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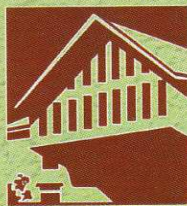
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Wrong Means for the Right Ends? Reflections on the Kasturirangan Working Group Report and Plausible Way Forward

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ABSTRACT

This paper highlights certain issues - analytical and empirical-associated with the classification by the Kasturirangan Committee of the environmentally sensitive areas in the Western Ghats region and their recommendations for environmental protection of the same. By drawing from Amartya Sen's critique of the Report by Brundtland Commission – *Our Common Future* - the paper makes the case for a pro-freedom and choice based approach to environmental sustainability and argues that the approach of the Ministry of Environment and Forests has the potential of straining the centre-state relations. Finally the paper draws the broad contours of a plausible way forward.

1. Introduction

The Union Ministry of Environment and Forests (MoEF) had issued notifications severely limiting mining, quarrying and sand mining, building and construction projects, townships and area development projects and certain category of industries in the Ecologically Sensitive Areas (ESA) of the Western Ghats. The notifications draw strength from the recommendations of the Western Ghats Ecology Expert Panel (WGEEP), popularly known as Gadgil Report, and the High Level Working Group (HLWG), or Kasturirangan Report. The recommendations made by the Committees have significant bearing on the agricultural activities in general and plantation sector in particular and therefore on the livelihoods of millions engaged in these activities. In this context this paper takes a critical look at the reports, especially that of the Kasturirangan Working Group. The working group was expected to assess the Western Ghats Ecology Expert Panel Report (Gadgil 2012) in a holistic and multidisciplinary fashion keeping in view the comments received from the concerned State Governments/Central Ministries/Stakeholders. It was also expected to have its independent examination of the matters relating to conservation of biodiversity, needs and aspirations of the local and indigenous people, sustainable development and environmental integrity of the region, climate change and constitutional implications of centre-state relations.

Before proceeding any further, it may be stated that the commitment of both the Committees to issues of environmental sustainability is unquestionable and the reports are an immense contribution towards raising consciousness about the environmental issues and for that very reason we owe much to these committees. Having said this, in what follows, we shall argue that though the reports have many attractive features in understanding the problem at hand, it is plagued by at least two sets of issues. The first set of issues pertains to the method of analysis (section 3), the analytical framework or approach to the problem and the recommendations that followed (section 4). The second set of issues relates mainly to the approach adopted by the Central government (MoEF) in addressing the issue of sustainable development which has the potential of straining the centre-state relations (section 5). We shall conclude with a few suggestions on the action to be taken by a democratically elected State government and how the Union Ministry should become a facilitating force.

2. The Methodology of the Working Group

We shall begin with a brief description of the methodology adopted by the Working Group followed by a critique (in the next section) in terms of three issues: firstly, the cut off of population density at 100 per square kilometre; secondly, the issue of village as a unit as it is part of a larger system of administration and cannot be taken as just a common unit of analysis across the six States; thirdly, the approach of restrictions on economic activity in the ESA without reference to the evolution of the cultural landscape.

Western Ghats is a magnificent mountain range next only to Himalayas and is a biological treasure trove with a high degree of endemism (11% to 78%) and scenic beauty. This unique eco-system has been threatened by the increasing habitat pressures and declared as one of the world's hottest hotspots of biodiversity. Realizing the need to protect and rejuvenate the ecology and for sustainable development in Western Ghats, the Ministry of Environment and Forests constituted the Western Ghats Ecology Expert Panel. The mandate of WGEEP was to demarcate ecologically sensitive zones and suggest measures to conserve protect and rejuvenate the ecology of Western Ghats region. Taking into account the wide ranging comments of the stakeholders on WGEEP Report, the MoEF constituted a High Level Working Group to suggest an all-round and holistic approach for sustainable and equitable development while keeping in focus the preservation and conservation of ecological systems in Western Ghats.

The Working Group, after careful examination of the different approaches available for characterizing the Western Ghats System and after extensive discussions with experts, has defined the extent of Western Ghats as an area of 1,64,280 km² extending from North to South over a distance of 1500 km traversing six States. It was revealed that already close to 60 per cent of the Western Ghats region is under cultural landscape - human dominated land use of settlements, agriculture and plantations (other than forest plantations) - and only 41 per cent of the land area can be currently classified as natural landscape. Of the natural landscape, the biologically rich area, with some measure of contiguity is roughly 37 per cent of the Western Ghats which is about 60,000 km². The HLWG has identified this 37% of natural landscape having very high biological richness and low fragmentation and low population density and

containing Protected Areas (PAs), World Heritage Sites (WHSs) and Tiger and Elephant corridors as Ecologically Sensitive Area (ESA) and recommended it for notification.

The methodology adopted by the Working Group is the following. In terms of the criteria adopted by the Planning Commission, the Western Ghats is taken as “all those talukas/ blocks at 600 m and above elevation and those talukas having more than 20% of the area at 600 m and above elevation that are contiguous to higher altitudes and formed part of the administrative boundaries of Western Ghats Development Programme” (Kasturirangan Report, p.35). Ecologically Sensitive Areas under the Western Ghats are identified based on natural vegetation consisting of major vegetation types generated using multi-spectral remote sensing data in conjunction with suitable ground inventory of plant species. Using two of the landscape level spatial layers, namely biological richness and forest fragmentation, ecologically sensitive areas were arrived at. The spatial layers categorize biological richness in four classes (low, medium, high and very high) and forest fragmentation in three classes (low, medium and high).

While very high biological richness with low and medium fragmentation and high biological richness with low fragmentation has been taken as ESA as such, the high biological richness medium fragmentation class was included only where the population density was lower than 100 persons/sq.km. The smallest administrative unit taken was the village. All villages with ESA as a proportion of geographical area above 20% are included in the sensitive list (See Figure 1, shaded region). All protected areas and World Heritage sites are also treated as ecologically sensitive.

The HLWG has noted the unprecedented threats to natural landscape of Western Ghats region by development projects and urban growth, and has recommended a non-tolerance policy with respect to highly interventionist and environmentally damaging activities like mining or polluting industries and made specific recommendations about prohibited activities and those that require high level of scrutiny and assessment before clearance within ESA. While Kerala is fully sensitive to the issue of preservation of our rich natural heritage, it recognizes that the long history of human habitation in the Ghats owing to the extremely high population pressure cannot easily be reversed in the short run. Incentives change behavior only gradually and call for careful calibration and ensuring higher levels of participation of the people.

Figure 1. Decision Matrix

Biological Richness	Forest Fragmentation			
	Low	Medium		High
Low				
Medium				
High		Pop Den < 100	Pop Den > 100	
Very High				

Note: Shaded region is ESA.

We agree that the future lies in working on green growth strategies that build on the natural endowment of the Western Ghats region to create a vibrant economy, while preserving, conserving and rejuvenating the ecology. This entails a huge responsibility on the State Government.

3. A Critique of the Methodology

It is evident from the report of the Expert Panel and the Working Group that both reports have treated Western Ghats region as a more or less homogeneous geographical entity without attempting to bring out the heterogeneity with respect to the causes of degradation or its outcomes. This in turn has led to recommendations implying a “one size fits all” which is highly questionable. Here it needs to be noted that Dr Vijayan, one of the members of the Expert Panel, had made the case for “ground truthing.... to check the reliability of the ecological sensitivity scores for each grid” (Gadgil 2012 p. 284).

Viewed from this perspective the issue that would come foremost is that of the population density used for inclusion in the ESA. The cut off is, 100 per sq km. How did the Working Group arrive at 100? Ideally, the Report should have provided the number of villages and area falling under each cell (13 in all) of the decision matrix (See Figure 1). Instead of 100, suppose one takes 80, then does the ESA come down? If so by what proportion? What is the implication of such a drop? Does it vary across the six States? These are issues of importance in the evolution of the cultural landscape. A careful sensitivity analysis was in order. In the absence of such information or analysis, it is difficult to accept the classification of villages as ESA.

Verification is the hall mark of science and the Working Group should have facilitated it at all costs¹.

The human intervention in the Western Ghats is a conjunction of an administrative system with its concepts of villages, taluks and districts under the revenue administration and Gram, Block and District Panchayats under the development administration. While the two crisscross at various levels they are distinct systems in the six States in which the Western Ghats are situated. The size of the villages and Gram Panchayats vary enormously across the States. Some idea about the size of the village can be obtained by the data provided in the report which has been used in Table 1.

It is evident from Table 1 that the size of an average village in the States other than Kerala is significantly lower than that in Kerala. The size of a Kerala village is about four times the size of an average village of all the six States together. The size of the ecologically sensitive villages too is relatively large in Kerala.

Table 1. Variation in Size of ESA per Village across the States (Area in sq. km.)

State	Number of Villages	Average Area of Village	Number of Villages with ESA	Village Sharpened ESA	Average ESA per Village
Goa	359	10.31	99	1461	14.76
Gujarat	18544	10.57	64	449	7.02
Maharashtra	43722	7.03	2159	17340	8.03
Karnataka	29483	6.51	1576	20668	13.11
Kerala	1364	28.49	123	13108	106.57
Tamil Nadu	16317	7.97	135	6914	51.21
Total	109789	7.91	4156	59940	14.42

Source: Estimates based on MoEF, Report of the High Level Working Group.

¹ It is surprising that the Working Group did not discuss the cut off in any detail despite the peer review explicitly calling for it: "population density cut-off for identifying the ESAs Need to be discussed appropriately in the report" (Item iii, Appendix I of the Report).

Not standardising for the size of the village across the six States has adversely affected Kerala. Let us take an example to show it. Suppose, there are 10 wards in a Kerala Gram Panchayat (taken as equal to a village) each of size one unit. Suppose also that in three wards of the Panchayat 80% each of their area falls under ESA and the other seven wards have 10% of the area falling under ESA. Total area falling under ESA is, 3.1 out of the 10 units which is 31% of the area of the Panchayat falling under ESA and the Panchayat gets classified as ESA. If the size of the Panchayat had been equal to all State average, then only less than one third the area would have fallen under ESA implying that two-thirds of the Panchayat gets clubbed as ESA owing to the size factor. A higher proportion of population living in the Western Ghats region of Kerala are restricted to carry out economic activities compared to the other States just because the Working Group did not standardize the size of the village. This could be interpreted as grossly unjust to Kerala.

It may also be noted that the table in Appendix 3 of the HLWG Report (Vol. II) has simply listed the names of the villages in ESA of the Western Ghats. For unknown reasons density of population –an important indicator- in these identified villages is not presented in the table. An examination of the density of population in three taluks (Devikulam, Udumbanchola and Peerumedu) in the Idukki district of Kerala, for example, indicates that out of 44 villages identified as coming under ESA, density of population is more than 100 in 42 of the villages. This tends to suggest that going by their own criterion (defective as we have already shown) only two villages could be treated as coming under ESA (see appendix table 1). Do they get included owing to very high biological richness and low and medium fragmentation? If so, then it points to a situation where higher density can go well with very high biological richness and low fragmentation. What does it point to? It is surprising that the Working Group did not think it fit to discuss these issues.

The impracticability of implementing the recommendations of the Working Group follows from the non-incorporation of the size of the village in the analysis. For instance, Item 9 under 6.8.4: “All projects will require prior-informed consent and no-objection from the gram sabha of the village”. If there are 10 gram sabhas (as in Kerala), then which gram sabha do you refer to? Suppose the three gram sabhas do not consent and the rest consent what should be the decision?

It is evident that a Report in abstraction of the systems at the ground level could be deeply problematic in implementation.

One of the fundamental requirements in any analysis of the cultural landscape is its historical evolution. When the dimension of history is missed out the tendency is to fall back on micro studies and experiments. That is why the Kodagu experiment and similar ones get mentioned prominently missing the larger historical trends. Here one should begin by asking the question, when was intense human intervention begun in the Western Ghats? Analysis of population growth trends will be able to say a lot on these matters. Taking three districts of Kerala, namely Wayanad, Idukki and Pathanamthitta, for analysis the following trends become evident.

Migration to the Ghats in search of livelihoods began in the early decades of the 20th century in Idukki. The population of the district more than doubled in the first decade of the century when the population of the State was growing by about 12% (Table 2). More or less similar was the trend during 1921-31 as well. This trend continued till the 1960s. A clear reversal became evident in the 1980s and the 2000s marking decline in the population of Idukki. While no in-migration could be witnessed into Pathanamthitta in any decade, the movement out of the district was becoming too evident in the 1990s and 2000s. The movement into Wayanad began much later than that into Idukki. The period from 1940 to 1980 witnessed population increase of over 50% in every decade. Migratory trends were not visible for the next two decades as the population growth was closer to the State average. But in the 2000s, signs of a mild trend of movement out of the district may be seen. Interestingly, Idukki and Pathanamthitta are the only two districts reporting a negative decadal growth in population during 2001-11.

Table 2. Decadal Variation in Population in Kerala, 1901-2011

State/District	Decadal Variation (Percentage)							Population Density*
	1901-11	1921-31	1941-51	1951-61	1961-71	1991-01	2001-11	
Idukki	108.75	72.53	35.69	74.94	31.89	7.03	-1.93	254
Pathanamthitta	14.78	27.24	24.78	23.48	15.75	3.84	-3.12	453
Wayanad	9.85	8.26	59.17	62.60	50.35	16.14	4.60	383
Kerala	11.75	21.85	22.82	24.76	26.29	9.43	4.86	859

- Density per sq. km.

Source: censusindia.gov.in accessed 10 December 2013.

What explains the trends in population growth discussed above? The largely agricultural society with the pressure of population growth was going in search of cultivable land. This began earlier in south Kerala and later in north Kerala. That would probably explain the difference between migration into Idukki and Wayanad. It was a movement of the people in search of livelihood. By the 1990s two definite trends were observable in Kerala. Firstly, fertility was declining rapidly and Kerala was moving into a replacement growth rate regime. Secondly, the economy was moving away from agriculture into becoming one dominated by the service sector. Along with these two trends there was also a substantial population movement taking place with urbanisation gaining ground. Share of agriculture in the Gross State Domestic Product was close to 10% by 2011 and service sector share was over 60%. The level of urbanisation reached close to 50% by 2011. The urban centres were not taking shape in Idukki, Wayanad or Pathanamthitta but predominantly in the coastal and midland stretches of the State. The number of census towns increased from 99 in 2001 to 461 in 2011 with none in Idukki and Wayanad and only one in Pathanamthitta. These were also the districts with low and declining population density (Table 2). People who went in search of livelihood to the Hills were sending their children back as technicians and professionals into the urban centres. Thus, the type of pressure on land observed till about the 1980s was not to be seen beyond that period. But there are other forces at work.

We are inclined to infer that the Committees, very often than not, are driven by casual observation and common sense. To illustrate, without any historical inquiry into the role of cardamom cultivation in the destruction of forest cover in the Cardamom Hill Reserve (CHR) and the ground level realities at present, the HLWG states that the cardamom cultivation in Idukki is environmentally friendly. A recent survey among the cardamom growers in Idukki at the instance of the National Research Programme on Plantation Development at CDS has highlighted the extremely high level of pesticides/fungicides and fertilizer applications with their damaging effect on environment².

Further, it is rather surprising to note that the ways and means of harnessing science and technology for addressing the issue at hand and specific issues that needs to be explored has not

² See for details, Trade and Development: Case of black pepper and cardamom, Report prepared by the participants of the Refresher course cum training programme of Trade and Development, National Research Programme on Plantation Development, Centre for Development studies available at <http://cds.edu/wp-content/uploads/2013/01/Final-Report-NRPPD.pdf>

received the attention that it deserves except for certain generic statements by the Gadgil Committee. The relevance of such a scientific approach to address the problem could be illustrated by taking the case of Cardamom cultivation in the Cardamom Hill Reserve (CHR) and its effect on forest destruction. Cardamom is traditionally grown in the ever green forests of CHR. With a view to increase the productivity for contributing towards foreign exchange earning, shade regulation – by selectively felling trees and cutting the branches of trees – began to be practised by the growers³. It may also be noted that the Central government agencies like Spices Board have been providing financial subsidy for such activities. Destruction of forest cover in the CHR is inextricably linked to shade regulation. Indeed, there is a technological solution to the problems at hand. The expert committee comprising mostly of natural science experts could have thought of calling for bio-technological options for evolving a cardamom variety which could be grown under ever green conditions. With such an option the nature could have been saved and the cost of cultivation reduced by getting out of the risky and labour intensive activity of shade regulation⁴.

4. Sustainability through Sen’s Framework of Freedom and Choice

While reflecting on the much acclaimed Brundtland Report (1987) titled “Our Common Future”⁵, Amartya Sen (2013)⁶ draws parallels between the issue of sustainable development and the issue of population control. He has made the case for “freedom and choice” based approach to sustainable development as an alternative to the need based approach of Brundtland Report. In addressing the issue of sustainable development – as argued by Sen (2013) much could be learned from the experience in addressing the issue of population control⁷. Almost 200 years ago

³ It needs to be noted that during the period of cardamom monopoly of the erstwhile Travancore government that remained till 1896 shade regulation has not been a part of the cultivation practice.

⁴ See for details K J Joseph (2011) Research and Development on small cardamom by ICRI: An evaluation, NRPPD discussion Paper No. 10, NRPPD, Centre for Development Studies Trivandrum available at <http://www.cds.edu/wp-content/uploads/2012/11/NRPPD10.pdf>

⁵ Available at <http://www.un-documents.net/our-common-future.pdf>

⁶ Amartya Sen (2013): The Ends and Means of Sustainability, *Journal of Human Development and Capabilities: A Multi-Disciplinary Journal for People-Centered Development*, 14:1,6-20. Available at <http://www.tandfonline.com/doi/abs/10.1080/19452829.2012.747492?journalCode=cjhd20#.UqreWeJJ6M>

⁷ There is much in common between population growth which adversely affects the family and the environmental impact especially with respect to the farmers. In case of industry the environmental externalities generated by it hardly affects its performance - sales, profitability or productivity. On the other hand, when it comes to agriculture,

Malthus made the case for strong measures to control the growing population. On the other hand, prior to Malthus a French mathematician Condorcet pointed out the possibility that the size of the population can surpass their means of subsistence. Condorcet's approach towards addressing this problem has been articulated as "freedom oriented approach" by Sen (2013) whereas Malthus made the case for "anti-freedom oriented" approach. The fate of the latter approach to control the population in the hands of late Mr. Sanjay Gandhi is well-known. If we adopt the anti-freedom approach to environmental sustainability, the outcome may not be very different.

While the need based approach to population control would imply imposing limit on the number of children, the pro-freedom approach calls for education, capacity building, awareness generation and harnessing technology. Going by the available evidence, such freedom oriented approach has been much more effective in various countries including the state of Kerala in controlling population growth. With education and empowerment and use of technology women entitled to have up to three children decided not to have any child at all! If Kerala's much acclaimed experience with population control is any indication, a freedom based approach to addressing environmental protection in the Western Ghats is likely to result in admirable outcomes, as is already visible. To quote Sen:

"Human beings are reflective creatures and are able to reason about and decide what they would like to happen, rather than being compellingly led by their own needs – biological or social. A fuller concept of sustainability has to aim at sustaining human freedoms, rather than only at our ability to fulfill our felt needs something that human beings share with animals" (Sen 2013; p 6) .

How do we interpret the population movements into the Hills, the reverse movements of recent years and sustainability using Sen's framework of freedom and choice? Sen argues that "it is not so much that humanity is trying to sustain the natural world, but rather that humanity is trying to sustain itself". The issue is one of the characterisation of sustainability. Sen modifies the Brundtland's sustainable development as "development that prompts the capabilities of present

the environmental externalities as manifested in degraded soil quality, deterioration of micro nutrients and others adversely affects the farm productivity in the short run itself. The farmers, in general, are aware of such adverse outcomes of their cultural practices which induce them to undertake activities like soil and water conservation measures, organic cultivation and mixed farming in particular.

people without compromising capabilities of future generations” (Sen, 2013, p.11). We need to respect such behaviour of population groups.

In the context of plantation sector in India in general and Kerala in particular it may be noted that this sector has been historically dominated by the large estates, and promoted intensively by the state on account of its significant contribution towards foreign exchange⁸ on the one hand and its developmental role and livelihood of workers on the other⁹. Unlike the industrial sector wherein the adverse environmental impact of their operations need not directly affect the efficiency and productivity of the units involved, in the plantation sector the adverse environmental effects of the package of practices followed (eg degradation in soil quality resulting from heavy use of fertilizers and pesticides) will have its adverse effects on the plantation sector itself. Hence the changes in environment will adversely affect yield of plantation crops and therefore their economic viability/ sustainability. Given the complementarity between economic sustainability and environmental sustainability in plantations, there has been a growing concern over the environmental implications of plantations sector on account of deforestation, environmentally hostile cultural practices, waste generation in case of certain plantations and others (Murugan et al 2011, James 2011, Nair et al 1989 among others). In such a context the relevance of capability and freedom based approach to sustainability as advocated by Amartya Sen becomes highly relevant.

5. Approach of MoEF to Sustainable Development

In India, the environmental trends, like elsewhere in the world, are threatening the lives of many species including the human species. As part of the development process industrial gases threaten to deplete the planet's protective ozone shield, increased urbanization and unprecedented increase in the growth of automobiles and air-conditioning are resulting inter alia in carbon emission beyond tolerable limits, forests are increasingly being cleared, agricultural practices are increasingly becoming inimical to environment and put toxic substances into the human food chain and into underground water tables beyond reach of cleansing to list a few such

⁸ As per the pioneering study on India's exports by Manmohan Singh (1964), in 1950-51 tea coffee and spices accounted for 20.8 per cent of India's total export.

⁹ Plantation sector is shown to be highly labour intensive, especially women labour as they account for 54 per cent of the total labour force engaged. See for details Joseph (2010) Viswanathan and Shah (2012)

developments. Thus, environmental sustainability has become an issue of serious concern which got rightly integrated into the sustainable development that we uphold and the appointment of these committees needs to be seen in the context of heightened concern for the environment that is indeed shared by all.

Analytically, the state of environmental quality at any point of time in a country could be construed as an outcome of the different combinations of the activities by the “urban industrial sector” and the “rural agricultural sector”. Hence environmental sensitivity and the burden of ensuring environmentally sustainable development cannot be confined to a particular region like the Western Ghats. Rather, all the regions within a state and the country in general have to be environmentally sensitive. *A priori* the environmental quality could be improved either by a trajectory of mitigating mostly the adverse environmental impacts by rural agriculture sector or the urban industrial sector or both. These choices are presented in figures in the annexure. The curves (called iso-environmental quality curve) in the figures show the different combinations of rural-agricultural and urban-industrial activities that essentially result in the same level of environmental quality. By definition, a curve at the higher level indicates higher level of environmental quality and vice versa. The straight lines indicate the costs associated with maintaining environmental quality. In fig 1 OI indicates an environmental trajectory through the adoption of stringent measures to discipline urban industrial activities wherein environmental sensitivity is mostly confined to the urban-industrial sector. On the other hand, environmental trajectory of OA in fig 2 indicates stringent measures to address rural agricultural activities wherein environmental sensitivity is mainly limited to the rural-agricultural sector. The trajectory OB in fig 3 indicates a balanced approach which assumes that environmental sensitivity is of relevance to both rural and urban sectors in an equal measure. The appointment of the Expert Panel chaired by Gadgil indicates a strategy in tune with OA in fig 1. This could be considered as a jaundiced approach of the MoEF to sustainable development and environmental protection¹⁰. If the MoEF was truly concerned with environment in a systemic and balanced manner (OB) the adverse environmental impact of both sectors (rural agricultural and urban

¹⁰ Here, we cannot afford to forget the stand that India and other developing countries take in the international forums dealing with the climate change environmental issues. In such forums developing countries in general urge the industrially developed countries to reduce their carbon emission on the one hand and make the case for facilitating capacity building of the developing countries. While India takes such stands in the international forum why adopt a differential approach within the country?

industrial) could have been adopted. This would have been socially acceptable and attracted much less protestation from the rural agricultural population as has been observed at present.

However, the immediate provocation for the appointment of the Committee, as evident from the statement made by Shri Jairam Ramesh, then Minister of Environment and Forests, in the 5th meeting of the Expert Panel is India's commitment to the 10th Conference of Parties (CoP) to the Convention of Biological Diversity (CBD) which is held in Nagoya, Japan in October 2010 and the 11th CoP, which was hosted by India in October 2012" (Gadgil, 2011 page 238). Hence we are inclined to infer that the appointment of the Expert Panel Committee has been driven not so much by the concern for sustainable development but by external pressures.

Here it needs to be noted that the MoEF, while showing commitment to the concerns of Convention on Biological Diversity, has not adequately succeeded in accomplishing the Action Plan on Capacity-building for Access to Genetic Resources and Benefit-Sharing prior to Nagoya protocol (ala Sen 2013) which *inter alia* called for:

- Development and strengthening of the capacities of indigenous and local communities for participation in decision-making, policy formulation and implementation and for conservation, management and product development with regard to genetic resources and to enable them to benefit from the use of their traditional knowledge and practices related to genetic resources;
- Public education and awareness focusing on indigenous and local communities and all relevant stakeholders at local, national and regional levels;
- Human-resources development at all levels, including: legal drafting skills for development of access to genetic resources and benefit-sharing measures; contract-negotiation skills for indigenous and local communities and other relevant stakeholders; modalities for benefit-sharing; dispute resolution mechanisms¹¹

Without accomplishing the capacity building action programme proposed prior to the Nagoya Convention, the MoEF has opted for the easy, lazy and hasty option of appointing an expert panel to address the environmental concerns arising out of the depletion of natural ecosystem in the Western Ghats region. Moreover, it is not clear what the Ministry was trying to accomplish by the appointment of these Committees. It remains ambiguous whether the MoEF intended to

¹¹ For more details please visit <http://www.cbd.int/abs/action-plan-capacity/default.shtml>

maintain the present state of environment without further deterioration or to restore the pristine state of environment that existed a few centuries ago or an option in between. Such ambiguity in objective and lack of clarity in the goal has its reflections in the recommendations made by the committees as well.

It may be noted that the issue at hand, having long term implications on the lives of millions of people, has been dealt with by the MoEF with an unjustifiable haste. This is evident from the fact that for submitting the report Gadgil Committee was given six months and Kasturirangan Committee only two months. The outcome of the committees that worked in haste has been on the expected lines. The inappropriate composition of the committee coupled with very limited time has resulted in a weak understanding of this multidimensional problem and resulted in recommendations based on casual observations and common sense without adequate scientific base. To quote from the Kasturirangan Report (2013) "...our own understanding of the system behaviour has not even scraped the surface of the huge embedded knowledge bases and their interrelationships" (p. IV). In case of the Gadgil Committee, the empirical base is rather weak and without an historical perspective to the problem at hand.

Here it is instructive to note that on an issue having much less bearing on the livelihood of people, like Bt-Brinjal , the final decision was taken by after 24 National level Consultations wherein the Minister of concern himself participated. When compared to such a large scale consultation on a relatively less important issue, the scale of interaction that the committees had was grossly inadequate.

It may also be noted that the Committees could not deal with some of the issues specified in the TOR. For example, though the Kasturirangan Committee was expected to examine the constitutional implications of Centre-State relations with respect to conservation and sustainable development of Western Ghats regions this has not been covered in the final report.

Rio+ 20 Resolution titled, *The Future We Want*¹², underlines the need for honouring the integrity of the people and sovereignty of the country while pursuing measures to ensure sustainable

¹² For details please visit

<http://www.uncsd2012.org/content/documents/727The%20Future%20We%20Want%2019%20June%201230pm.pdf>

development. To quote “Respect each country’s national sovereignty over their natural resources taking into account its national circumstances, objectives, responsibilities, priorities and policy space with regard to the three dimensions of sustainable development”. But if the responses by different state Governments on the Expert Panel are any indication, the MoEF seems to have not given due respect to the responsibilities, priorities and policy space of different state governments – an instance of disrespect to the centre-state relations. More over, while state Governments like Kerala and Tamil Nadu have claimed that there exist enough legislation at the state level to protect the bio-diversity, the Committees were not expected to analyse the effectiveness of such laws.

Last but not the least, the eternal weakness of India’s policy making process wherein different Ministries operate as silos without interacting with others is evident from these recommendations. To illustrate, the committees have made the case for banning the quarrying which is environmentally destructive. *Prima facie* this recommendation appears benign and would help preserving the environment. But it is important to reflect on the implications of such a ban in terms of its adverse effect on the construction sector on account of the scarcity and higher prices of raw materials. Without an enquiry into the appropriate technological options and institutional changes like the rules and laws governing the construction sector such recommendations at best remain myopic.

6. Towards a way forward

Sustainability is first and foremost that of humanity. The Kerala population moved into the Hills in search of a livelihood. Such movements were the need of the time and it was greatly facilitated by the state under schemes like grow more food programme and vaied maesures adopted by the commodity boards under the Ministry of Commerce to promte commercial cultivation for earning foreign exchange. The state was indeed a beneficiary of the migration of population into the Ghats, as 20.8 per cent of India’s total export earnings in 1950-51 were accounted for by tea, coffee and spices (Manmohan Sigh, 1964)¹³ mainly cultivated in the Westerns Ghats. Thus, the movement of population into the Western Ghats in no less measure

¹³ Singh Manmohan (1964) *India’s Export Trends and Prospects for Self Sustained Growth*, Oxford Clarendon.

contributed in financing India's import after independence. Generations have found their livelihoods and they have moved on. Many used the incomes to get educated and moved into a world far removed from that based on land. It also took them away from the Hills into the urban centres in the coastal and midlands of the state and outside but still having land holding in the Hills.

There are other population groups who were rooted in the Hills and continue to survive there. In the case of such populations there is need for adopting the pro-freedom based approach for more awareness generation, capacity building and resorting to innovations – technological, institutional and organizational- so that their farming is made environmentally friendly and sustainable. The indigenous population, the *adivasis*, also fall into this category. Their advances in education are low (see annexure table 1) and they continue to depend on the declining agriculture of the region with severe adverse impact on their health and well-being. A vast segment among them is landless and the blame for environmental degradation cannot be put on their door steps. There is a need for devising special and appropriate schemes to capacitate these groups by respecting their freedoms and choice. There is indeed a third group for whom land is a commodity and may not be the prime source of livelihood. For this group the central concern is the returns from their asset regardless of its use patterns. This in turn induces them to resort to activities that maximise short term return which include unsustainable cultivation practises along with quarrying and other environmentally unsustainable activities which indeed needs to be restrained.

The first group would have found their sustainability outside the Ghats and would probably be too happy to surrender the land to the government if their assets are adequately compensated. There could also be population from other groups who find this option desirable. Compensating them would mean facilitating their smooth and painless move out of the Ghats. The state which promoted the movement of people to the ghats regions, if decides today to preserve the environment for the wider interest, there should be adequate institutional arrangements and financial provisions by respecting human freedoms and choices.

Finally, environmental sensitivity should not be an issue of concern only for some group of population in certain regions within the state. Today, it is imperative that the whole country and

all the sub-national entities within are environmentally sensitive. The state government, known for democratic decentralisation, shall come up with a panchayat level action programme to locate the environmentally sensitive areas and activities through people's participation. There is also the need for a bottom up approach towards awareness generation, capacity building measures along with ways and means to bring about technological, organisational and institutional innovations towards ensuring an environmentally sustainable development. It is also important to undertake a critical appraisal of the effectiveness of the existing laws by the state for protecting the environment. Going by Kerala's experience in population control, such a pro freedom based approach is bound to generate a much more desirable outcome than could be expected from the top-down unfreedom based approach of the Ministry of Environment and Forests

Annexure Table 1
Density of population and the share of SC ST and Illiterates in the Taluks of
Idukki District as per 2001 census

LEVEL	NAME	population density per km2	SC& ST Population %	Illiterates %
TALUK	Devikulam	139.583	38.01	28.70
VILLAGE	Marayoor	102.036	57.21	43.28
VILLAGE	Keezhanthoor	49.4844	59.69	47.31
VILLAGE	Kanthalloor	157.497	41.00	38.19
VILLAGE	Kottakamboor	61.31	51.88	58.22
VILLAGE	Vattavada	91.0321	39.34	42.48
VILLAGE	Kannan Devan Hills	149.281	57.12	29.69
VILLAGE	Mankulam	91.9682	25.04	27.23
VILLAGE	Mannamkandam	106.53	25.86	25.82
VILLAGE	Anaviratty	209.281	11.45	24.65
VILLAGE	Pallivasal	346.976	30.12	22.66
VILLAGE	Kunjithanny	475.475	6.33	19.03
VILLAGE	Vellathuval	308.5	6.62	19.30
TALUK	Udumbanchola	405.217	10.29	21.54
VILLAGE	Konnathady	285.641	4.90	17.12
VILLAGE	Rajakkad	501.47	2.53	16.11
VILLAGE	Baisonvally	391.202	11.90	21.65
VILLAGE	Chinnakanal	192.321	45.46	34.84
VILLAGE	Poopara	242.387	22.99	34.04
VILLAGE	Rajakumari	342.232	10.38	25.76
VILLAGE	Kanthippara	350	8.62	21.10
VILLAGE	Santhanpara	231.265	20.02	35.98
VILLAGE	Chathurangapara	177.975	9.52	29.73
VILLAGE	Udumbanchola	341.869	21.21	31.75
VILLAGE	Vathikudy	505.606	5.77	16.80
VILLAGE	Upputhode	250.295	3.03	16.50
VILLAGE	Thankamony (Part)	575.129	3.68	17.41
VILLAGE	Kalkoonthal	654.819	5.08	17.79
VILLAGE	Parathodu	380.099	8.26	23.53
VILLAGE	Pampadumpara	458.69	15.19	21.09
VILLAGE	Karunapuram	601.034	6.89	18.07

VILLAGE	Vandanmedu	343.716	23.40	34.75
VILLAGE	Kattappana	645.923	7.57	19.84
VILLAGE	Ayyappancoil	393.095	11.24	19.54
VILLAGE	Anavilasam	255.106	11.31	27.44
VILLAGE	Chakkupallam	432.121	12.01	26.63
VILLAGE	Anakkara	622.309	13.06	21.62
TALUK	Peerumade	150.159	28.98	23.95
VILLAGE	Vagamon	226.705	24.42	22.22
VILLAGE	Upputhara	572.429	23.90	21.83
VILLAGE	Elappara	294.914	31.28	24.52
VILLAGE	Kokkayar	207.31	20.85	16.35
VILLAGE	Peerumade	397.554	38.37	24.46
VILLAGE	Manjumala	234.4	42.01	31.31
VILLAGE	Periyar	516.399	35.88	26.70
VILLAGE	Kumily	140.928	23.68	25.21
VILLAGE	Mlappara	2.04769	77.07	20.44
VILLAGE	Peruvanthanam	236.521	7.87	16.28

Annexure Fig: Plausible Environmental Trajectories with varying approach to environmental Protection

Fig 1: Environmental Trajectory driven by mitigating Urban-Industrial Pollution

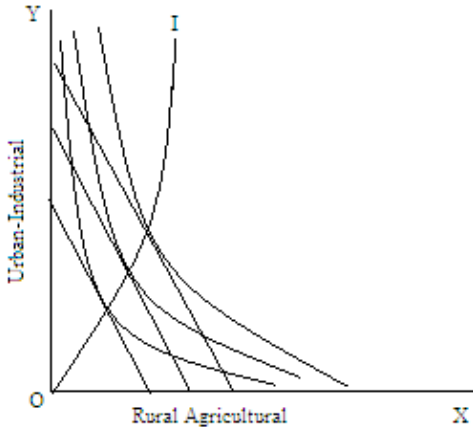


Fig 2: Environmental Trajectory driven by mitigating Rural-Agricultural Pollution

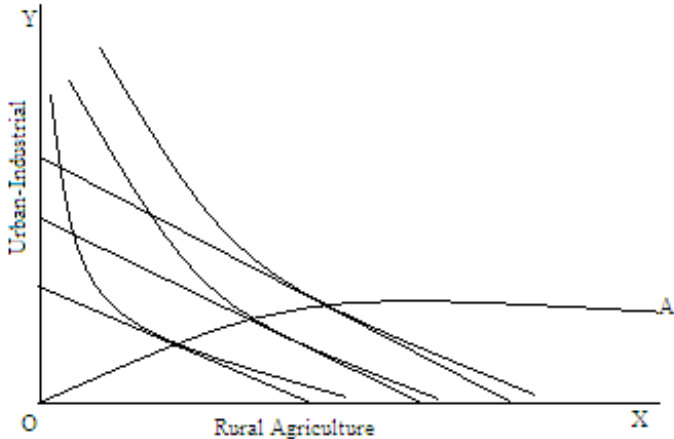
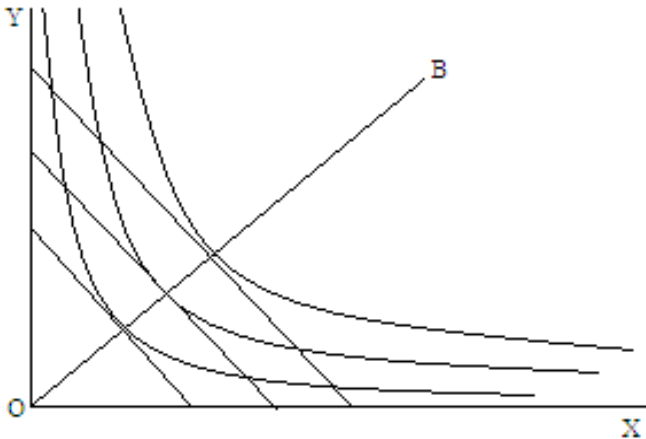


Fig 3: A Balanced Approach to Environmental Protection



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About National Research Programme on Plantation Development (NRPPD)

This research programme, established with the support of the Ministry of Commerce and Industry, Government of India, envisages to help transforming the plantation sector in India to be internationally competitive and sustainable – economically, environmentally and socially - by;

Undertaking Policy oriented Research – on all aspects of plantation economy at the regional, national and international levels

Promoting Policy advocacy – at the regional national and international level - to influence particularly the National and State level policies

Facilitating Networking – of all relevant stakeholders and

Help Capacity building - of all concerned at the regional and national levels.

The programme works under the overall guidance of a Steering Committee, chaired by the Chairman, CDS. The Steering Committee comprises of the Chairpersons of Coffee Board, Rubber Board, Tea Board, Spices Board, Joint Secretary/Director in Charge of Plantations in MoC, Director CDS and an expert on plantation sector. Chair Professor of the Programme is the Convenor. A Research Advisory Committee chaired by the Director CDS has been set up to provide guidance to the research being undertaken by the programme.

The Centre for Development Studies is an autonomous national institution supported by the Government of Kerala and the Indian Council of Social Science Research, Government of India. The mission of the Centre is to promote teaching, training and research in disciplines relevant to development. The core teaching programmes of the Centre are the M.A, M.Phil and Doctoral Programmes in Applied Economics affiliated to the Jawaharlal Nehru University/University of Kerala and the research covers six thematic areas relevant to development.



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