

Forest laws, for whom, by whom? A concept mapping study of the Ecologically Fragile Lands Act, 2003 in Wayanad, Kerala, India

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Kerala enacted the Kerala Forest (Vesting and Management of Ecologically Fragile Lands) Act, 2003 to conserve 'fragile ecosystems' lying contiguous to reserve forests. As this Act led to several litigations and conflicts, the current concept of Ecologically Fragile Lands (EFL) was concept mapped among the different stakeholders, including 'small and marginal' farmers in the context of Wayanad district, Kerala. Several dimensions of EFL, viz. 'Ecological', 'Situational', 'Socio-economic', 'Framework' and 'Better EFL' were developed and debated to evolve a more acceptable EFL concept. The study also accentuates the relevance of public participation in conceiving socially inclusive forest laws and policies.

Keywords: Concept mapping, ecologically fragile lands, participatory approaches, Wayanad, Western Ghats.

In India, forests which occupy 21.54% of the total landed area remain a 'state' property¹. After 1947, all 'privately owned' forests were 'vested' rooting on the 'doctrine of public trust'². In 1976, the subject 'forest and wildlife' was shifted to the 'concurrent list' of the constitution. Kerala occupies only 1.18% of the land area of India, but has 29.1% under forest cover³. The per capita forest and tree cover of Kerala is 0.07 ha (ref. 1). Since its formation in 1956, Kerala has framed many forest laws, including the Kerala Forest Act, 1961, and more recently, the Kerala Forest (Regulation of Sawmills and other Wood Based Industrial Units) Rules, 2012. In the mid-2000s, the state Government promulgated 'The Kerala Forest (Vesting and Management of Ecologically Fragile Lands) Act, 2003' (hereafter referred to as EFL Act) and vested 'ecologically fragile lands (EFLs)'. This Act defined an EFL as 'any land lying contiguous to a legally defined forest predominantly supporting natural vegetation, or any land declared under section 4 of the EFL Act'⁴. The area under EFLs is 141.525 sq. km (ref. 3). The goal of the Government is to conserve and manage all 'privately owned lands having vegetation cover similar to that of forests and which lie contiguous to reserved forests', or to conserve biological diversity, even if that biodiversity is located in non-forest areas and is lying contiguous with the forests. In Kerala (density of popula-

tion according to the 2011 census is 860 persons/sq. km), this new Act created multiple social ripples.

Wayanad district, Kerala, formed in 1980 (Figure 1) cradles the Western Ghats. It is predominantly a forested district (37% of the geographic area), which also houses a sizeable tribal (17.4%) and agrarian population (almost 60%). It has two territorial forest divisions (a forest division is an administrative unit in the Indian forestry establishment for managing territorial forests), apart from one wildlife division.

The livelihood of the indigenous people is predominantly land and forest-based⁵. Under the British rule, the indigenous sects practised shifting cultivation and collected forest produce for exchange⁶. It was the Britishers who later established a plantation economy. Wayanad forests later suffered intense 'internal colonization' by Syrian-Christian settlers from central Kerala⁷. Wayanad also attracted numerous impoverished settlers from erstwhile Travancore⁶. In 2012, the Kerala State Forest and Wildlife Department (KFD) notified 2688 ha land as EFL⁸ in Wayanad Forest Division (FD), an action through which more than 350 'small and marginal' farmers faced the threat of being 'stripped' off their land rights at short notice⁹. They alleged that the Government 'notified and acquired' their legally owned farm lands in the name of 'EFLs' and usurped their only livelihood opportunity. Naturally, many legal and political tussles ensued. Farmers later filed review petitions for which final judgments are awaited¹⁰.

Our field visits in Wayanad confirmed the limitations in actual field implementation and other socio-economic impacts of this new EFL Act. We noticed that this Act, in particular, impacted the 'small and marginal' farmers

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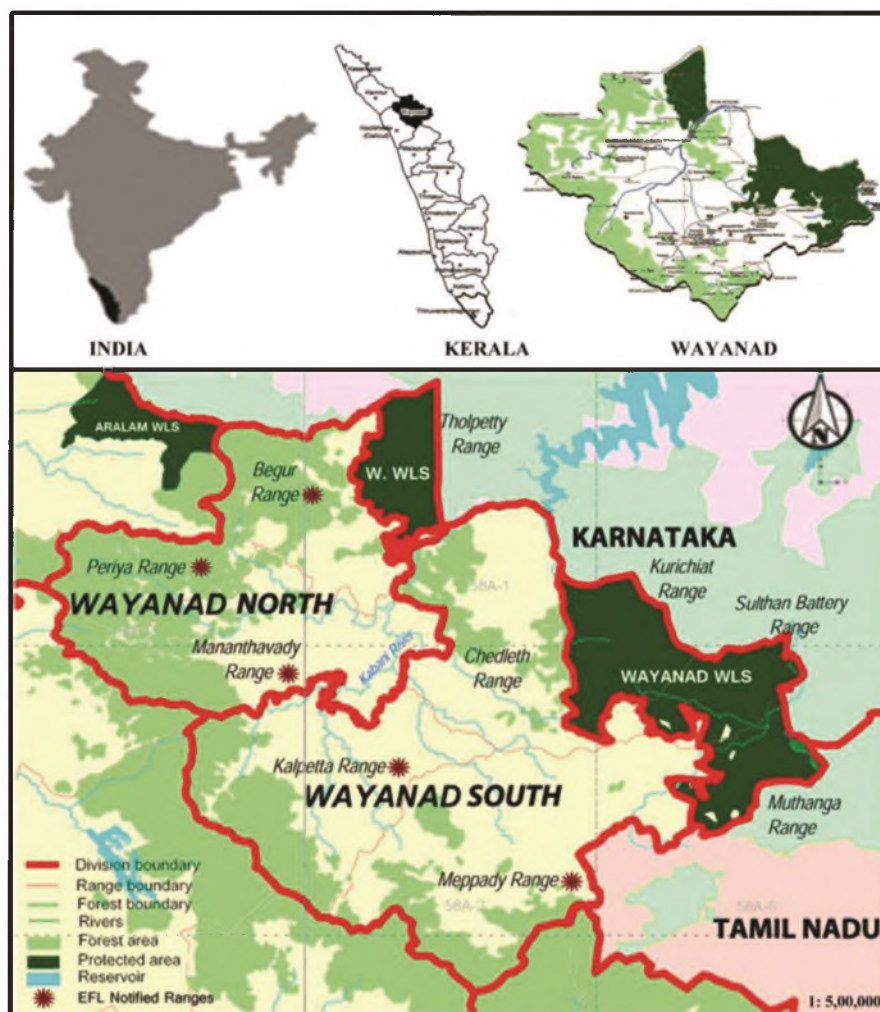


Figure 1. Ecologically fragile land notified ranges (*) in Wayanad district, Kerala, India.

Table 1. Stakeholders and respective sample size

Stakeholders	Sample size
Group A Officials from Forest, Agriculture and Revenue departments	30
Group B Environmentalists, green activists and representatives from NGOs	30
Group C Policy makers and local political leaders/activists	30
Group D Farmers from Wayanad district, Kerala	30
Total number of stakeholders who participated in the concept-mapping process	120

whose landholding size is often less than 2 acres (0.6 ha). It is in this background that we decided to analyse this Act from the perspectives of various stakeholders associated with it in Wayanad district. Figure 1 shows the areas (forest ranges) that were identified for notifying EFLs by the Forest Department.

Using integrated concept mapping¹¹, we approached four distinct stakeholder groups (Table 1) to generate a better and holistic view about what an EFL should be and its management. Group A represented officials randomly drawn from the Forest, Agriculture and Revenue Departments in Wayanad. Under group B, we chose ‘green’

activists and representatives from NGOs who are associated with EFL/forest activities in Wayanad. Legal experts and local political leaders/workers of Wayanad formed group C. The EFL farmers in Wayanad district made up group D.

Statements/ideas collected from stakeholders through discussions and debates were sorted, appropriately titled and later combined into an association matrix and analysed through multidimensional scaling¹². Ratings for statements contained in each concept were used to create a concept rating map. Strength of consensus between various groups was identified using Pearson product-moment

Table 2. Combined statement generation by the stakeholders

Statements/ideas in relation to ecologically fragile lands in Wayanad*	
1.	Ecologically fragile area due to the historical importance and livelihood sustaining values.
2.	Ecologically fragile land (EFL) status out of a legal framework.
3.	A fragile landscape having physical continuance to reserved forests or vested forests.
4.	Wildlife corridors/sacred groves.
5.	EFL status due to political reasons.
6.	Fair compensation for EFLs, irrespective of area of holdings.
7.	Awareness programmes among public regarding importance of EFLs.
8.	Green taxation for mass tourism activities adjoining to notified EFLs.
9.	Trim down inequality between districts in EFL declaration.
10.	Detailed guidelines regarding the parameters to be considered by dispute redressal committee.
11.	Return notified lands back to farmers when they lack physical continuity to natural forests.
12.	A private holding having reserved forest status.
13.	Budgetary provision for compensation to EFLs.
14.	Expert committee for validating scientific back-up of EFL status.
15.	Habitat of rare and endangered species of flora and fauna.
16.	Fair justice to farmers, irrespective of the size of their holdings.
17.	Declaration of EFLs in trust of public.
18.	Representation of local self-government institutions in EFL committees.
19.	Measures for vesting extensive, unexploited private lands sustaining natural vegetation.
20.	Intervention of NGOs and legal service authorities in resolving social tension.
21.	Central Government should respond to legal sanctity of EFL legislation.
22.	Deteriorated private lands adjoining reserved forest areas.
23.	A private holding with similar biodiversity richness that of a natural forest.
24.	EFL status since no taxes levied by the Revenue Department.
25.	Proposed vested forests, involved in litigation regarding ownership of land.
26.	A vital landscape sustaining ecological and climatic values.
27.	EFL status strictly due to technical reasons.
28.	EFL Act is a 'black law'.
29.	Centrally sponsored scheme for acquiring private lands with sufficient compensation.
30.	Large farmers should get compensation for at least 2 ha.
31.	Compensation should not be lower than base rate fixed by the Revenue Department.
32.	Enforcement of the EFL Act.
33.	The fixed limit of 2 ha land for re-evaluating the status of EFLs is not enough.
34.	Areas prone to natural disasters.
35.	Private land holdings surrounded by natural forests.
36.	Once the ecological value of an area is lost, it is hard to restore the same.
37.	A significant locale in wetland conservation.
38.	An area having importance in relieving human pressure on forests.
39.	Effective and transparent functioning of dispute redressal committee.
40.	Legal assistance to small farmers and agricultural labourers.
41.	Steps by the Government to become aware of the public dilemma associated with EFL notifications.
42.	Comprehensive rehabilitation package for small farmers and agricultural labourers.
43.	Awareness among public on the importance of valuable species in homesteads.
44.	Participatory move in the conservation of ecologically fragile lands.
45.	Separate guidelines for effective management of EFLs by the Forest Department.

*Fixed serial numbers for statements/ideas in the order they were generated.

correlation and the respective pattern matches. In order to reach consensus in stakeholder response, go-zone plots¹¹ were constructed¹¹. Table 2 lists 45 distinct statements/ideas provided by different stakeholders about their concept of EFL. Through further sorting of these statements/ideas and subsequent multidimensional scaling, a point map was generated (Figure 2). From hierarchical cluster analysis/dendrogram, five distinct themes/clusters were identified within the point map (Figure 3). After critically examining the content statements in individual clusters (Figure 4), they were assigned names (Figure 5) like, 'ecological dimensions', 'situational di-

mensions', 'socio-economic dimensions', 'framework dimensions' and 'better EFL dimensions' based on their individual values and importance (Figures 6 and 7).

Go-zone plots were then laid out as output statements (Figure 8). After avoiding duplications, 28 statements/ideas were finally identified for developing a re-oriented concept for EFLs in Wayanad (Table 3). For providing additional dimensions to the existing concept of EFLs, eight statements were identified that define ecological dimensions, seven that define framework dimensions, five each for socio-economic and better EFL dimensions, and three for situational dimensions (Table 3).

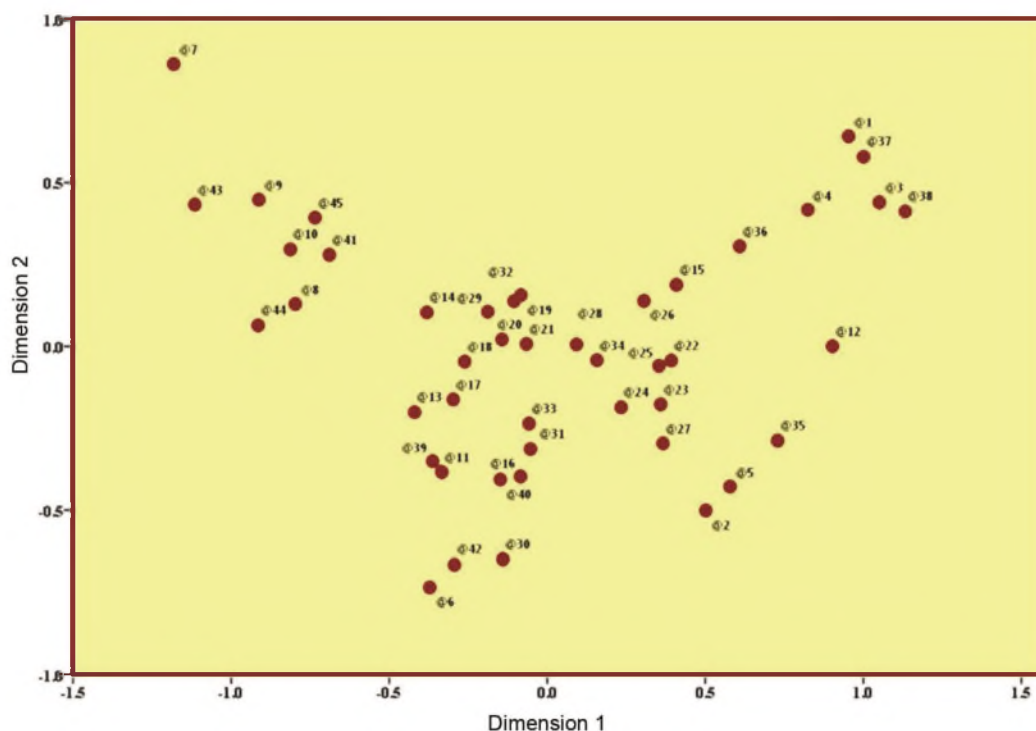


Figure 2. Point map generated through multidimensional scaling.

Unpacking the dimensions

Competition of views and principles as to how shrinking and degrading resources should be managed has always led to conflicting situations between the Government and the community¹³. The present study showed that for different stakeholders, especially ‘small and marginal’ Wayanad farmer, definition of an EFL as perceived by the Government is highly ‘technical or procedural’ in nature.

The ecological dimensions contain eight indicator statements which can help re-define the current concept of EFL, and also other concerns that should be given due care in future while attempting to declare any land as EFL. They highlighted the need for additionally ascertaining the historical importance, livelihood sustaining values, presence of wildlife corridors/sacred groves, and ecological and climatic values of an area before recommending it for EFL notification.

The state passed the Kerala Private Forest (Vesting and Assignment) Act, 1971 to ‘nationalize’ private forests (w.e.f. 10 May 1971) and to distribute these ‘vested’ forest lands to small farmers and agricultural labourers¹⁴. Though the Department could ‘vest’ and change the ownership status, the same enthusiasm for assigning the vested land was lacking. This is also true for Wayanad¹⁴, as 58% of the total extent of forests in the two forest divisions (318 sq. km) is ‘vested’. As this Act spared lands that were principally under ‘cash crops’, considerable

area of private forest lands in Wayanad was brought under these crops. Original forest cover was also cleared or opened up to escape the above law¹⁴.

In 1986, the Kerala Preservation of Trees (KPT) Act, 1986 (Act 35 of 1986) for preventing tree felling and regulating cultivation in hilly areas was passed. This Act succeeded the Kerala Restriction on Cutting and Destruction of Valuable Trees Act, 1974 and the Kerala Preservation of Trees and Regulation of Cultivation in Hill Areas Ordinance, 1983. The new Act had more teeth *vis-à-vis* cutting of trees as section 5 of the Act clearly states that no tree standing in private forests or in the Cardamom Hills Reserve, or in any other areas cultivated with cardamom shall be cut, uprooted, burnt or otherwise destroyed, except on the ground that (a) the tree constitutes a danger to life or property, (b) the tree is dead, diseased or windfallen. The KPT Act was later repealed through The Kerala Promotion of Tree Growth in Non-Forest Areas Act, 2005, which gave land owners the right to cut certain trees on their farm located in ‘non-notified areas’ without obtaining permission¹⁴.

The original owners of the private forests, meanwhile, had been fighting a long legal battle challenging the Forest Department’s logic to nationalize their forests. Insiders in the Kerala forestry establishment privately admit that it was also to escape from a potential legal rout, that the Forest Department coined the EFL idea and an Act on it to accord a new ‘reserve forest’ tag to the once ‘private forests’.

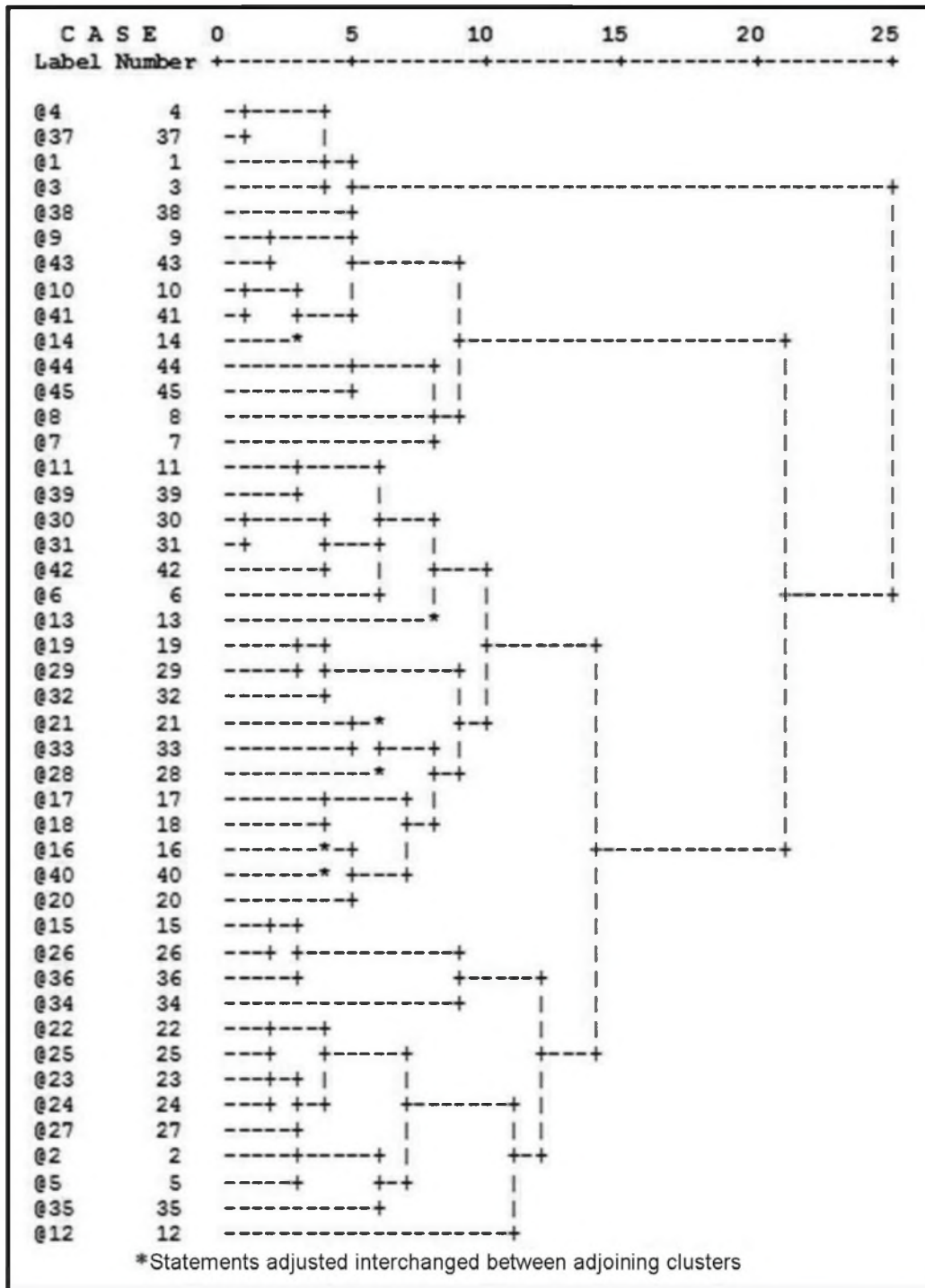


Figure 3. Dendrogram representing the hierarchical cluster analysis (SPSS ver. 17).

People in Wayanad have differing perceptions about the ecological connotations of EFL. For some the criteria for notifying were because of its historical importance and livelihood sustaining values. For most others, the forest is a 'fragile' landscape and hence any land which has physical continuance to forests is also naturally fragile. Others saw its importance in climate change miti-

gation, providing potable water, as wildlife corridors and habitats of rare and endangered species. However, generally, their understanding of biodiversity values of EFL is sketchy, and at least a few will be ready or forced to compromise this biodiversity for better livelihood options. Awareness programmes on EFL and biodiversity conservation may convert them into willing partners in

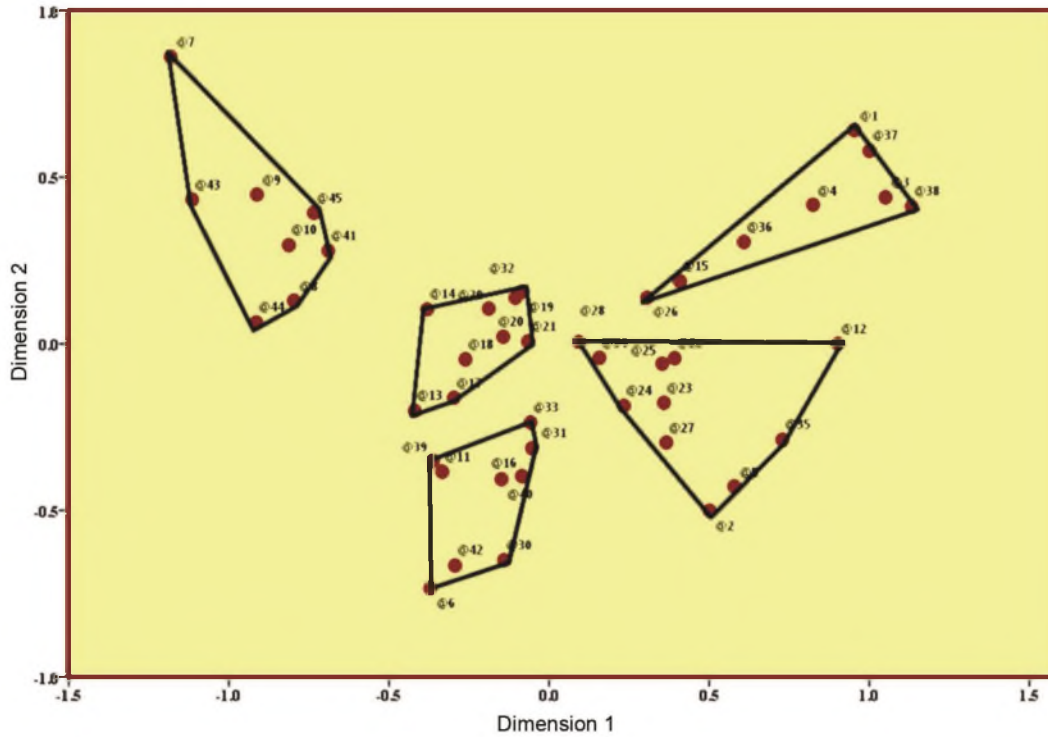


Figure 4. Clustering of the statements/ideas.

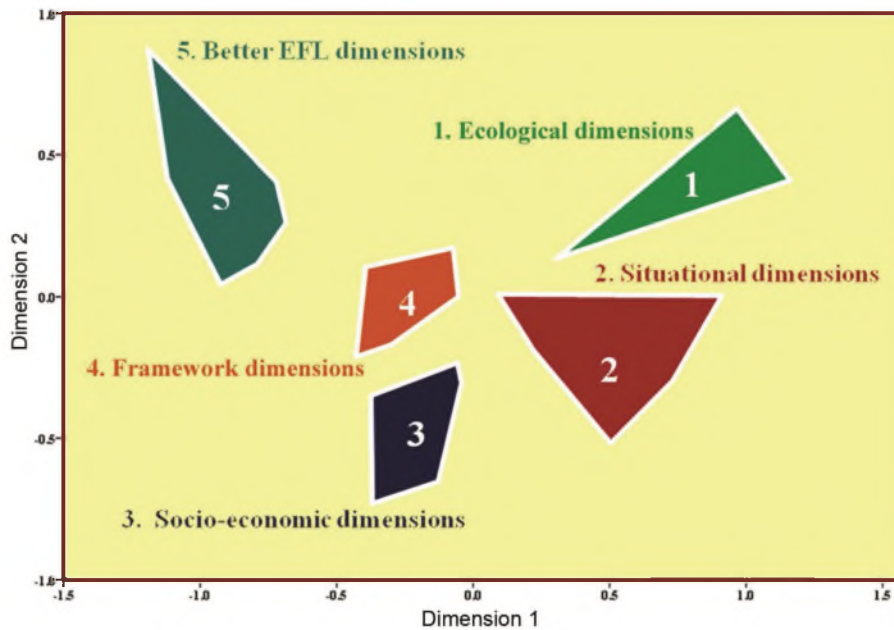


Figure 5. Final cluster solution.

conservation. After all, like in the case of wildlife conservation, here too, the state has a social responsibility to stomach its negative externalities¹⁵.

Most stakeholders were confused about ‘which or what kind of a land’ an EFL is or ‘which or what kind of lands could be included’ in future EFL notifications (Table 2). Interestingly, however, hardly a few demanded quashing

of the EFL Act, 2003 *in toto*. Instead, there was a call for a more transparent application of this legislation, which presents an opportunity. The stakeholders also pointed out that this legislation can be used to ‘vest large private estates’ which have reached their lease expiry or have violated lease agreements, or for evicting ‘legalized’ encroachments. The stakeholders were also as concerned

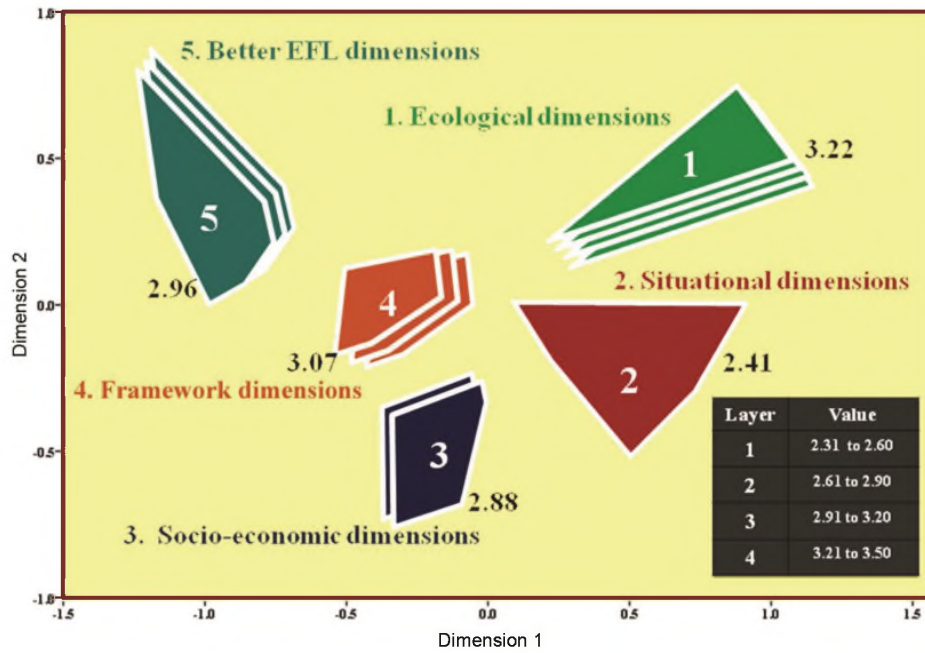


Figure 6. Cluster rating map.

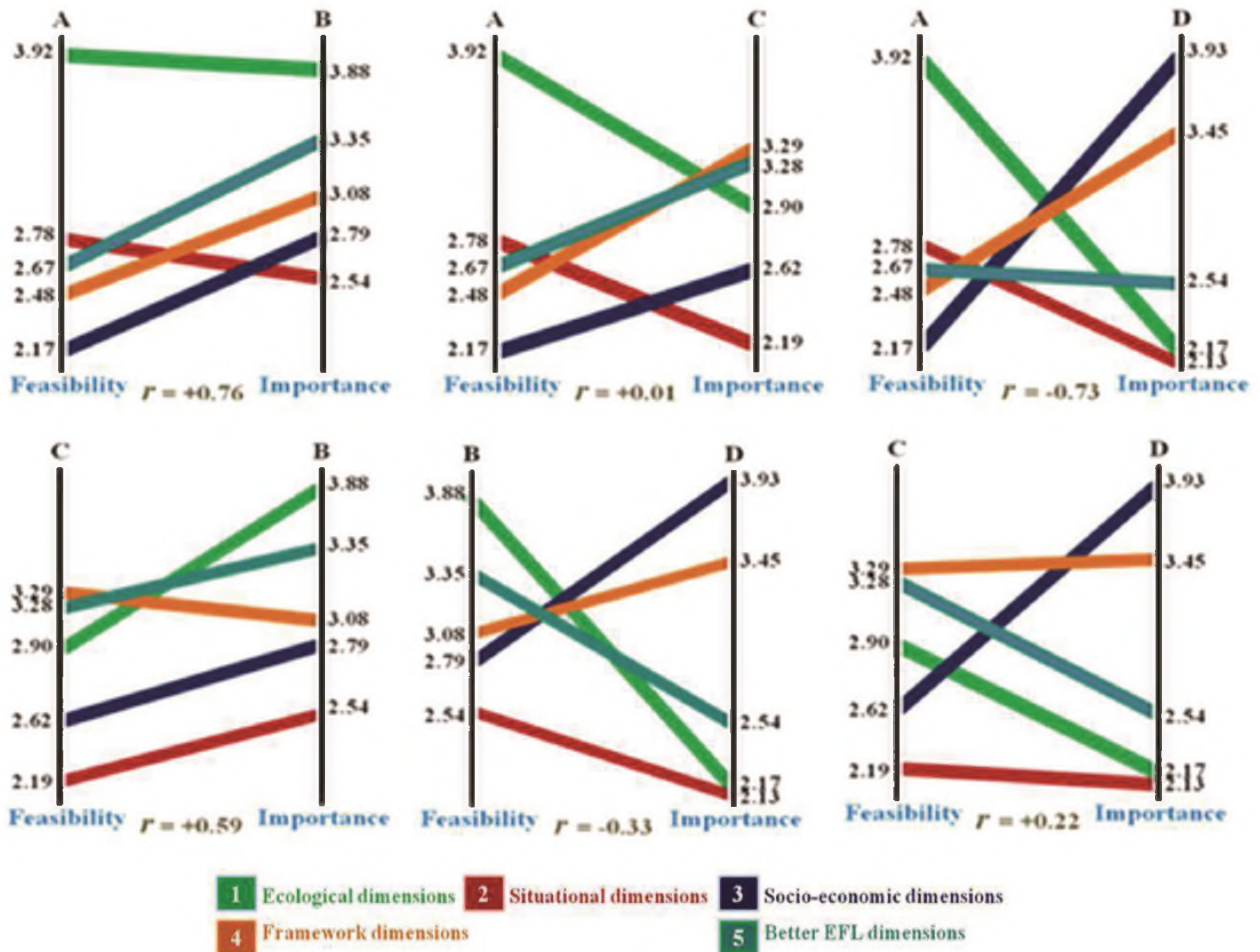


Figure 7. Pattern matches between various stakeholder groups (A–D).

GENERAL ARTICLES

Table 3. Average bridging values and cluster scores derived for the final cluster solution

Cluster	Statement #	Bridging value	Average rating <i>A</i>	Average rating <i>B</i>	Average rating <i>C</i>	Average rating <i>D</i>
Ecological dimensions	1	0.02	3.96	4.10	2.83	2.10
	3	0.01	3.93	3.90	3.20	1.80
	4	0.21	3.76	3.80	2.50	1.60
	15	0.14	4.33	3.20	3.20	2.96
	26	0.41	3.96	4.53	3.76	2.96
	36	0.09	4.20	3.80	2.60	1.80
	37	0.39	3.10	3.20	2.83	1.56
	38	0.12	4.16	4.53	2.30	2.60
	Cluster average		0.17	3.92	3.88	2.90
Total cluster average			3.22 (Four layers in cluster rating map)			
Situational dimensions	2	0.25	2.83	1.43	2.40	1.56
	5	0.42	2.13	1.56	2.20	1.40
	12	0.19	3.93	2.86	2.60	1.30
	22	0.60	1.40	1.80	1.40	1.63
	23	0.02	2.83	2.53	1.90	2.50
	24	0.25	3.20	3.46	1.96	2.43
	25	0.53	4.50	3.66	2.20	2.30
	27	0.06	1.80	1.96	2.80	2.76
	28	0.07	1.40	1.83	2.60	3.40
	34	0.29	3.20	3.86	2.40	1.80
	35	0.12	3.40	2.96	1.60	2.36
Cluster average		0.25	2.78	2.54	2.19	2.13
Total cluster average			2.41 (One layer in cluster rating map)			
Socio-economic dimensions	6	0.01	1.63	1.80	3.40	4.66
	11	0.34	2.23	3.16	3.26	4.80
	16	0.20	2.46	3.60	2.80	3.80
	30	0.29	1.43	2.83	3.00	2.60
	31	0.48	1.20	1.40	1.56	4.60
	33	0.45	1.50	2.20	1.76	3.50
	39	0.58	3.66	4.13	3.20	3.80
	40	0.19	3.20	3.60	2.00	3.80
	42	0.08	2.26	2.40	2.60	3.80
	Cluster average		0.29	2.17	2.79	2.62
Total cluster average			2.88 (Two layers in cluster rating map)			
Framework dimensions	13	0.45	2.50	3.40	4.20	4.76
	14	0.28	2.40	3.20	3.90	4.40
	17	0.48	2.20	3.76	4.16	4.90
	18	0.66	1.56	1.10	2.40	3.50
	19	0.34	4.20	2.66	2.20	1.30
	20	0.12	2.40	3.70	3.66	3.20
	21	0.17	1.23	2.30	3.50	4.30
	29	0.01	1.53	3.80	3.60	3.40
	32	0.17	4.26	3.80	2.00	1.30
	Cluster average		0.30	2.48	3.08	3.29
Total cluster average			3.07 (Three layers in cluster rating map)			
Better EFL dimensions	7	0.13	3.43	3.76	2.60	1.30
	8	0.39	2.56	3.70	2.13	1.23
	9	0.18	2.13	3.46	3.66	3.60
	10	0.54	3.16	4.16	3.80	3.80
	41	0.42	3.40	3.43	4.20	3.16
	43	0.29	2.83	2.70	4.16	3.80
	44	0.46	1.36	2.16	3.50	2.23
	45	0.45	2.46	3.40	2.20	1.23
	Cluster average		0.36	2.67	3.35	3.28
Total cluster average			2.96 (Three layers in cluster rating map)			

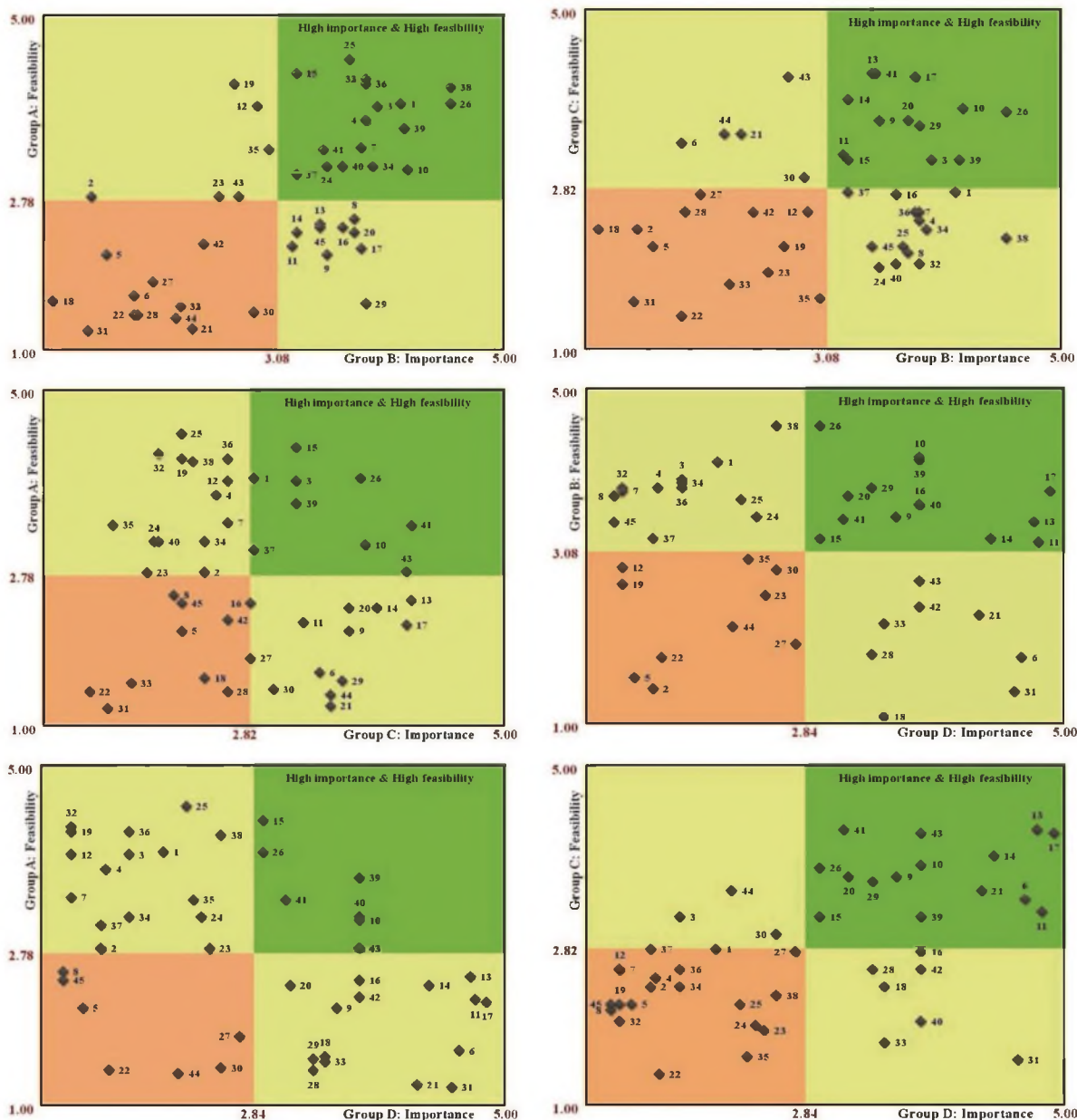


Figure 8. Go-zone analysis between various stakeholder groups (A–D).

as the Government with regard to biodiversity conservation issues. Hence the Government must sympathetically understand that several genuine farmers have been actually entrapped within the notification as many had been forced to purchase lands from bogus dealers or encroachers. Politicians, legal activists and government officials also highlighted practical dilemma in imposing this Act under the above field realities (Table 1).

The socio-economic and situational dimensions also exposed realities like refusal to collect taxes by the Revenue Department and labelling EFL areas as ‘prone to natural disasters’ to facilitate easy EFL notification. Once notified, the owner is not allowed to remit the tax. Clause

3.2 of the National Forest Policy (NFP), 1988 clearly states that ‘diversion of good and productive agricultural lands to forestry should be discouraged’. At the same time, the National Agroforestry Policy (NAP) 2014 promotes agroforestry to achieve the 33% national target. So how genuine farmlands be usurped in the name of EFL is a grievance that needs the attention of law and policy makers. The NFP and NAP policy contexts have created demands to consider the grievances irrespective of the size of the EFLs. However, there seem to be practical difficulties since several ‘absentee farmers’ in Wayanad with large landholdings, who sensed a commercial opportunity, have converted their farmlands into resorts. These

and other large farmers have the resources to wage a long legal battle, unlike the small farmers.

Public participation is relevant in an environmental context because it constitutes a pre-requisite for the public acceptance of laws, rules and decisions¹⁶. The framework dimensions and better EFL dimensions underscore a better field scenario, more trustful for the public and the government. The framework dimension stresses for more budgetary provisions for disbursing compensation. The farmers also questioned the inviolability in notifying discontinuous sets of lands by the Kerala Forest Department (KFD) and bringing these patches under an effective set of management practices or working plans. This dimension also advocated the declaration of EFLs in trust of the public, a suggestion we think has to be debated and decided. This call has twin connotations. One, it shows the resistance to give away a genuine farmland for which the farmer/owner has been paying tax. Secondly, the farmer is also questioning the Government's contention that it is better equipped than the farmer to conserve the resident biodiversity of 'EFLs'.

Most of the tagged EFLs once supported forested vegetation, but have been subsequently opened up to farm cash crops. However, as soon as it was left fallow due to reasons best known to the cultivator, the area could easily be re-colonized by 'vegetation similar to forests'. As this area is also 'contiguous to reserved forests', it easily qualifies as an EFL. However, if 'natural ecorestoration' occurs during the fallow phase, it would not be prudent to instantaneously assign an EFL tag to it. It is common knowledge that even a rapid phyto-sociological assessment on these lands will only return higher species diversity indices. The Forest Department must not hastily use this ground reality as the only reason to notify genuine farmlands. Instead, we recommend constituting an expert panel on vegetation, soil, land use, anthropology and other related fields to examine, assess and fix the 'ecological fragileness' of such smaller sized areas. Despite all their reservations, interestingly, some of the farmers were also willing to forego their lands in exchange for a good compensation package.

Since forests come under the 'concurrent list', the stakeholders also raised concerns about the legal sanctity of this Act. The definition of a forest according to the EFL Act, 2003 is in conflict with the definition under the Forest Conservation Act, 1980 (ref. 17). To overcome the invalidation of the EFL Act from any future judicial interpretation, the Kerala Government secured the President's assent for this Act. This action has only deepened the doubts in the minds of the stakeholders about the rationale of this Act. Is the Government trying to pose as 'more responsible' and 'more capable' than ordinary citizens to manage and sustainably maintain such fragile lands, they argued during the discussions. Ironically, the EFL Act, 2003 claims its basis on the ecologically sensitive areas (ESAs) notification by the Ministry of Envi-

ronment, Forests and Climate Change (MoEFCC), Government of India in 2000, which in fact is a 'participatory intervention' for managing sensitive/fragile landscapes¹⁸. MoEFCC had identified and notified ESAs since 1989, citing the provisions in the Environment (Protection) Rules (EPR), 1986. The 1990 report of MoEFCC titled 'parameters for determining ecological fragility' speaks about its attempts in this line¹⁹. Later in 1996, a Task Force of the Planning Commission also published a report titled 'conserving ecologically fragile ecosystems'. How areas could be defined as an ESA finally emerged in 1999 through the tabling of the report of the Dr Pronab Sen Committee. The term was, however, first used in 1991 for Dahanu Taluka in Maharashtra, followed by the declaration of other ESAs like Mahabaleshwar-Panchgani and Matheran²⁰. The stakeholders, we noticed, were aware of the provisions of ESA notifications. They demanded a centrally sponsored scheme instead of this Act for acquiring 'fragile' lands and ensure sufficient compensation as is being done in the case of National Highway development projects. Further looking at the better EFL dimensions, it is evident that the Government could have ventured out to gather the full confidence of the stakeholders, especially the farmers before enforcing this Act and avoided social stresses. The farmers also complained about lack of awareness about the post notification procedures. The implementing parties lacked sufficient awareness to provide satisfactory answers, they complained. This dimension also underscores the importance of creating across the board awareness for conserving valuable species/ecosystems in non-forest lands through a 'participatory process'. Even though section 4 of the EFL Act has provisions for providing compensations, farmers have concerns about delayed payments. The stakeholders also complained that the Forest Department was compelled to notify the EFLs under section 3 (without any compensation) due to absence of budgetary provisions. Bowing to pressure, the Government later amended the Act in 2009 and agreed to review the notified EFLs of the 'small and marginal farmers'¹⁰. The concept of ESAs²¹, offers opportunities for a 'marriage between conservation and development' using the powers given to MoEFCC to protect and improve the quality of the environment, and to prevent and control environmental pollution under the Environment (Protection) Act, 1986. The present EFL Act lacks such opportunities.

All stakeholders unequivocally demanded effective and transparent functioning of the review committees and justful scrutiny of the review petitions. The Government has since issued detailed guidelines and reconstituted the dispute redressal committee. At the same time, section 10 of the EFL Act provides for settlement of dispute by the Tribunal, when a dispute is raised as to whether the land is ecologically fragile or not, and whether the EFL or a portion thereto is vested in the Government or not, or with regard to compensation. Sections 10A (dispute

redressal with respect to lands having an extent of not more than 2 ha) and 10B (constitution of the EFL claim dispute redressal committee) are added provisions pertaining to dispute redressal. Meanwhile, a three-member expert panel constituted by the Kerala Government to study the report of the Kasturirangan Committee on the conservation of the Western Ghats had urged the Government to repeal the EFL Act.

Conclusion

- In forest law-making, meaningful and targeted consultation and participatory decision-making processes which view humans too as an integral part of the landscape should become the norm.
- Five new dimensions for the existing concept of EFL and its management from the perspective of various stakeholders of this Act are proposed.
- A 'working' definition for EFL is necessary, especially for the 'small-scale' farmer who felt selectively burdened.
- The present concept of EFL may be re-declared in the trust of the public in accordance with the evolved dimensions.

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