (1987) classified informal credit markets into mainly five sub-sectors: Rotating savings and credit association, landlord moneylenders, traded miller moneylenders, farmer lenders and professional moneylenders. Kwack et.al (1981) classified the rural credit markets into friends, relatives and neighbors, farmers, landlords, input dealers, output dealers, professional money lenders and prawn shops. Schrader (1993) explained that the literature of sociology of development labeled moneylenders with two stereotypes for the most part. The first one considered them as 'loan sharks' who sucked the poor and innocent peasants. The other stereotype reflected the dominant opinion in development theory literature that moneylenders were traditional forces, which prohibited progress of common men and need to be eliminated for the sake of development and replaced by banks and other formal savings and credit institutions. It is however observe that despite the presence, formal financial institutions in our country fail to include the poor and needy.

To strengthen the institutional credit, government of India in initial period focused on Cooperative Credit Societies. In 1971, the share of cooperatives in rural credit went up to 20 percent (Shah et al, 2007). In later periods, the cooperative societies had been seen to suffer from many shortcomings. The mutual concept between savings and credit functions, which is very important for the successful functioning of the cooperatives societies had been lacking in India. Only after 1969, the provision of credit in the countryside and to the needy was brought under a proper government policy (Ramachandran and Swaminathan, 2005). In the early 1980s employment generation and poverty alleviation were recognised as very important objectives in the policy. In order to benefit the weaker sections of the society, credit was directed towards the intended segment of the society. In later phase, during 1969 and 1990, however saw unprecedented growth of commercial banking in terms of geographical spread and

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functional reach in India (Shetty, 1997 cited in Ramachandran and Swaminathan, 2005).

The All India Debt and Investment Survey of 1980-1981 showed the expansion of institutional credit and reduction in the share of landlords, traders, friends and relatives and a consequent reduction in the share of moneylending to about 16 per cent in the rural credit markets (Gadgil, 1986; Binswanger and Khandker, 1995). The phase of liberalisation after 1991 came up with banking policy which is guided more by the market than by the regulations set by the public authority. After 1990 mergers and swapping of rural branches became the norm. The share of agriculture in total bank credit had fallen from 19 per cent in 1990 to under 11 per cent in March 2005 (Shah, et al., 2007). The small cultivators were the worst affected by the post-1991 decline in credit to agriculture. In contrast advances to large cultivators have risen in the same period (Ramachandran, and Swaminathan, 2005, Shah, et al., 2007).

It is know that in the formal sector lending, banks and other financial institutions generally require significant collateral, have a preference for high income and high loan clients, and have lengthy and bureaucratic application procedures, which are difficult for a petty person. It is also known that bank incurs substantial costs to manage a client account, regardless of how small the sums of money involved are and there is a break-even point in providing loans or deposits below which banks lose money on each transaction they make. Poor people usually fall below that breakeven point. This affects delivery of financial services to the poor people. In addition, most of the poor people have few assets that can be secured by a bank as collateral. This means that the bank will have little recourse against defaulting borrowers. The final result is that poor take recourse to informal sector for credit requirements.

Fisheries-related activities provide sources of livelihoods to nearly 14.5 million people in India (Livestock Census, 2002) and this group is largely one of the poorest and marginalised. A regional workshop on Microfinance and Credit Programmes in Support of Responsible Inland Capture Fisheries Practices, held in Malaysia, during April 2004, identified some major threats to the fishery sectors. These threats were the lack of capital needed for developing and rehabilitating inland fisheries, and related to this, the lack of awareness of financial institutions on the investment and credit

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needs of inland fisheries, and exploitation of fishers and primary producers by traders. In a fish marketing economy, some studies illustrate that middlemen put pressure on small-scale fishermen to sell their entire catch at a lower price in every possible way (Flaherty and Samal 2005; Iwakiri and Neaz 1982; Misra 2002; Rubinoff 1999). It is commonly argued that middlemen exploit small-scale fishermen in the fish marketing process in combination with money lending (Iwasaki and Shaw, 2008).

The study area

Against the backdrop this note presents a case of fishermen of the Chilka lagoon of Odissa, India.

Chilka Lake is the largest brackish water lagoon along the east coast of India which shelters thousands of families who depend on fishery business. The lake is surrounded by about 130 fishing villages. The fishing population consists of sub-groups such as Kandaras, Khatias, Niary, Nolia, Tiaras, etc. who uses different fishing gear and catch different species of fish (Patil, 1970). However, fishing communities confront several issues that constrain their life choices. The traditional fisher folk around the Lake are frequently hard hit by several factors - socio-political, economic to environmental fronts. Catching juvenile prawn and crabs, social conflicts, over-exploitation of lake water, growth of weeds, declining salinity, and shrinkage of lake have also adversely affected the biodiversity of the Lake. Incomes of the fishermen being seasonal, credit are needed to smoothen out the irregularity between the flow of earnings and level of expenditure. Majority of the local fishermen thus are in interminable debt because often they are unable to pay the loans taken from the money lenders on time. This is largely because of the declining fish catch. Moreover, there is heavy load on the fishermen to address their basic needs of health and education in the depleted State, apart from ensuring the working capital as well as long-term investment requirements in their trade.

A survey of 450 households in 30 villages carried out in 2008 around Chilika covering Puri, Khurda and Ganjam districts of Orissa revealed that limited earnings from fishing activities leaves very little surplus. Even those households that generate some surplus income use it up during the

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lean periods or for consumption needs. This puts majority of fishers under debt trap.

The note summarises the findings of the survey and shows the existing financial support systems among the fishermen community to absorb shocks and ensure a decent living.

Summary of the findings

The family structure of the sampled households reveals predominance of nuclear family (68 percent). Most of the households (67 percent) have 4 to 6 members. There is not much intergenerational occupational changes in the households as 85 percent fishermen households are involved in the occupation for last four or more generations. Earning of more than 75 percent fisherman households is found to be less than Rs.4000/ per month. Earning of about 7 percent households is found to be more than Rs. 8000/ per month, revealing somewhat skewed distribution of income in the sampled households. Overall, however it reveals that the lower income group is predominant in the study area, which is close to the poverty line figure (Rs. 3364/- for a five member family in the rural areas) of our country.

Existing credit system and impact on livelihood

As indicated earnings from fishing activities is meager and this leaves limited surplus beyond their subsistence needs. Even the households able to generate some surplus income use it up quickly during lean periods or spend it for social purposes. The outcome is that fishermen are left with the only option to take credit at high rates of interest. Sometimes credit is taken even by guaranteeing their future fish catch. Field visit tried to get the opinion of fishermen on the availability of financial support during the dire needs. Altogether 79 percent fishermen households revealed that it is easy for them to get loans from the local money lenders. Just five percent households reveal convenience to avail loan from banks. Friends and relative are reportedly source of loan in case of six percent households. Only four percent households reveal receiving some form of favourable support from government schemes.

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Financial supports and loan from banks though come with low interest rates, people prefer borrowing from moneylenders because it is hassle free (70 percent sampled households believe this). This is also because the opportunity cost for negotiating with the formal institutions for loan are too high compared to the interest rates paid under the informal credit systems. This means the credit provided by money lenders is timely available when it is most needed and there are minimum procedural formalities. Overall it was found that 56 percent of the respondents' households have taken loans from the money lenders, whereas 20 percent have taken loan from bank, 9 percent have taken loan either from self help groups, relatives or friends and about 3 percent have taken loan from other sources. It may be mentioned that there are a few self help groups engaged in providing credit and it is not possible for them to meet large scale credit demand for the fishermen. About 13 percent households have so far not taken any loan. Information reveals that the fishermen seek financial support during crisis. A panchayat member of Mahisha village of Puri district views, it is not easy for small-scale fishers to access credit. There is lack of awareness among fishing communities about microfinance services and other formal credits available. This, however, also re-establishes the notion that fishermen are prone to seasonal poverty, which leads to taking loans from various traditional money lenders, who either charge high interest or take the fish catch against the loan.

The difference between formal and informal systems of credit delivery is that the formal sources give credit once for long term and expects to be repaid regardless of the ability of the fishermen to repay. The informal system on the other hand, being more profit concerned, ensures that fishers continue fishing to be able to repay their loans and the sizeable interest on them. Thus the respondents inexorably informed that the margins that traders tend to maintain are unjustified but unavoidable. About 67 percent fishermen believe that the formal credit system has been made without understanding the credit needs of the fishermen. Respondents feel that the effects of seasonal hunger and deficiency on the overall livelihood systems of the poor fishermen were never looked into in the institutional credit system. This proves that the traditional credit structure at the fishing village has established a value chain, which has resulted in setting up a strong bondage in the fishing communities. One of the most important components which were explored during the field visit was the purpose of loan. The

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findings show that out of the total respondents who have taken loans, 22 percent have taken loan for buying fishing boats, 53 percent for buying fishing gears, 0.7 percent for buying motorised engine for the boats, 3.2 percent for other fishing materials. The study also shows that about 2 percent have taken loans for buying land or ponds for fishing and 1.2 percent for buying live stocks. In terms of social cause, 6.2 percent have taken loan for marriage and 10 percent have taken loan for other purpose. This shows that the maximum fishermen have taken loans for economically productive purpose. This also means when a fisherman takes loans for domestic needs or for regular livelihood, he effectively keeps bondage to part of its earnings from the next season's fishing. This also limits his marketing opportunities (to place the catches at a remunerative market of his choice), as the lender may enjoy special rights to the catch at pre-decided prices. This can also lead to the fishing family being virtually bonded to a trader, with the trader becoming the possessor of the family's productive assets.

Interactions with the money lenders on the dimensions of credit structure reveal two types of loans; one-day loans are provided for a day and returned in the same day or the day after, and interest was charged accordingly and the second one is loan for a particular period. There are various sizes of loans (ranges from Rs. 100 to Rs. 50,000), duration of credit and the interest rates which are dependent on the amount of credit and the type of borrowers. The banks usually provide start- up capital to initiate fishing activity, whereas the money lenders provide working capital to meet recurring costs in the activities as well as loans for consumption purpose.

On the other hand the marketing structure in Chilka lagoon is also managed by the *Mahajans* (money lenders) through their commission agents. Fishermen in general sell their catch to commission agents and the agents then hand over the catch to the money lenders. The prevalent poverty among the fishermen and the debt bondage strongly influence the sell at the hands of commission agents. The money lenders provide advance money to the commission agents as well as to the fishermen and procure the catch. The focus group discussions with the fishermen reflects that the dealings with the money lenders through the commission agents has compelled them to comply with minimum or less profit, as they are left

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with no other options. The situation forces the poor fishermen to get trapped into long term dependency and a vicious circle from where it is difficult to break away. This also has created a window of opportunity for the commission agents, who mostly use their negotiation power and selling capacity at the upper ends to make good money. Substantial profits, mostly made during the harvesting seasons have attracted many middlemen into this business. It is found that the commission agents play an additional role by supplying grocery items such as rice, water, vegetables, fuel wood, other food, etc. to the fishermen on the boat (Samal and Meher 2003a) enabling them to stay on water for additional days and raise the haul. It appears that the network and hold of the middlemen is so strong that they provide the minimum necessities so that the catch is not missed and the supply is assured.

Conclusion

In the study region there exists a distinct informal financial market. The issue is that such form is operating in the presence of a distinct formal credit market. It is an odd question how the moneylenders have their presence felt in front of the formal institutions, which have the business strategy to lend, a pre-determined budget, investment planning and with a responsibility to be responsive to clients' needs (social responsibility).

There is need that formal credit institutions ensure credit to the marginal and oppressed sections of the village communities (including women) and paves the ways for sustainable livelihood. It is understood that banks have tools to understand the absorption capacity of the people who could climb up the layers of their life with financial provisioning. Moreover, there are other mechanisms to facilitate financial services with the help of CBOs and NGOs. Formal institutions unlike the informal lenders are not run entirely by commercial interests- a minimum risks in dispersion could serve interests of a large section of the poor people, creating a model in intervention for wellbeing. Number of NGOs who are working in the sector of micro financing, can be brought in, to oversee the situation and provide support and there are many such successful cases in India. Similarly, the financial services can also be provided by establishing grameen (village) banks and cooperatives. In the past, private and government banks provided loan to the fishermen for the purpose of cutting off the negative dependency

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with fish merchants. The attempts however failed due to loan defaults with psychology of 'loan waiver' (Samal and Meher 2003); the debtors could easily escape their responsibility for loan repayment taking recourse to several ways. Such contexts are apparent and universal, and the banks need to find ways to prevent a handful of such defaulters. More number of small fishermen associations can be created and linked with micro finance provisions. Moreover, the financial services must be complemented with other services like improving access to basic literacy level, nutrition and health care. Such approach will not only ensure a healthy financial structure within the fishing community, but will also ensure that the fishermen have alternate livelihood options (to certain upper end jobs with better human capital formation, taking the insights that there is overcrowding in fishing sector and depletion of the resources) through the linkage to effective credit structure in the area.

Taking into account the poor socio-economic condition of fishermen of Chilika, as discussed, it has become clear that no attention has been paid in capacity building or awareness generations of the fishermen that would have encouraged fishermen to think and act in a more rational way to develop fishing activities in sustainable manner. Without a strong socio-economic foundation, the debtors may find it difficult to operate the fisheries that are highly exposed to constant changes in the environmental and socio-economic sphere. Putting it all together, this note argues to have a more regulated credit structure in the region to ensure decent livelihood for the fishermen.

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Book Review

The 'Host' and the 'Other': Narratives of Migration and Identity-Politics in Assam

Uddipan Dutta *

Nandana Dutta (2012) *Questions of Identity in Assam: Location, Migration, Hybridity,* Delhi, Sage Publications. 269 pages

The book *Questions of Identity in Assam: Location, Migration, Hybridity* is a fascinating detour around the issue of migration, Assam Movement and the prevailing culture of violence in Assam and marks a departure from the usual discourses around issues. It is refreshing and captivating because of its effort of looking at the movement as it was – the events that constituted it – the everydayness of the movement. It intertwines the personal and the social in a rather dense narrative that oscillates at will both in time and space. The author locates the contemporary history of Assam plotting it in three decades starting from the beginning of the Assam Movement by addressing three concerns – the migration to Assam during the colonial period, the resulting hybridity and the identity discourse. In her dense and intense narrative, the author is in a conversation with the reader as well as to herself to comprehend the deeply entrenched and embedded violence still extant in the contemporary society of Assam. She tries understanding identity narratives that construct the 'other' in the migrant communities very often to make grounds for the perpetration of violence. What however makes the book most endearing is the author's continuous struggle with the forms of disciplines and the disciplinary boundaries, the locational advantage and disadvantage of knowledge production and the use of theories that travel from elsewhere.

The book has been arranged into five chapters with the opening chapter 'Conditions of Knowledge' introducing the key theoretical concepts as

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well as the author's personal quest to understand her own journey vis-à-vis identity discourse in the state. She discusses different disciplinary practices and the ways they constitute knowledge. The discussion is necessitated by her engagement with her own discipline that is Literary Studies or English Studies precisely, which according to her own admission is 'steeped in theory' and its primary enterprise is to interpret and evaluate discursivity. So, she goes on to explain how she has to negotiate between her disciplinary practices with her object of study that is Assam Movement, the often acknowledged watershed in the post-colonial history of Assam. In essence location, migration and hybridity are three main tropes that have been used by the author to understand her object of study.

The concept of hybridity with its roots in the life sciences has been used extensively by post-colonial scholars to mean transcultural forms in the contact zones produced by colonialism. The idea of hybridity is also observable in the concepts like multiculturalism or racial mixing though the element of ambivalence is quite strong in its post-colonial use. The author has used the term in the sense of 'keeping one's roots and yet having an eye to the world'. The various theories of migration and different discipline's approach to it have been discussed by the author though she locates her study on the host society, the way it receives migration – with greet, indifference, violence or brutality. The book is about the socio-psychological fallout of migration on the host community of Assam and the way it had reacted to migration on the face of its perceived threat to identity. It is with this objective, the author approaches Assam Movement and the embedded violence in this supposedly non-violent Gandhian movement.

The author's take on Assam Movement and her continuous engagement with its ingrained violence is the essence of the book. Though violence during Assam Movement has been discussed at length by many commentators, their discussions have remained mostly confined to the pre-poll violence of 1983. The well-entrenched violence within the programmes of the movement ever since its flare up has seldom made its way into the discourse of the movement which often is caught up in a wrangling over the number of migrants after the nation-state of India was born. The author has not only brought up the issue of physical violence but also incorporates the invisible forms of violence like corruption in

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public offices or insistence on a particular dress-code for women within its parameters.

The methodology that she uses to understand the historic movement is also a diversion from the normal academic practices. She starts talking to her colleagues in the university and to the people of her neighbourhood. Some shared their experiences. Some did not. Interspersed with her own intense memories these personal narratives of the informants form a dense account of the movement – an account that cannot be understood from the usual movement-documents like memoranda submitted by the students' body spearheading the movement, leaflets distributed by it or the government reports describing the incidents. She also analyses the literary texts produced during this phase to strengthen her argument of the inherent violence of Assam Movement.

The question of Assamese identity and the perceived threat to it form the basis of the Assam Movement and it would not be an exaggeration to say that it was the culmination of a series of migration of different communities and discourses around it ever since the colonial period. The author has looked at the issue through the analysis of different narratives, models and theories of migration. She observes that in most of the cases the focus is mainly the migrant communities. But her quest for understanding Assamese identity warrants an insight of the effect of migration on the host society. For that she analyses the discourses on migration in Assam which include the historical perspective that try periodising the migration, the attempts at defining Assamese community based on a multicultural model, the narrative of neglect by the central government and lastly the accusation of the linguistic and ethnic minorities supposedly within the fold of Assamese community of not getting equal treatment. The author concludes her narrative by a hint of change in the identity discourse in Assam and as a proof looks at the activities of two major organisations – All Assam Students' Union (AASU) and Asam Sahitya Sabha. AASU's support of a singer from the Barak Valley in a national singing competition aired in a private television channel and the discourse that got produced during the incident has been analysed to give credence to the shift that she alludes. The powerful writing of Kanaksen Deka, the president of Asam Sahitya Sabha condemning the killing of Bihari immigrants by ULFA in 2007 has been invoked by the author to look at this shift. She ends her narrative by

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locating the existence of multiple and contradictory narratives of collective self making that define redefine Assamese identity. The author on her part suggests the importance of painstaking uncovering of the colonial modernity in Assam and its relationship with Bengal Renaissance which 'is so often perceived to have subsumed Assamese attempts at a similar awakening.'

The book however leaves the reader with questions both epistemological and methodological. The narrative perspective that the author adopts conforming to her disciplinary training though gives a fresh perspective to the understanding of identity politics in the region and the embedded violence within it, also becomes counter-productive when it adopts normative discourses as general statements in the course of its narrative. For example, her continuous assertion in the book that illegal migration into Assam has continued unabated over the last thirty years is a hugely debatable issue among the demographers. The increase of population as shown in the last two censuses may not necessarily be due to unabated large scale migration. There are myriad of reasons attributed to high birth rate among the migrant population like lack of education or early marriage. Their sudden 'visibility' in urban areas can also been linked to massive river-bank erosion. The disciplinary confinement on the part of the author here helps reinforcing the discourse of 'unabated migration'. The other major problem that one encounters is the representation of 'host' and 'migrant' as two distinct categories in the context of ethnic violence in Assam. But the distinction often blurs, shifts and even gets reversed in the local contexts. For example in the 1983 violence in Gohpur, the Bodo-speakers were made the migrant other vis-à-vis the Assamese speaking host. In the same way, during the long period of Bodo Movement and ensuing violence, the Assamese-speakers were projected as the migrant other in the Bodo dominated area as opposed to the host Bodo-speakers. So, the concept of the host and the migrant is quite contextual particularly in a situation of violence. The book is quite provocative as it probes the processes of making of a collective self in a continuous interaction with the writer, the reader and the other participants and undoubtedly, it would always remain a major reference text for the researchers willing to work in the region.

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Book Review

Protecting the Displaced

Arup Kumar Deka*

Paula Banerjee, Editor (2013), *Unstable Populations, Anxious States: Mixed and Massive Population Flows in South Asia,* Samya Publications: Kolkata, MCRG

This edited volume presents 13 articles and is outcome of dialogue initiated by the Mahanirban Calcutta Research Group (MCRG) in collaboration with the United Nations High Commission for Refugees (UNHCR). The book addresses the issues of protection strategies of refugees, migrants, internally displaced people (IDP) and other people associated with the displacement in the South Asian region. The book intends to capture the phenomenon of the population movement in entire South Asian region by mapping all waves of population migration, their causes of movement, consequences and their displacement. The book gives emphasis equally to the issue of refugees vis-a-vis IDPs, as IDPs also hold an equal importance in the construction, determination and delineation of the history of forced migration. The contributors of the book view that the IDPs generally belong to the vulnerable section of the society (religious and ethnic minorities),and often get displaced because of their vulnerability (these people in general are economically weak and belong to the lower stratum of the society) and stay displaced for an indefinite period of time. The book also focuses on the issue of population displacement that occurred across the nations as well as within the nation and also analyses the various protection strategies needed in the South Asian context.

In the South Asian context there are complexed combination of push and pull factors which have generated population movement. Underdevelopment, ethnic diversity, scarce natural resources, rampant poverty and armed conflict etc. threatening lives and livelihoods often generating refugees and IDPs. While analyzing the causes of population

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movement, the contributors in the book view that movement of population is often considered or outcome of voluntary acts largely complelled or pushed by economic interests in a crisis situation and hence such movement is not considered a handiwork of state or non-state agencies. However, population movement always not voluntary, people are sometimes forced to migrate under natural calamities, state repression, conflict etc. The countries in the South Asian region are either refugee receiving or producing or sometime both and is the home of refugees, migrants and IDPs. The region has witnessed massive population flows that started immediately after the partition of India in 1947. The other countries also had similar kind of experience and witnessed massive population displacement. The contributors of the book view that the sudden imposition of the border through the cartographic exercises led to massive population displacement with some worst cases of violence perpetrated against the fleeing population. The authors of the book anticipate that lives and dignity of the millions who are displaced will be protected without government's long-drawn analysis as to whether they are refugees, IDPs or economic migrants.

The authors viewed that population movement in the region is linked though mainly with the economic factor other factors of population displacement is also linked to human failures, imperial machinations, governmental failures and mismanagement of inter-communal relationships etc. The authors also agreed to the point that even the infrastructure development projects have also generated massive population displacement and hence the cause remains to be more political than economic. The failure of the nation building and its fallout lies behind the inter-state population movement in the South Asia region. The article 'Mapping the Mixed and Massive Human Flows in South Asia' (Chapter 2, P S Ghosh)justified the statement by arguing that the instances of Hindu-Muslim migration after India's partition, influx of refugees in the wake of Bangladesh liberation war, Tamil or Arakanese refugee all falls in this category. Ghosh categorized the movement of population across the South Asian context are; colonial legacy of partition, majoritarian nation building approach, democratic deficit, open or virtually open borders, war related migration, developmental and environmental refugee, stateless or virtually stateless extra-regional interventions; all constitute inclusive determinants of human flows.

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Apart from the cartographic exercises, other environmental disasters; such climate change, sea level rising, melting glaciers, droughts and floods also have generated refugees in the region. These people often affected by environmental disaster crosses international border and further became victims of conflict and violence at the receiving country as natives think them as intruders into their culture, ethnicity and competitor for the existing scarce resources. Some authors also analyses the security discourses involved with the migration and refugees in the region. They viewed that the security discourses based on national assertiveness overwhelmed other concerns and values. In the name of defending the border, security forces have often forced the people living in the border area to migrate. This issue has been well highlighted in the article 'Victims of Violence in the Borders and Humanitarian Tasks: The Jammu and Kashmir Case' (Chapter 8, A B Jamwal). Here it is argued that nation's security would have no meaning when people living in the border area continued to be victimized or displaced in the name of security.

Development and Displacement is another issue of discussion of the book. The article 'Pakistan: Displacement Puts Thousands at Risk' (Chapter 6, H Sahid) argues that the process of urbanization in Pakistan led to displacement of population. Armed forces of Pakistan are the major stakeholders of Pakistan's mega development where they show less concern to the displaced community rather they justify it in the name of nation. Here it is viewed that in case national development doesn't lead to community development then it must be dismantled and should be replaced with the notion of 'collective good' ascertaining the differing interests of the plural society across the South Asian countries along with Pakistan. Another issue that has been highlighted and analyzed in the book is the phenomenon of human rights violation associated with the IDPs and the role of Human Rights Commissions (role of institutions) in dealing with the displaced people. This article on Nepal 'Polcies and Practices of NHRC on the IDPs' (Chapter 12, S V Dhungana) while analyzing the role of the Nepal Human Rights Commission views that despite it being a constitutional body it failed to put of the issue of abuse and human rights violation of the IDPs. The author expresses his concern that the recommendations of the NHRC were often not implemented or ignored by the government. Moreover, undue political interference and politicisation of the human rights issue failed to address the situation of

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abuse the human rights violation in Nepal. In the Sri Lanka context the article on NHRC and IDPs (Chapter 13, M Gomez) while highlighting the case of human rights violation views that though the HRC of Sri Lanka had the potential and capacity to play the desired role faces several difficulties as it operates in adverse political conditions and also handicapped with certain structural deficiencies.

The authors have agreed that there is absence of uniform laws or mechanism to tackle the issue of refugees, IDPs and migrants across the South Asian region. Most of the countries in the South Asia deal with the refugees and IDPs on charity based ad-hoc mechanism and lacks a proper policy to deal with the problem. Thus, absence of such legal framework is felt particularly in Bangladesh and India to deal with refugees and migrants. Thus due to absence of such framework, security issues come in the forefront making refugees and IDPs vulnerable to various kind exploitation, harassment and trafficking. It appears that most of the issues get mixed up in the domestic politics and hence they became more difficult to operationalise. Meanwhile, the countries also treat the migrants, refugees, IDPs equally and hence they do not differentiate. The article 'Refugee Protection in South Asia: Review of the Ad hoc Mechanism and the Way Forward' (Chapter 3, U K Das) emphasized for a system and mechanism to distinguish migrants and refugees to avoid diplomatic tension between states over the status determination. Overall view is that there is need to prevent refoulement, unlawful detention of asylum seekers and refugees. There is also emphasis on cessation of refugee status and argued to provide equal rights and status as per and considered them as citizens as per the law and regulations.

Authors have viewed that a refugee once removed from their own place or a country of origin it becomes impossible for them to return home that they left behind. Once displaced, refugee becomes homeless not in their own state but also when they were repatriated. A refugee when thrown out of his country, the receiving country looked them as unexpected guests and at worst they were seen as undesired infiltrators often blamed intruding into their territory, language and identity. Moreover, not a single country has ratified the 1951 refugee convention though there is international legal regime to help and protect the refugee. The contributors of the book suggested the adoption of a right based national legal

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framework for the protection of the displaced as well as regional mechanism for status determination under the auspices of SAARC. The contributors also insisted that the national government assisted by the UN agencies and international agencies take the lead in devising and implementing laws and policies designed to ensuring return, reintegration and rebuilding of lives and livelihoods in safety and dignity. However, they have emphasized that the legislative measures will not help in resolving the situations of refugees in the region. Moreover, in the context of protection of the IDPs, the countries of the region have not yet prepared any legal documents following the United Nations Guiding Principles. Following the need of such legal documents in Sri Lanka (Chapter 11, J Thiagarajah) and suggested for preparing a legal documents for the protection of IDPs. However, while analyzing IDPs in the context of Pakistan H Shahid criticized the UN Guiding Principles as a weak policy.

Most of issues related the population movements including refugee, migration and subsequent internal displacement have been analyzed by the authors in greater details in this book. However, the book though analyzed and suggested for a uniform legal framework to address the issue at the regional level through the auspices of the regional organizations like the SAARC, operationalisation of these remains uncertain. There is presence of trust deficit, suspicious relationships, existence of conflict among the states and India's suspicious big brothers role (visualiased by others) have led to slow progress of all forms of initiations to adopt a framework to protect refuges, migrants and IDPs. There are however ways - inter-state mutually agreed and collaborative legal regime or a framework can be invited for protection of the displaced population.

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Note for Contributors

1. Manuscript should be submitted in duplicate, typed in doubled space on one side of the A4 paper only with ample margins on all four sizes: Manuscripts should be typed in MS Word, using Times New Roman Font 12 point font size and text properly justified in alignment. The paper should carry an abstract with maximum 200 words.
2. Papers should be submitted both in softcopy preferably through mail as well as in hardcopy at the address given below.
3. Contributors must provide their affiliations and complete mail address. Papers with incomplete address will not be considered for publication.
4. All paper's must carry full and correct references. Reference should be embedded in the anthropological style e.g. (Sen, 2001). Citation should appear alphabetically. Multiple references of the same data by the same authors should be aptly identified e.g. (Nayar, 1991 a; Nayar, 1991 b). Style of reference should be as follows :

Book

Sen, A K (1999), Choice, Welfare and Measurement, Oxford University Press, New Delhi

Journal Article

Minter, B (2008), "The Food Retail Revolution in Poor Countries: Is it Coming or Is It Over", Economic Development and Cultural Change, Vol.56, No. 4, p. 767.

Article from Edited Volume

Sarkar, N (1997), "A Note on Customary Laws of the Tagins" in Aspects of Customary Laws of Arunachal, P C Dutta and D K Duarah (eds.), Directorate of Research, Government of Arunachal Pradesh

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Journal

The journal Social Change and Development intends to provide an academic platform to scholars belonging to the northeastern region of India as well as outside to project issues focused particularly on the region, express their views and analyse the issues putting them in proper perspective, both historically and as guidelines for the future. However, issues cutting across the region's border are also welcome.

The unique diversity of the region in terms of ethnicity, culture, language and social institutions makes the region a challenging area of study for the researchers. Although, there has been a prolific growth of literature on the region, it is still lacking discussions with academic rigour. It is therefore, strongly felt that the social scientists would take up issues for academic debate and the journal acts as a platform for the exercise. This is expected to create a better understanding amongst the people of the region and the rest of the country. The geographical seclusion of the region from the rest of the country is sought to be broken through vibrant academic interactions.

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