

ON AN EXPLORATION IN TO THE CHALLENGES FACED BY ADIVAASI INDUSTRY IN GENERAL AND ALSO IN RESPONSE TO CLIMATE CHANGE IN INDIA AND FURTHER STUDYING THE POSSIBLE HIERARCHICAL INTER- RELATIONSHIPS AMONGST THEM

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Abstract

Adivaasi group of Indian community constitute 8.6 per cent of India's population, but they have been continually excluded from the nation's development. Livelihood generation projects, conservation measures and health and education programs have been framed without taking into account the Adivaasi group of Indian population. They rarely had a say in the programs planned around their lives and land. This is with regard to climate change and environment related welfare issues as well. Present research thereby focuses on the challenges faced by Adivaasi industry in India in general as well as in response to the climate change and carbon credit policies and further studying the possible hierarchical interrelationships amongst them using VAXO technique encrypted in ISM methodology.

Keywords: Adivaasi industry; hierarchical interrelationships; ISM methodology; climate change

Introduction

Adivaasis constitute 8.6 per cent of India's population, but they have been continually excluded from the nation's idea of development. Livelihood generation projects, conservation measures and health and education programmes have been framed without taking into account the Adivaasi population. They rarely have a voice to say in favour or against in any kind of schemes or welfare programmes or environment / climate change policies or programs focused around their lives and land. In 2020, when the pandemic hit India, they were understandably among the most affected communities. In states such as Chhattisgarh, with an Adivaasi population exceeding 30 percent, livelihood activities, particularly those linked to forests, were disrupted during the lockdown.

Climate change and Adivaasi Constraints [web references 6, 7,8]

Climate change policies and environment related issues were neglected for Adivaasi's group of Indian community. Largely, the women criticized the policy for focusing on big farmers with acres of land

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who can create carbon sinks. In doing so, it ignored the small farmers and nomadic groups that stopped their migratory patterns on learning about policy initiatives.

Challenges or factors behind Adivaasi industry in India

Enhancing digital and financial literacy [EDFL]: People living in remote areas had limited access to cash during the pandemic. In this context, bank Sakhis (women trained as banking correspondents) and community members with digital access and training played an important role in helping communities access cash and make and receive payments at their doorstep.

Leveraging government schemes / carbon credit schemes [LGS]: Employment schemes such as MGNREGA provided work and a source of income to a large number of Adivaasi people, especially notable as there were limitations on many activities. Carbon credits and markets may have significant implications for Adivaasi in India, and Indigenous Communities in general. Moreover, Adivaasi are yet to get their due rights under the Forest Rights Act and the Fifth Schedule of the Constitution.

Challenges that demand structural changes [DSC]: While some Adivaasi communities have benefitted from government schemes and non-profits' efforts, persistent systemic failures continue to affect the lives and livelihoods of more remote and vulnerable communities.

Lack of access to forests [LF]: Adivaasi people who live near forests survive on the produce that they collect from these areas. Government schemes such as MGNREGA that provide an alternative source of income in times of distress do not reach communities in remote areas. Consequently, they do not have access to safety nets .

Poor implementation of laws [PIL]: The exploitation of forests and forest-dwelling Adivaasi people continues despite the Forest Rights Act, 2006. The act provides individual rights of self-cultivation and habitation as well as community rights to grazing, fishing, and access to water bodies in forests.

Weak public health infrastructure [WPHI]: Although the current government came into power with the promise of universal healthcare by focusing on affordable government-led medical care, it has shifted

its focus to favouring private hospitals. The Adivaasis' lack of trust in the government and its facilities are amplified by the poor returns they receive from visiting public healthcare facilities.

Lack of trust between the government and non-profits [LoT]: There is a trust deficit between the government and non-profits, which is not particular to Chhattisgarh alone. Grassroots non-profits have immense knowledge of the communities and geographies they work with.

Resource exploitation [RE]: The policy of liberalization and the new state perceptions of utilization of resources are diametrically opposed to the Adivaasi worldview of resource exploitation and this divide has only widened further with the intrusion of globalization's market oriented philosophy of development.

Rapid globalization [RG]: The recent rapid technological advancement and unrivalled economic and political strength of world capitalism have created favourable conditions for the evasion and extraction of natural resources from the ecologically fragile territories of tribal people.

Displacement and rehabilitation [D&R]: Since the emergence of liberalization, privatization and globalization (LPG), the areas inhabited by tribal population have been subject to various protests due to involuntary displacement. Thus, forced evictions of tribals make way for mammoth capital-intensive development projects have become a distressing routine and ever-increasing phenomenon.

Unemployment [Ue]: There is a heavy concentration of industrial and mining activities in the central belt. Despite intense industrial activity in the central Indian tribal belt, the tribal employment in modern enterprises is negligible. They are forced onto the ever-expanding low paid, insecure, transient and destitute labour market.

Affecting social life [ASL]: Many more are slowly crushed into oblivion in their homeland or in urban slums. Their economic and cultural survival is at stake. The globalization has added new dimensions to the vulnerability of India's exploited by intensifying their social exclusion, and making large segments of tribal groups also vulnerable and excluded.

Cultural Defacement [CD]: Tribals are being forcefully integrated in to the society leading to them losing their unique cultural features and their habitat threatened. Isolated Tribes such as Sentinelese as still hostile to outsiders. Denotified, semi-nomadic and nomadic tribes are yet to be included as Scheduled Tribes.

Relocation of tribal population [RTP]: Most Adivasis do not want to relocate to different place and prefer living in the jungles. They generally do not value money. Their refusal to vacate the land leads

to the government deploying armed forces like the CRPF against them - often burning villages, harassing people, killing tribals - all in an attempt to get them to vacate.

Materials and Methods

Interpretive Structural Modeling (ISM)[Warfield , 1974] is an interactive learning process in which a set of unique, interrelated variables are structured into a comprehensive model presented as a hierarchy graph. It involves the steps such as Identification of elements; Establishing the contextual relationship between elements with respect to which pairs of elements will be examine. Thereafter, developing a self-interaction matrix (SSIM) which includes establishing VAXO relationship amongst the two variables i.e. 'i' and 'j'. The SSIM has been converted in to a binary matrix called the initial reachability matrix by substituting V, A, X, O by 1 or 0 as per the case. After incorporating the transitivity, the final reachability matrix can be obtained. Thereafter, level partition matrices and canonical matrices are created from the final reachability matrix using reachability set , antecedent set and the intersection set . The element for which the reachability and intersection sets are the same is the top-level element. The whole process of partitioning is based on establishing the precedence relationships and arranging the elements in a topological order. Classification of Variables Based on relative driving power and dependence power, factors are classified in various categories like autonomous, dependent, driver and linkage and finally development of Diagraph/ ISM from the canonical matrix form.

Results and Discussion

14 major challenges discussed in section 2 are studied with the help of ISM methodology for the possible hierarchical interrelationships amongst them .

Short explanation: Resource exploitation may lead to weak globalization and vice versa and generate unemployment. Similarly such explanations could be created with other factors. Kindly note that these relationships based on VAXO in the above mentioned matrices are authors's opinion and subject to reviewers' opinion and other authors' perspective of mind.

Structural Self Interaction Matrix [SSIM]

Table 1: SSIM for pair wise relationship amongst challenges faced by Adivaasi or tribal industry in India

S. No.	Challenges	1	2	3	4	5	6	7	8	9	10	11	12	13	14
		PEDFL	LGS	SC	LF	PIL	WPHI	LoT	RE	WG	D&R	Ue	ASL	CD	RTP
1	PEDFL		V	A	A	A	A	X	A	A	A	V	V	V	A
2	LGS			A	A	A	A	A	A	A	V	A	V	V	V
3	SC				X	A	A	A	A	A	V	V	V	V	V
4	LF					A	A	A	A	A	A	A	A	A	A
5	PIL						V	V	V	V	V	V	V	V	V
6	WPHI							V	V	V	V	V	V	V	V
7	LoT								V	V	V	V	V	V	V
8	RE									X	V	X	V	V	V
9	WG										V	V	V	V	V
10	D&R											A	A	A	A
11	Ue												A	A	V
12	ASL													A	A
13	CD														X
14	RTP														

Initial reachability Matrix [IRM]

Table 2: IRM for pair wise relationship amongst challenges faced by Adivaasi or tribal industry in India

S. No.	Challenges	1	2	3	4	5	6	7	8	9	10	11	12	13	14
		PEDFL	LGS	SC	LF	PIL	WPHI	LoT	RE	WG	D&R	Ue	ASL	CD	RTP
1	PEDFL	1	1	0	0	0	0	1	0	0	0	1	1	1	0
2	LGS	0	1	0	0	0	0	0	0	0	1	0	1	1	1
3	SC	1	1	1	1	0	0	0	0	0	1	1	1	1	1
4	LF	1	1	1	1	0	0	0	0	0	0	0	0	0	0
5	PIL	1	1	1	1	1	1	1	1	1	1	1	1	1	1
6	WPHI	1	1	1	1	0	1	1	1	1	1	1	1	1	1
7	LoT	1	1	1	1	0	0	1	1	1	1	1	1	1	1
8	RE	1	1	1	1	0	0	0	1	1	1	1	1	1	1
9	WG	1	1	1	1	0	0	0	1	1	1	1	1	1	1
10	D&R	1	0	0	1	0	0	0	0	0	1	0	0	0	0
11	Ue	0	1	1	1	0	0	0	1	0	1	1	0	0	1
12	ASL	0	0	0	1	0	0	0	0	0	1	1	1	0	0
13	CD	0	0	0	1	0	0	0	0	0	1	1	1	1	1
14	RTP	1	0	0	1	0	0	0	0	0	1	0	1	1	1

Table 3 : FRM for pair wise relationship amongst challenges faced by Adivaasi or tribal industry in India

S. No.	Barriers	1	2	3	4	5	6	7	8	9	10	11	12	13	14	
		PE DF L	LG S	SC	LF	PI L	W PH I	Lo T	RE	W G	D & R	Ue	AS L	CD	RT P	D. P
1	PEDFL	1	1	0	0	0	0	1	0	0	0	1	1	1	0	6
2	LGS	0	1	0	0	0	0	0	0	0	1	0	1	1	1	5
3	SC	1	1	1	1	0	0	0	0	0	1	1	1	1	1	9
4	LF	1	1	1	1	0	0	0	0	0	0	0	0	0	0	4
5	PIL	1	1	1	1	1	1	1	1	1	1	1	1	1	1	14
6	WPHI	1	1	1	1	0	1	1	1	1	1	1	1	1	1	13
7	LoT	1	1	1	1	0	0	1	1	1	1	1	1	1	1	12
8	RE	1	1	1	1	0	0	0	1	1	1	1	1	1	1	11
9	WG	1	1	1	1	0	0	0	1	1	1	1	1	1	1	11
10	D&R	1	0	0	1	0	0	0	0	0	1	0	0	0	0	11
11	Ue	0	1	1	1	0	0	0	1	0	1	1	0	0	1	7
12	ASL	0	0	0	1	0	0	0	0	0	1	1	1	0	0	4
13	CD	0	0	0	1	0	0	0	0	0	1	1	1	1	1	6
14	RTP	1	0	0	1	0	0	0	0	0	1	0	1	1	1	6
	De.P	10	10	8	12	1	2	4	6	5	12	10	11	10	10	

Conclusion

The present research highlights the hierarchical inter-relationships amongst the various challenges faced by Adivaasi industry in India with the help of Interpretive Structural Modeling Methodology.

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