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Towards a New Development Equilibrium among the Forest Dependent Adivasis of Central India - A Case for Agrarian Adaptive Skilling

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Towards a New Development Equilibrium among the Forest Dependent Adivasis of Central India - A Case for Agrarian Adaptive Skilling

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Abstract: In a homogenized imagination of human aspirations, development interventions replicate popular models, including intensive farming in Adivasi landscapes. In the process, they try to sedentarise and individualize Adivasi communities living in the forest peripheries. Even as modernization remains an elusive target in most of the tribal belts, ethnic socio-ecological institutions become redundant, leaving the community deskilled - ecologically, socially and economically. Adivasi's concerns about this conventional development process entailing detribalization are seldom deliberated in literature and among the community.

This paper originates in the first phase of a collaborative and inclusive participatory action research undertaken by a group of development practitioners and academics with shared concerns on the impact of agricultural interventions among Adivasis. The project identified three Adivasi villages in the Central Indian Plateau based on specific criteria. It then customized participatory action research methods to align with the community's ways of probing issues and exploring ideas. The process involved conversations in small groups, debates in village meetings and interactive walks for deliberating the actions to be carried out. The action elements that emerged during the course of the project were led and coordinated by a study group (Adhyayan group) formed in the village meetings. Collective exposure visits and annual confluence involving the three Adhyayan groups provided platforms for sharing and learning between the villages.

The project elicited villagers' perceptions about wellbeing that steered the conceptualization of a development frame anchored on three dynamic and interlinked elements –the social-ecological system, a livelihood basket and socio-cultural institutions. Overlaying the Adivasi idea of wellbeing on this trivet frame of development uncovered the central role of a continuous and informed process of adaptive skilling, including mechanisms to stimulate and sustain the process. The conceptual model that integrates people's aspirations with the development context was approached from the vantage point of agriculture – their current mainstay in multiple ways - to highlight what is needed in terms of agrarian adaptive skilling. The project has exposed the possibilities of and requirements for social-ecological adaptive skilling. Drawing from the learning so far, the paper points to larger opportunities and specific challenges in reconfiguring development for the tribal peasantry.

Keywords: adaptive skilling, Adivasi, ecological intensification, tribal development, detribalization, peasantisation, individualization.

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1. Background

Small, insecure in tenurial terms and often displaced and relocated for reasons ranging from conservation to development, subsistence farm holdings of tribals[1] have been different from mainstream farm holdings. While subsistence farming of millets and pulses was familiar to tribals in the forest peripheries, intensive farming for selling in the urban markets is relatively recent. Such yet to be fully market subsumed farming communities depend on small cash earnings from manual labour or from selling livestock or minor forest produces, to buy things exclusively sourced from markets. Rising consumerism - automobiles, mobile phones, consulting private doctors for serious ailments and even private schooling for children that are now commonplace, - has been increasing their cash requirement. Yet many Adivasi communities living close to forests still showcase a dual or hybrid culture, lifestyle and attitude. Their divergence from the mainstream society is undeniable in multiple ways. We hasten to emphasize (along with Ghosh (2006)) that this paper does not indicate "a pure and essential Adivasi identity".

Development interventions attempt to transform these *Adivasi* communities living in the forest peripheries, into small farmers. The slow pace of increase in their income and material acquisitions relative to that of the mainstream communities, seems to be the driving force behind tribal development plans and schemes. Thus, enhancement of individual/ family income mainly through forest-based and agricultural livelihoods came to stay as a major objective of tribal development.

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1   Tribe, Adivasi and indigenous community are interchangeably used in this paper.

State, civil society and corporate entities promoted interventions like high yielding vegetables, goat farming and poultry units targeting the urban consumer. Yet, such decades old interventions have not transformed Adivasi communities into market dependent citizens of the mainstream society. With this process of not-so-successful development efforts, their characteristic socio-cultural norms and mechanisms lose their relevance, leaving the tribal society at an impasse. There is a palpable identity crisis and 'nowhere-ness' among these communities, many of whom might have been displaced more than once for various infrastructural or conservation projects.

2. Introduction to the Action Research Project

This essay traces the first phase of a collaborative and participatory action research project undertaken by a team of development practitioners (from Professional Assistance for Development Action, PRADAN) and academics (with Azim Premji University, APU). With their collective experience in various geographies inhabited by Adivasi communities, the team found it relevant to examine agriculture and human wellbeing from the perspective of Adivasis. PRADAN has been engaged in augmenting the income levels of Adivasi families through interventions in thrift groups, agriculture, livestock and allied economic activities for more than three decades. While there has been improvement in the incomes of Adivasi families, its' longevity remained uncertain. A group of grassroots actors working with PRADAN, concerned by the transient nature of the outcomes of their well-intended actions, engaged in a dialogue with APU faculty on agrarian deskilling and potential of sustainable intensification among the tribals living close to forests. As an outcome of these dialogues, the team embarked on an inclusive co-inquiry into the developmental challenges faced by these communities that are among India's most marginalized peoples.

The paper examines the preliminary outcomes of this action research project carried out in three hamlets located in the Indian states of Jharkhand and Madhya Pradesh. These hamlets of *Oraon* and *Gond* communities tucked away in the forest areas have seen state driven development interventions for more than half a century now. In the usual development narrative in local parlance, they have limited access to roads, electricity and schools. Even if effectively delivered, will these changes reflect and meet their aspirations? *Prima facie* this appears a moot question amidst the popular notion of development in the larger society. Hunger and diseases are not visibly widespread in these villages. However, malnutrition (Banik, 2008; Dey and Bisai, 2019), insecure livelihoods (Sharma, 2018) and lack of formal education (Choudhary, 2016) prevail, alongside a slowly eroding socio-cultural identity of Adivasi farmers. Is the current status of tribals, an unintended fallout of changes configured as 'development' by the mainstream society? Given the contradictions mentioned above, the paper explores the question - if Adivasis were well-informed about the prospects and pitfalls of copying the mainstream model and were allowed to choose and chart their own developmental path, would it have been any different? The intention of the project is to understand the development impasse in three tribal landscapes and bring forth ideas and prototypes for sustainably integrating life and livelihoods in the forest peripheries of the Central Indian Plateau.

The paper based on two years of field interactions till 2019, focuses on specific issues in cognizing development contradictions and challenges among tribals. The first objective of the paper is to characterize the development context in tribal villages. This does not entail following the trajectory of development interventions, but collectively (the project team as mentioned earlier in the section has three groups involved – university researchers, development actors and the community) understanding the development context and outcomes. The second objective is to understand the role of agriculture in the present and future of the community and then trace the challenges and opportunities therein. The understanding from investigating the first objective (covered in Section 5) was supposed to help pursue the second objective of eliciting a development trajectory in and around agriculture (covered in Section 6).

The following Section (Section 3) situates the project within the existing literature on development in the Adivasi context and the related discourse on agrarian deskilling. Section 4 of the paper introduces the project sites and the methodological approach. Section 5 summarises empirical observations on the status and development context of the study villages using qualitative analysis of narratives. It then draws new insights on developmental thinking in Section 6, focusing on tribal agriculture. The concluding Section 7 presents larger opportunities and specific challenges in pursuing the path proposed in Section 6.

3. Review of Literature

There are several arguments for rethinking Adivasi development, apart from the contradictions mentioned in the previous section. First is a concern about inequality and unsustainability being perpetuated by the persisting shortsightedness of development measures.

The existing inequality and poverty within the society are now known to be the by-products of development, embedded deeply in the bifurcated core-peripheries of socio-political and economic structures (Sanyal, 2007). Moreover, the state and civil society fail to engage with the unique development needs of tribals. This limits development interventions to symptomatic treatment of persisting problems with ad-hoc interventions. For instance, persisting malnutrition among Adivasi communities has been addressed exclusively by free distribution of nutrient supplements, while making their own safe and nutritious food cultures redundant. Thus, development indicators for tribal communities have been trailing behind other rural communities as reflected in Human Development Index (HDI). HDI for non-tribal rural areas in Madhya Pradesh was much higher (0.70) compared to that for the tribal districts (0.46) of the state (Singh and Keshari, 2016).

Ignoring the uniqueness of the tribal context for identifying development needs has resulted in socio-ecological blind spots in interventions. These blind spots have been instrumental in spreading intensive farming technologies to tribal villages lying close to forests. The mismatch between intensive commercial farming and the unique ecologies that tribal culture (including food and health systems) relies upon, is becoming apparent. Extractive farming inherent in the 'business-as-usual' (BAU) mode of intensive 'green revolution' practices is known to decline productivity (per

unit of land, water and other inputs, in the medium to long run (Pingali, 2012) and escalate cash cost in the short-term itself. Continuous extraction and degradation of soil, water and biodiversity have been justified from the perspective of short-term income enhancement. Such ad hoc measures to boost crop production by disregarding the longevity of these landscapes overlook the fact that they constitute a common wealth of food and medicinal biodiversity. This inherited common wealth also offers security from landslides and soil erosion, apart from being the source of soil productivity and water security for the production landscapes lying in their downstream areas.

Even as the tribal farm and forestlands are being increasingly engaged in producing various goods for the distant consumers, and declining in their extent and quality, these communities are struggling with malnourishment and poor healthcare. Evidently, Adivasis are at the receiving end of two extreme facets of BAU agriculture – market and ecological risks. The accelerated pace at which planetary boundaries are being breached (Rockstrom et al., 2017) indicates the unviability of energy intensive BAU farming. Thus, it is ironic on many counts that BAU agriculture is being extended to these critical ecologies inhabited by tribal communities. Ecologically informed modes of intensification (Altieri, 1999; Tittonell, 2014; and FAO, 2013) suitable for tribal agriculture are not receiving the attention they deserve, from policy makers, agricultural researchers and the state.

The second argument lies in another consequence of adopting the mainstream or BAU development model - the loss of indigenous social-ecological norms and know-how. The ecological know-how and skills are used to secure the community from acute vulnerabilities while imparting autonomy over knowledge systems. Ecological deskilling of tribals is akin to agrarian deskilling. Literature on agrarian deskilling exposes how force feeding of inputs by the market and extension agencies breach the intrinsic process of generating contextual know-how (Stone, 2007; Flachs and Stone, 2018; and Stone and Flachs, 2017). Market-driven technologies and inputs, from seeds to harvesting machinery, overrun the inherent systems of adaptive mechanisms. Some such technologies reduce drudgery (e.g., power tiller) or reduce crop loss (e.g., pesticides), but in the process strip these 'ecosystem people'[2] of their natural assets and disrupts the generation of agro-ecological know-how. This translates into a loss of adaptive capacities needed for fostering resilience in a society living not just close to, but also as part of nature. Agricultural research and education institutions firmly grounded on the 'agri-business' philosophy are nested within the BAU development model. They enforce their territory in the entire production landscape, endangering a process of experimental knowledge generation on farmers' fields (Stone, 2007).

The creative energy needed for nurturing and adapting time-tested practices needs to be in synchrony with the rhythms of nature, culture and livelihoods. Even as most rural small holders end up as deskilled imitators and agrarian distress and unrest loom large outside the forest margins, we are urging tribals also to join the farming enterprise. This ongoing peasantization of tribals is not only failing to give them basic living standards, but in the process weakens their socio-cultural safeguards within the community, like customary sharing of labour and harvest. Literature on

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2   Coined by Gadgil and Guha (1995) "eco-system people" refers to those who depend on the local environment around them for sustenance.

cognitive practices among Adivasis (e.g., Singh and Sureja, 2008), on shifting cultivation or their hunting gathering practices exist. But studies on their know-how on agriculture, fishing and pastoral cultures are rare to find.

As discussed above, the project arose from the development outcomes of inequality, unsustainability and ecological deskilling seen among tribals. It focuses on three forest dependent tribal villages. There are discourses in literature on the imagery of the 'tribe' or their relative immiseration in a caste-tribe tussle and on the critique of indigeneity (Damodaran, 2006; Nilsen, 2012; Chandra, 2013; and Shah, 2007). Given the forest dependence and vulnerability seen in the study hamlets inhabited for centuries by the tribal communities and given the project objective of exploring a development frame suitable for forest peripheral tribes, such debates are outside the scope of this paper. However, such debates do not contradict the dispossession, marginalisation and blind folded mainstreaming pedalled as development among the forest dependent indigenous population. It is to be noted that a separate Adivasi modernity is being explored by a set of scholars, that concurrently takes into account the uniqueness of the Adivasi question and the diversity among the tribes (see discussion in Bhukya, 2021).

Following the project intentions mentioned so far, the paper problematizes the current status of forest dwelling tribals in three villages in 21st century India. While refraining from undue romanticisation of 'tribal'ness or indigeneity, the attempt here (similar to Ghosh's (2006) observation on Jharkhand), is not to ignore the remnant strengths embedded in a tribal society that can potentially catalyse emancipatory changes towards a new development equilibrium.

Two approaches that paved the conceptual and empirical strategy of the project are important to be recalled here. One is the unfolding premise that the distinct social-ecological backdrop of tribal villages needs to be explicitly recognized and taken into account by development interventions. Deriving from this premise is the second one - of the need to consider tribal agriculture quite distinct from mainstream agricultural landscapes and agrarian communities.

Popular agricultural interventions treat soil and water on one's land as private resources for maximizing productivity and income. If we begin with the realisation that land-water-biodiversity continuum is part of a commonwealth lying across the boundaries of privately owned land, then agriculture acquires a different dimension. This dimension is woven around the private utility entailed in agriculture being rooted in a seamless agro-ecosystem that transcends forests, land and water commons and farmlands. From aquifers lying below the ground to soil nutrient cycles and pollinators transcending field boundaries, agro-ecosystems are seamless consisting of subsystems with porous boundaries. These systems or subsystems can be demarcated based on the intensity of interactions prevalent within and across the system boundaries at various scales, in a nested hierarchy. The principles of achieving resilience through adaptive cycles characteristic of social-ecological systems (Walker et al., 2004; and Folke et al., 2016) explain and support the above approach of the project. It suggests that potential adaptive cycles can ensure a resilient tribal ecosystem comprising of diverse biotic, abiotic and human or social elements lying contiguously within and across its watersheds.

4. Study Sites and Methodology

4.1 Study Sites

The first year (2018-19) of this action research project needed to identify sites and communities that represent the tribal landscapes of central Indian plateau where PRADAN has a functional field presence. Large, heterogeneous and conflict-ridden communities were not considered ideal to pilot this inclusive action research project. Hence, it was decided to choose three medium sized tribal villages with reasonable homogeneity in social composition within them but different in their administrative or tenurial status.[3]

Three villages - Jana in the Gumla block of Gumla district (Jharkhand State), Ghughri in the Amarpur block of Dindori district and Chataniha in the Deosar block of Singrauli district (the latter two are in Madhya Pradesh State) were finally identified (Fig.1). All three districts host a significant population of Adivasis as also a notable extent of dry deciduous forests. Gumla and Dindori are part of the 5th schedule of the Indian Constitution, with special administrative provisions.

Tribal population in Singrauli (38%) is about half of the other two districts (67% in Gumla and 65% in Dindori). Dindori is relatively large and receives higher annual precipitation. While land holding size is similar in the three sites, Gumla seems to be agriculturally dominant with a vast net sown area (62% compared to 42% in Singrauli and 27% in Dindori) and high use of synthetic fertilisers (55 kg /ha compared to 18 and 3 in Singrauli and Dindori respectively). Singrauli unlike the other two is a hub of coal mining and thermal power production.

Of the three villages, Chataniha in Singrauli is socially heterogeneous with four different tribes among its 381 families, although 80% of them were Gonds. Ghughri in Dindori is a forest village with 215 Gond families and Jana village in Gumla had 87 families of Oraons. The majority of the adult population in these villages engaged in the primary sector (75% of families were dependent on agriculture) and landless families were few (2% of families). Jana village, located close to the district headquarter, had a notable non-farm engagement, while it also sold much more agricultural produce than the other two. The mean annual income from agriculture of ₹18,335 (2019) in Jana was nearly eight times more than Chataniha and three times more than that of Ghughri.

Though agriculture is the mainstay in these villages, holdings are small (2.5 to 3.6 acres) and are lying at different gradients. As Table 1 shows, most families have land parcels in different terrains (steep, medium slope and valleys) and often soil type varied not just between these terrains but even within the same terrain too. Cropping patterns varied between land types, seasons and according to the probability of raids by wild animals. Nevertheless, paddy, maize, millets and pulses formed the main crops more or less in line with the food pattern of the community.

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3   Tribal dominated areas in the two states come under the 5th Schedule of the Indian constitution where the Panchayat (Extension to Scheduled Areas) Act 1996 is applicable with provisions for self-governance by Gram Sabhas.
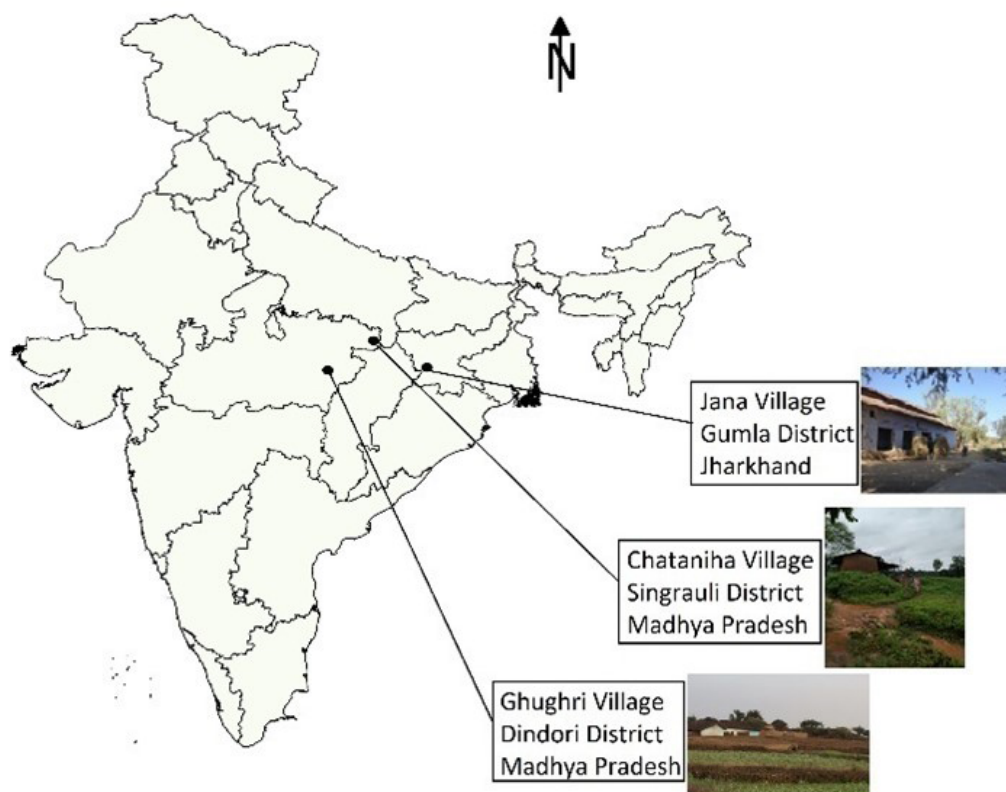
Figure1: Project locations.

Table 1: Land pattern in the project villages.

Village	No. of sample HHs	Average land size (acres) with % of HHs in parenthesis			
		Steep	Medium slope	Valley	Total
Jana	84	0.7 (79)	1.6 (80)	1.3 (20)	2.5
Ghughri	100	1.6 (92)	0.7 (97)	1.7 (95)	3.7
Chataniha	151	1.8 (89)	1.5 (89)	1.1 (95)	3.6

Source: Primary data

With fields located in varied terrains and differing in soil character, crop diversity was high. While kharif wheat and rabi vegetables are seen only in Jana, and rabi millets are confined to Ghughri, some pulse crop was always cultivated in all three villages (details in Table 2). Generally marketable surplus was low in the three villages with Jana village selling more of its produce compared to the other two. Villagers in the three sites kept native breed of cattle (for manure and draught power, there were less cattle in Chataniha) that freely roamed around, as also some goats and hens.

It was obvious that, unlike the mainstream farming communities, these close-knit communities had equal dependence on village commons and forests as much as on their farmlands. Yet, they were being urged to emulate the popular 'green revolution' approach high in cost and external inputs. Crops and practices were often copied from non-Adivasi large holders and reliance on urban markets for sourcing inputs and selling the produce was commonplace. Among the three

sites, though the water problem was acute in Chataniha, the disparity in access to cultivable land was more disturbing to people there. Didactic agronomic learning (espoused in Stone (2016) and Aga (2018)) was evident in the way practices were being popularized through advertisements and initial small incentives extended by input manufacturing companies and dealers.

With smaller holdings and no capital to invest, these villages in the forest peripheries exemplified the limits to intensifying agriculture by conventional means. However, this limitation seemingly coexisted with inherent agro-ecological strengths to establish resilient farming systems. Agro-ecological strengths of the study sites included the flow of nutrients and moisture to the fields from forest soils; forest biodiversity helping in pollination, in providing leaf litter for soil amendments and for mulching to prevent rapid loss of soil moisture, in providing different types of fodder for cattle (resulting in nutrient rich farmyard manure) and in providing herbs for making bio-fertilisers and pesticides.

4.2 Methods

The conceptual approach of the project to agriculture in general and tribal agriculture in particular along with the etiology of the project commencing from the multi-dimensional development contradictions (discussed in Sections 3 and 1 respectively) call for an inclusive and grounded exploration. This also meant formalizing an empirical strategy of inclusive action research suitable for the project. Evolved from the more popular Participatory Action Research, this strategy applies when a predefined project frame is unable to bring out socially relevant results. The project adapted the framework of Participatory Action Research for Social Change (PARSC) by weaving it around social-ecological systems (Elderink et al., 2020) and farm technologies (Selener, 1997). PARSC framework maintained the four elements - **reflection** (reflect constantly), **dialogue** (with group members and others), **voice** (listening to the "voices" of group members and others), and **action** (actual doing), in addressing its objectives. Continuous engagement with these four elements in the three villages led to the co-creation of action plans, with collective contributions from the three different groups collaborating in the project team.

Dialogues held with individuals and small groups started influencing how the different phases of the project unfurled on the ground. Our field exploration strategy consisted of multiple village meetings in three modes (with individuals, in small groups and with the entire village) and interactive walks with small groups. These were to be supplemented with annual inter-village interactions or confluence. Thus, narratives gathered from multiple levels of dialogues formed the knowledge base of the project.

Villagers' familiarity with and trust in PRADAN's work facilitated the smooth entry of the project team into the villages. PRADAN field teams working in respective locations organized and led initial field visits and dialogues. Interactions with individuals started off with those who were part of functional collectives like women's microfinance groups. Initial meetings conducted in smaller groups gathered by these individuals were open to all villagers. These meetings identified people

who could engage with the development questions from where the project originated. Each project village had such five to eight individuals who started engaging in more frequent discussions with the project team. The group was later joined by others who took charge of the field experiments. They called themselves *'adhyayan'* groups[4] and started partaking in the project meetings held in the field offices (see details in Ghosh, 2020). Village level dialogues and reflections started to be organized by the *adhyayan* groups once in two months. These used to take almost an entire day. Such interactions also took place between the three sites and were designed as joint exposure visits to known experiments in self-governance of village resources and also as annual confluences of the entire project team, where invited resource persons also participated[5].

We had four to five large gatherings in each village over a period of 10 months. Village meetings had men and women, old and young gathered by the *adhyayan* group. After some deliberations together with everyone, including exchanges on what each of us in the gathering do in our lives and would like to do etc., we had breakout sessions of age-wise groups. Larger gatherings were held at a central location in the village (usually on *chabuthra*–platform around an old tree), extending for hours, followed by walks in and around the village. Perambulations around the village along with dialogues and reflections helped us interact with those who were unable to make it to the meetings - working in the fields or coming back from the forest. On days of village meetings, lunch time spent with the villagers effectively extended the discussion from the *chabuthra* and walks. The authors' role in the larger gatherings was to introduce the origins of the action research project and help the *Adhyayan* group in clearly documenting the process. Discussions in the village meetings centered around the following in that sequence, as decided in the team meetings.

- history of the settlement
- idea of development and individual wellbeing (*khushaal zindgi* / good life)
  - role of 'community' in individual wellbeing
  - role of agriculture in individual and community wellbeing
- ecology (farms, village commons (grazing land, water bodies) and forests) -status and changes over time
- food, health, farming and livelihood – status and changes over time

Intra team deliberations on individual reflections including the members of *adhyayan* groups, on the focal themes preceded, and debriefing the highlights of deliberations followed each such visit. These 'voice' elements (as in PARSC- mentioned at the beginning of this section) were integrated

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4   Project meetings were held at the field offices of PRADAN, taking into account seasonal activities like collection of wild produce and out-migration. Apart from partaking in these, *adhyayan* groups also coordinate the participation of their village in the exposure visits and in the confluence. Members of the group used to change depending on their availability. They also initiated and coordinated action elements suggested by others in the project team.

5   The first confluence of the project was held in Kesla, Madhya Pradesh with 8-10 people each from the three villages, for two nights and three days (see proceedings of the confluence - Adaptive Skilling through Action Research (2019) https://www.pradan.net/sampark/wp-content/uploads/2020/02/ASAR-First-Confluence.pdf). Another exchange of experience was designed in the form of a two days joint visit to Mendha Lekha - a tribal village in Maharashtra (more on this in footnote 12)

either while in the village itself or in the field office meetings as the *Adhyayan* group felt convenient and also depending on the need for audio visual aids. Two series of dialogues at three levels took place in the first year of the project in each village.

It was emerging clear from the village narratives that individual and communal lives were explicitly interlinked, and functions of agriculture were cutting across food, ecology, health, economy and culture. Concerns about degrading forests, commons and farmlands were found to prevail concurrently with their concern about the lack of modern irrigation facilities and secure employment. During our initial dialogues around the history of the village settlement itself, many villagers had voiced concerns about the depletion of water and biodiversity. These and other observations documented from the series of thematic multi-level interactions are summarized in the next section.

5. Empirical Observations from the Three Villages

5.1 Oraon Families in the Village Jana

Part of the Chhota Nagpur plateau, Gumla is traditionally known for cattle fairs. Village Jana in Gumla block was first inhabited 300-400 years ago by Oraon families from parts of erstwhile Bihar state, escaping Mughal invasion. Reasonably well connected to the district headquarters, the small village of Jana currently resembles a typical agricultural landscape. Some families here continue to lease cultivable lands from the erstwhile landlords who moved to the small market town of Toto as traders. Jana villagers still forage for fuelwood (some 15 families have LPG connection that is sparingly used), mahua *(Madhuca longifolia)* flowers, tendu *(Diospyros melanoxylon)* leaves, seeds of chironji *(Buchanania lanzan)* and other seasonally available non-timber produce in their forests.

Many families of Jana had someone undertaking seasonal out-migration, as informal wage labour. (see Table 2.). Many (including women) possess mobile phones and some own two-wheeler automobiles. Houses were old, tiled and spacious. Even though they had access to paved roads, public transport and a market place, livelihoods were mainly around manual informal work as the land holdings were small and higher education was close to nil. Yet, among the three project villages, Jana had the most vocal and enterprising women. A couple of young women here were eager to move to Gumla town for better schooling for their children and employment for themselves.

Most men and women here emphasized the primary role of agriculture in their individual and collective identity and existence. Jana's cropping pattern used to consist of more than 13 rice varieties as well as varieties of finger millet and pulses. Some of these could withstand floods, while some grew well in uplands. In the village meeting on farming, there was consensus on the decline of agro-biodiversity in and around Jana. As Ramdev Oraon recollected, the diversity of paddy varieties in Jana used to be more than the variety in the names of its people! A few of those varieties are still under cultivation along with some vegetables like dolichos beans.

With open wells, ponds and seasonal streams flowing from the hills, Jana was not as water scarce as the other two project villages. Yet, agriculture was mostly rain fed, except for some channel irrigation from streams and wells. With the incursion of intensive commercial farming with seeds and synthetic fertilisers sourced from the market, younger farmers of Jana are keen on mechanization and intensive irrigation. The fact that the village still did not have a borewell or pump-set for irrigation, appeared only a matter of time to change. Family consumption of farm produce was the lowest among the three sites- 21% in Rabi and 40% in Kharif.

Oraon house in Jana and land opposite to it with dolichos beans

Meetings in Jana turned out to be reflective ruminations by its people on their development experience. Village dialogues on agriculture indicated that they hadn't thought about the pros and cons of synthetic inputs, market dependence and irrigation. The absence of such deliberations as also that of an experimental and peer learning process, conforms to the deskilling narrative in literature (see Section 3). Collective reflections on their development experience revealed the persistence of the question: can a development trajectory be visualised around the intertwined axis of private rights over land and collective stake in the forests and grazing areas? Is it possible that this trajectory doesn't translate into a financial burden? Can it ensure basic health, nutrition and economic security needed for a dignified life?

Energized by the dialogues and reflections around the above questions, some farmers of Jana entered into action mode by starting to experiment with small novel interventions. Thus, into the second year of the project, through collective experiments, the people of Jana were trying to pull together their not-yet completely lost agro-ecological skills. The new insights shared during the exposure visits and video-based discussions (see Barad et al., 2020) informed and equipped the experimenters. These co-created action plans included experimentation with various plants in preparing suitable bio-fertilisers and bio-pesticides, ways of managing water resources, and preparing annotated

herbaria of medicinal and food plants.[6] The indicators and protocols of monitoring and recording the results of these experiments were discussed and decided in project meetings.

Farmers in Jana attributed the soil fertility of their farmlands to the forested hills around[7]. They could identify plants that can be of use in preparing manures and bio-pesticides, could quickly gather seeds of disappearing local varieties of paddy and also lead the preparation of an ethno-medicinal herbarium for the village. These and similar efforts on tribal home remedies as well as on agro-ecology based ethnic cuisine (see Choudhary et al., 2020, co-authored by a member of Jana's *adhyayan* group), indicated their aptitude for rejuvenating and updating local knowledge. Yet, they seemed to be unsure about the comparative value of their ethnic skill sets compared to the attractively packaged, easy to access and often subsidized goods and techniques available in the market. This apprehension started waning with repeated conversations around such skills and know-how.

5.2 Gonds in the Forest Village of Ghughri

Ghughri is a forest village in the Amarpur block of the Dindori district. Dindori is known for its ghats over the river Narmada and evergreen *sal (Shorea robusta)* forests. Heavily eroded vast open grazing lands with a native breed of cattle freely roaming around were conspicuous in Ghughri. Gond families of Ghughri were settled here around a century and a half ago as captive labour for the colonial forest department. Thus, from the late 19th century, the people of Ghughri have been skilled in gathering and working on forest and its produces, more than cultivating the land.

Common water body in Ghughri where cattle drink water and farmland with pulse crop

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6   On-farm preparation of inputs helped them continue farming activities without disruption during the COVID-19 induced market shutdown in March-April 2020 when farmers completely reliant on markets for inputs had to delay farm operations. Project meetings from March to December 2020 were held over the internet, hosted from PRADAN's field office in Gumla, where 4-5 members of the *adhyayan* group used to gather every month.

7   As Hiralal Oraon says: "Our fields will be green and fertile as long as these forests are dense and green".

Agriculture, though currently the most important activity, is yet to be commercial in Ghughri, even to the extent we found in Jana. Food for the villagers still comes to a large extent from their fertile land fed by nutrient flows from the surrounding forested hills. Crop diversity was similar to Jana but more in favour of staple crops and less of vegetables. Gathering forest products for food, fuelwood and income generation has been an important seasonal occupation (30% of annual household income). But forests were getting thinner making Ghughri residents worried (see Singh and Chaudhuri, 2020). They say outsiders who come for timber and for grazing animals and some officials are responsible for degrading their forests.

High incidence of seasonal migration and a handful of people with high school level education haven't ensured livelihood security in Ghughri. At the same time, agro-ecological skills have been disappearing among the younger population[8]. As we found in Jana, some understanding of the forest-farm ecosystem is still intact among the adult population, though farmers lack conviction about their inherent agro-ecological know-how. They could get swayed easily by the market forces into (financially) intensive ecologically unsuitable practices. Meanwhile, the state government is trying to popularize certified organic farming. Unused packages of bio-enzymes distributed by the state agriculture department were lying around the fields. Apparently, the logic behind applying these external inputs is still unknown to the nascent farmers of Ghughri.

The casual adoption of synthetic external inputs in Jana exemplifies the breaching of experimental and social learning processes and individualization among tribal farmers. In contrast to this, hesitance to adopt external inputs based on organic farming that was being recommended by the state department in Ghughri reveals how technology introductions without required processes of experimental and social skilling, may not lead to adoption.

As an action outcome of the reflective dialogues on agro-ecology, farmers of Ghughri started reviving community vigil to protect their forests. They formed teams to patrol their forests against timber smugglers coming from outside the village. Here it is useful to note that Forest Rights Act is still not implemented here though some steps have been taken towards this, while the other two project villages haven't even started the process of vesting forest rights. Desilting the pond, planting along the gullies, and a biodiversity compendium were collective activities they embarked on, apart from experimenting with combinations of different herbs collected from the surroundings of Ghughri for making various agricultural inputs. During the confluence event of the three villages, villagers from Jana and Ghughri took a comparative stocktaking of the plant diversity in their farms and commons.

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8   According to Balaram of Ghughri, alienation of younger generations from Gondi culture is rampant because of the dominance of the Hindi language used in education, communication and entertainment

5.3 Chataniha – Undulating and Heterogeneous

Located in the Deosar block of the Singrauli district, Chataniha is close to coal mines and power plants, unlike the other sites. It is also structurally and topographically different from the other two. A cluster of hillocks with a few dwellings on top of them make the village of Chataniha. Apart from the scattered presence of diverse tribal groups, another challenge lies in the historical vulnerability attributable to multiple displacements - for dams, mines or power plants.

The surroundings of Chataniha appear degraded in terms of biodiversity and water. Gonds -who came earlier than the other tribal communities here, occupied the meagre low-lying lands available in the village. Other tribes in Chataniha, like the Baigas and Kols, came as bonded labour half a century ago along with the upper caste landlords who moved in from the neighboring state of Uttar Pradesh. Families of these labourers were given less fertile steep slopes to settle down. Chataniha cultivates more millets than the other two project villages: mostly *kodo* and *kutki (Paspalum scrobiculatum and Panicum sumatrense),* seen in many parts of the central Indian plateau[9]. People here remember times when even ragi (*Eleusine coracana,* finger millet) was cultivated in Chataniha.

Gond house and slopy land terrain in Chataniha

A poor quality undulating land, water scarcity, conflicts with the socio-economically dominating landlords, lack of other livelihood options and social heterogeneity posing challenges for a collective response - all make life in Chataniha very fragile. Not surprisingly, 'poverty (*garibi)*' appears every now and then in our conversations here[10].

Chataniha badly needs to figure out reliable livelihood options, especially since out-migration is uncertain compared to Ghughri and Jana. The scope of entirely market-oriented farming is meagre due to remoteness and sloping stone-filled land. Since the beginning of the project meetings,

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9   For a story on how these millets are making a comeback in central Indian tribal areas, see the link below
     https://indianexpress.com/article/india/forgotten-kodo-kutki-millets-madhya-pradesh-dindori-malnutrition-tribals-baiga-5395798/

10   Leela Devi of Chataniha pointed out – "our present food security needs to be addressed first through farming, before talking about future".

villagers (especially women) slowly started thinking about possible actions. This resulted in transforming the cultivation practices in Chataniha's steep slopes, by making terraces across the slope (see Ghosh et al., 2020 for details). After an exposure visit to Mendha Lekha[11], several households including landless families started trying out a grain bank, desilting their sole water source, establishing nurseries and cultivating local vegetables.

Table 2 Project villages – some comparative features

	Chataniha	**Ghughri**	**Jana**
Nearest big town with distance (km)	Waidhan, 78	Dindori, 25	Gumla, 20
Mean holding size (ha)	1.44	1.48	1
HHs with migrant members (%)	57	50	69
Major kharif crops	Millets, Maize, Pulses	Maize, Millets, Paddy	Paddy, Pulses
Major rabi crops	Maize, Wheat, Vegetables	Pulses, Maize, Oilseeds	Vegetables
Major forest produce collected and sold	Tendu leaves, van tulsi leaves, mahua flowers	Tendu leaves, Chironji seeds, Mahua flowers	Chironji seeds, Mahua flowers, Sal leaves

Source: Interactions with villagers

Scientific names of forest produce - Mahua *(Madhuca longifolia)*, tendu *(Diospyros melanoxylon)*, chironji *(Buchanania lanzan)*, van tulsi *(Ocimum gratissimum)* and sal *(Shorea robusta)*

With the above picture of the three villages, we will now consolidate the central messages from the first phase of this project, linking them to literature and experiences elsewhere.

6. How and why to reorient tribal development in the forest fringes? – Emerging Conclusions

Analyzing the reflective dialogues, voices and actions in the project villages unfolded certain conclusions. The first is a segregated understanding of the strength, weakness, gains and losses in the villages so far. These depicted in Table 3 clarify and capture a snapshot of the development trade-offs that were discussed in the villages.

From such a mixed bag of development outcomes, the second conclusion was the need to find ways to imagine and move towards a situation of their choice with conscious tradeoffs. This in turn led to sketching the specific development context that came out from the project's initial journey through dialogues, reflection and action in the three villages.

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11   A tribal village in Maharashtra, MendhaLekha is known for its unique self-governance of natural resources. There are many reports on this village; for instance - https://www.downtoearth.org.in/news/mendha-lekha-residents-gift-all-their-farms-to-gram-sabha-42127

Table 3 Common development outcomes in the villages

Gains	Welfare schemes (food, wage employment, primary health care, housing), micro credit groups, solar energy projects, changing consumption pattern
Losses	Ecological skills, biodiversity, folk medicines; useful social institutions, quality of agricultural lands, grazing areas and forests
	Resilience & dignity; cohesion & social-ecological institutions
Strengths	Forests still contribute soil nutrients and moisture, collective ethos and ecological skills are still alive, material aspirations are relatively low, relatively independent status of women
Weaknesses	Malnutrition, ignorance of the young generation about their social-ecological strengths, land alienation and the poverty trap

Note: Details like percent of beneficiaries vary between project villages

6.1 Framing the Development Context

Framing of the development context (Fig. 2) emerged from the community's debate on the idea of 'good life'. Good life for them was expressed as woven around multiple dimensions including community ethos and village ecology with embedded values like equality. This concept of wellbeing thus goes beyond material aspirations though individual values in these villages are being influenced by the larger urbanized society (see footnotes 17 and 18) through various interfaces. The frame (Fig.2) exemplifies the inherent interdependencies and trade-offs that often do not find a place in popular discourses on tribal development. More importantly, it implies how to reconcile unavoidable trade-offs while seeking prosperity in these villages.
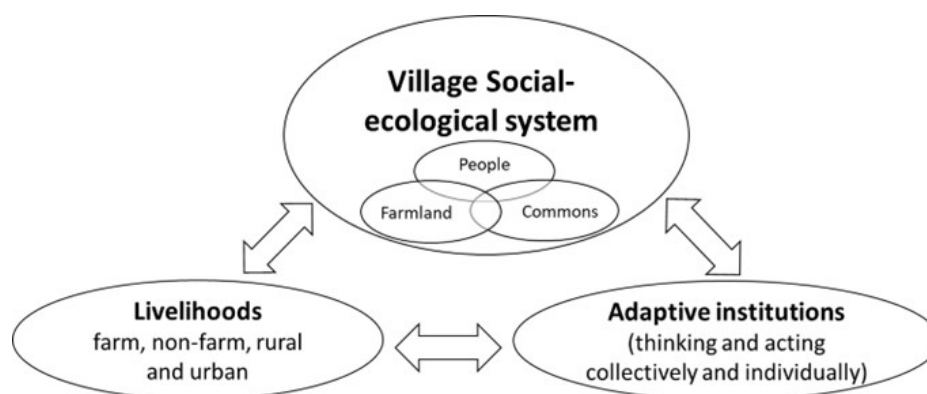

Figure 2: Development backdrop of Adivasi landscapes

Of the three interlinked cornerstones of this framing (the Social-ecological system, Livelihoods and Institutions. Fig. 2), the most perceptible element is an interconnected triad of people, farmlands and commons. Village commons in turn include three elements - forests, grazing lands and water bodies. If the development impacts on people came out as a mixed bag[12], its impacts on the closely intertwined soil, water and biodiversity in the other two elements of farmlands and commons has

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12 For example- better access to healthcare systems co-exists with malnutrition and declining stamina to traverse forests or to process millets; a higher number of schooling years co-exists with incommensurate opportunities in livelihoods even outside their landscape. See Table 2 for a broad picture of these contradictions.

been invariably adverse. The framing of the development context in Fig. 2 implies the recoil effects on life and livelihoods when farmlands and commons decline in their extent or quality, even as short-term material benefits accrue to people. Development interventions in these landscapes are of immediate benefits to the society at large (in the form of large mines, dams and capital-intensive farming) thus come with potential recoil effect on tribal life and livelihoods in the forest peripheries, as they are explicitly embedded in the complementarities of farmlands and commons.

Such development driven de-tribalization is reflected in displacements from the native habitats and/or in the socio-ecological deskilling of the community. As people, farmlands and/or commons weaken, the integrative development frame (see Fig. 2) also becomes weaker. Sustaining and strengthening the tripod development context thus gives rise to spin-offs in tribal welfare. These spin-offs could be manifested as a healthy community in a healthy environment incurring minimal financial burden while meeting their needs associated with food, farming and wellbeing. Fig. 3 showcases these dependencies more explicitly. People modify farmlands and commons. These modifications have been regulated by shared norms, values and collective thinking. Farmlands and commons interact in many ways – through grazing livestock, water bodies and biodiversity including plant biomass, pollinators and small wild animals.

As the interconnectedness and complementarity of people, farms and commons tell us, exclusive livelihood dependence of Adivasis either on commons or on farmlands by itself will be incomplete in its' welfare outcomes. Given the smallness of individual land parcels and their closeness to the forest, both farms and forests need to be complementary to each other so as to synergize tribal life and livelihoods. Even in the agriculturally vibrant village of Jana, commercial farming fails to provide a complete livelihood base for land holding families. Like the interconnectedness and complementarity within the social-ecological system (SES in Fig. 2), the livelihood ellipse also highlights the necessary complementarity between non-farm and non-rural options of livelihoods. Agriculture, forest produces, farm animals and migrant wage work remain interconnected realities of life and livelihood in the project villages. The development frame indicates that livelihood security in tribal landscapes would mean options that are mutually complementary across the commons, community and farmlands that constitute the SES (Figure 3).
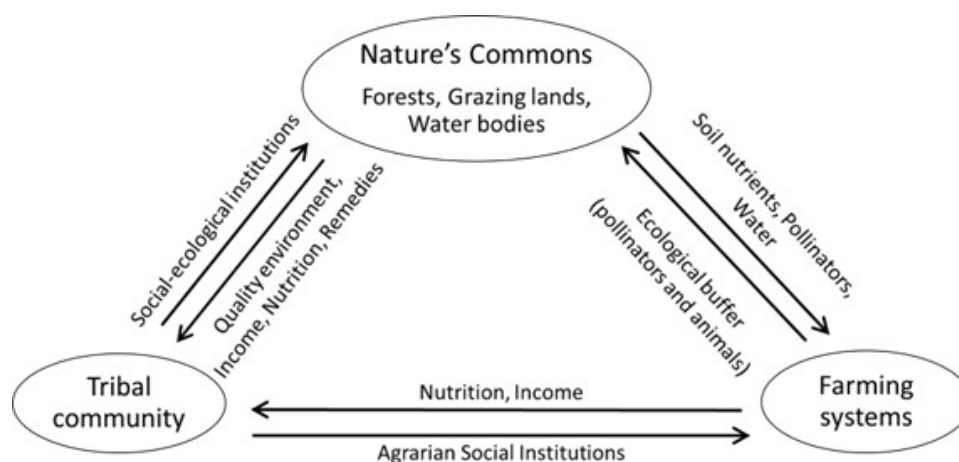

Figure 3: The Social Ecological System of Tribals

The next three sub-sections discuss how to bring about the complementarity that repeatedly surfaced in the discussions above. We look at the current and potential role to be played by the state, the emerging need for a process of adaptive skilling and how to imagine new social institutions to catalyze and sustain the process of adaptive skilling.

6.2 State and Tribal Development

The constitutional provisions in The Panchayat (Extension to Scheduled Areas) Act (PESA) and in The Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act of 2006 (FRA) widely discussed in literature (e.g., Mukul, 1996; Lele, 2017; and Menon and Bijoy, 2014), strive to ensure self-governance in Adivasi belts. If implemented in letter and spirit, they can potentially go a long way in synergizing the inherent strengths of the forest dependent tribal communities while nurturing new aspirations. But their implementation is in need of inclusive governance institutions that are well informed not just about the constitutional provisions and legalities, but also about the larger context of tribal development discussed in the last section (on the challenges in implementing FRA, see Purushothaman and Devi, 2020).

The above two Acts that are central to tribal dominated areas prescribe a *de facto* troubleshooting role for the state than actual governance[13]. This is also reflected in the frame in Fig. 2, where the state is not an explicit part as a distinct entity but is present implicitly through its facilitating role in tribal self-governance or livelihood support. In such a development framing, a welfare state cannot also adhere to piecemeal development interventions and ad hoc firefighting by overlooking the trade-offs. Hence granting legal rights over a piece of marginal land, free distribution of food or provision of ad hoc employment may qualify as necessary development rights, but fall short as lasting progressive changes.

But unfortunately, state - the most visible development agency- construes tribal development not too different from the mainstream society. As a fallout, there are two different but related issues faced by tribals. One issue is that this approach closes any possible avenue for figuring out if tribals have an alternative vision of development. The role of the state in supporting forest dependent tribals to elicit, formulate and articulate such a possible vision then becomes redundant. A historical perspective on how homogenization of development imagination ensued in the tribal context can be found in Vaditya (2019). The second issue is that if forest dependent tribals cannot articulate a different development imagination founded on their socio-ecological context, then natural landscapes hosting them get appropriated by the dominant society as antique spaces to be preserved as sojourns for the urban society living in synthetic environments, or as tools in neoliberal capital generation.

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13   Provisions of FRA enshrine the role of Gram Sabha in local self-governance. Mendha Lekha village in Maharashtra announces - *"in our village, we are the government"*- http://vikalpsangam.org/article/tag/mendha-lekha-1

A glance at the usual livelihood interventions makes the above problems more explicit. Popular employment and livelihood schemes among tribals confine to deployment in mundane jobs -manual workforce in forest management, rural job guarantee programs or casual jobs in the urban informal sector. The inherent ecological know-how of tribals bestows them with valuable (often unutilized) and unique comparative advantage. It can be gainfully and creatively engaged in offering some shielding against the uncertainties and crises they face as a community. An egalitarian employment strategy should also allow creative freedom as its touchstone (Kumarappa, 1984).

Similar to the mismatch in the kind of employment generation for tribals is the nationwide efforts in skilling. Skill India mission (2015) intends to train 400 million worker population, by 2022[14]. Despite the establishment of the Agricultural Skills Council of India, state led skilling process doesn't engage with agrarian social-ecological systems, though half the target population is in agriculture and allied activities. Usual skills imparted in agriculture pertain to the dominant tools for intensive application of synthetic and external inputs. They are unmindful of the need for a different development frame for tribal agriculture in the forest peripheries or about the overarching role of tribal ecological skills in the development framing for Adivasi landscapes.

Neither mainstream input intensive agriculture nor its' less unsustainable versions (e.g., System of Rice Intensification, precision farming, etc.) seem adequate to ensure livelihood security to tribals. This realization that tribal agriculture very rarely can be projected as money spinning ventures, may not justify ignoring the need for an alternate frame for tribal farming as a development tool, given the explicit connectedness of Adivasi wellbeing with their agro-ecology (Figures 2 and 3). Only an integrative adaptation of skills geared towards a dynamic state of development can forge a healthy equilibrium wherein short-term gains in livelihoods can be achieved without permanent loss in quality and security of tribal life. This dynamic and integrative process captured in 'agrarian adaptive skilling' is discussed below.

6.3 Agrarian Adaptive Skilling

The process of adaptive skilling is more than mere avoidance of deskilling (discussed in sections 3 and 5) or just ensuring the continuity of individual and social learning. It also differs from a 'reskilling' approach that brings back traditional skills or brings in alien and unsustainable skills. Here we unpack what could adaptive skilling mean for tribal agriculture in the forest fringes.

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14 https://nsdcindia.org/skillcentres#:~:text=Launched%20by%20Hon'ble%20Prime,and%20respect%20in%20the%20society. National Skill Development Corporation (2008) and similar agencies including a dedicated ministry for skill development (2013) have been actively involved in skilling programs. Very few in the three project villages attended any training in the state led skilling programs till 2019.Gumla being a backward district of Jharkhand state, is a focus district under the mission. Despite high primary sector contribution to the district economy (45% in 2006), agro-ecological skills are not a focal area for the mission, though food processing and regular departmental training to grow some cash crops are. In the other two sites too thrust was on industrial skills and even those were availed only by a few. It is a welcome measure to impart industrial skills including information and communication technology that can level the playing field, to some extent with other parts of the society. But this need not come at the cost of depriving Adivasis of their unique strengths and opportunities

Village dialogues on Khushaal Zindgi (good life) as they progressed towards discussing community wellbeing tended to converge towards farmlands, farming and related institutions as presented in the development frame (Fig. 2). The remaining elements in the framing - forests, common lands, water bodies as well as non-farm and non-rural livelihood opportunities (Fig.3)-could easily be located around villagers' engagement in agriculture. Village meetings pointed at the community's recognition of the symbiotic relationship between healthy ecological commons and agricultural production alongside the relation between community wellbeing and individual wellbeing. It appeared as if tribal farmers in the project villages recognized the porous seamlessness of social-ecological systems, mentioned at the end of Section 3 concurrently with the slow process of socio-economic mainstreaming.

Thus, it became apparent that instead of copying practices of ecological agriculture from elsewhere or getting bounded by the deterministic possibilities of dominant ways of farming, agrarian adaptive skilling among tribals can introspect, experiment and chart its own trajectory in the villages. *Adaptive skilling in agriculture can be described as continuous, need based evolution of skills and know-how for reliable and lasting agricultural productivity, balancing the need for nutritional autonomy and farm incomes. It aims at adaptive changes in the interface of people, agriculture and rural commons, towards a resilient social-ecological system that minimises sudden and extreme shifts in agro-ecology, livelihoods and wellbeing.*

The process of adaptive skilling for Adivasi farmers emerges from the project's first phase as depicted in Fig. 4. These steps will be informed, facilitated and supported by the larger process of PARSC mentioned in Section 4. Following the PARSC principles, each step needs time and space for some consensus to emerge as well as for dissent and abstinence. Whatever actions, experiments and subsequent changes happen in farm lands and commons need to be emerging from the community. Some actions may be abandoned later or modified or continued, following deliberations as part of the process.
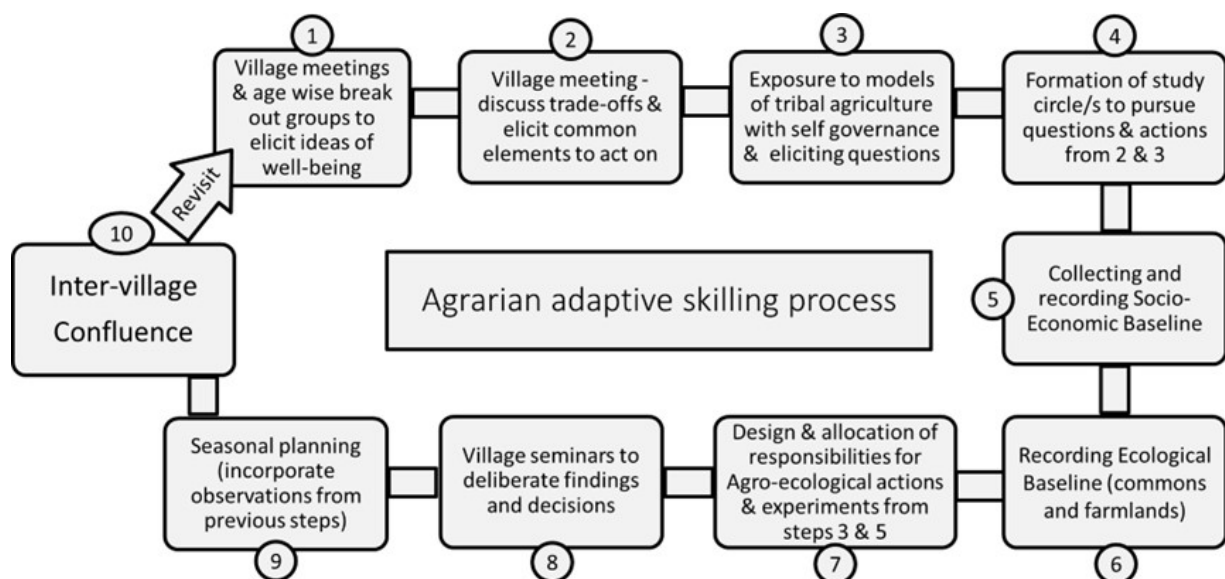

Figure 4 The proposed process of adaptive skilling among Adivasi farmers

After unfolding a possible transformation in the framing and process of development from the vantage points of tribal agro-ecosystem and possibilities of self-governance, we will now turn to other factors to be considered. Thus, in the next sub-section, we identify and evaluate potential instruments and actors to initiate and sustain the process of adaptive skilling, with the caveat that these are just indicative and are amenable to contextual permutations.

6.4 New Social Institutions for Adaptive Skilling

The development framing discussed in 6.1, in the context of the volatility of outcomes from current interventions and the potential of adaptive skilling point to the need to nurture inherent know how and skills among tribals to address newer challenges. This in turn points toward the need for institutionalising an informed and inclusive process. Crafting a bunch of blended (formal-informal) social institutions molded by this agenda is an obvious need for any interventions including implementation of the constitutional provisions like PESA or FRA.

Such institutions can be crafted at the interface between cultural-ecological know-how and constitutional provisions for local governance. As the framing in Figure 2 indicates, these institutions can also play a buffering role in the event of divergence (driven by development interventions) between the tribal social-ecological systems and livelihood options. Community and landscape specific adaptive social institutions emerge crucial to reining in such disintegrative tendencies in the development frame. The third ellipse in Figure 2 is inclusive of such legitimate (recognized by law or regulatory/ governance agencies) self-organizing institutions key to the aspirational journey of tribals towards a dynamic equilibrium of their choice.

A dynamic equilibrium is one that addresses emerging challenges and wherein progress in any one element doesn't come at the cost of others crucial for an enduring progress in wellbeing; provided wellbeing is conceptualized from an informed perspective. Adaptive social institutions will be able to turn the cascading and often divergent development processes towards a durable and dynamic equilibrium. Such legitimate but informal (in being elastic, or changing its form as required) social mechanisms can identify and sharpen adaptive skills through contextual and inclusive thinking so as to tackle emerging issues like those concerning food, health, livelihood and ecology[15]. Dynamic but contextually suitable changes that are synchronous with the development frame in Figure 2 are demonstrated as definite possibilities, by the action elements (Section 4.2 and 5) of the project.

'Institutions' in this paper doesn't confine to the 'rules of the game' framework (North, 1992) aiming at economic prosperity, but rather the elastic social formations by and within the community that support and monitor informed developmental changes and self-governance. In the context of this project, the norms (without sanctions), rules (with sanctions), their corresponding informal and formal governance mechanisms (tribal cultural institutions and *gram sabha*, for instance), as well as

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15   Incidentally, this approach gained currency during the Covid-19 pandemic, in line with the call by India's Prime Minister for 'self-reliant/ vocal on local' economy to face economic slow-down (https://www.youtube.com/watch?v=0xmx92Q_kQ4).

common and private property regimes (commons and private farm lands) are closely intertwined. Thus, adaptive skilling institutions that are supposed to endow the scaffolding necessary for dynamically evolving progressive and informed changes among ethnic communities[16], will also reflect this interconnectedness. To imagine such an institutional platform, we could visualize an elastic group within a community that keeps updating their traditional know-how on sustainable foraging of forest produce informed by related rules and regulations as also by changes in biodiversity, rainfall pattern, technology and the market. *Adhyayan* groups in the project are potential institutions of that kind. There could be similar groups focusing on various aspects of the SES engaged in mutual sharing of new information, in a systematic pattern.

Building adaptive institutions entails another dimension - engaging with informed and committed external agents like the state and civil society. Apart from equipping tribals with appropriate know-how to align developmental processes with their social-ecological context, adaptive institutions will also inform them on the constitutional provisions and modern social normative[17] so that the community can confidently deal with the political-economic interferences in their social-ecological system[18]. Along with deliberative and informed institutions to trigger questions and make conscious choices, this will mark the advent of a new development equilibrium[19] in tribal hamlets. The existence of predicaments in the community on choices that pose individuals against the community as well as livelihoods against ecology were discussed in the beginning of this section. This section pointed at the need for processes and institutions for adaptive skilling in order to reconcile these dilemmas. Community ethos was seen sprouting gradually back in the project villages around the issue of agro-ecology, as an apparent first glimpse of accomplishment towards creating adaptive agrarian social institutions. Collective action offers hope for a paradigmatic shift in the way these three villages (don't tend to) imagine their future. *Adhyayan* groups followed by other villagers were discovering the rationale in collective thinking, in deliberative processes around a diversity of opinions, and in questioning the 'why' and 'how' of agricultural practices or new introductions.

6.5 Synthesizing the Conclusions

The above conclusions in agrarian adaptive skilling should be seen resulting from and aligned around four axes. The first axis is the visible dilemma and trade-offs entailed in the development experience between 'individual' and 'community' and between 'livelihoods' and the 'social-ecological system'

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16 For instance, many customary norms are changing. Villagers now consider traditions like folk remedies for life threatening ailments, witch hunts, human sacrifice, etc. undesirable, though the last known practice of some of these was just 40 years ago.

17 Like egalitarianism, including gender parity that some tribal communities may not be complying with or like certain discriminatory tendencies emulated from the mainstream communities

18 This is similar in argument to Nilsen (2012) about *"..learning to speak the democratic vernacular"*. Adaptive skilling that unfolds along with formal education will open up the possibility of a new development equilibrium. See Santakumar and Das's exposition of links between political clout and tribal education in India and Brazil.https://practiceconnect. azimpremjiuniversity.edu.in/development-path-for-indigenous-people-lessons-from-india-and-brazil/.

19 This new equilibrium is expected to minimise positive feedback loops of unsustainable changes in the Adivasi SES and avoid lock-ins (in technology, capital or consumption patterns, for example).

of the tribal village. The silence around these dilemmas was unmuted by ASAR through reflective and inclusive dialogues in open fora.

The second axis is around the remnants of social- cultural-ecological norms of an ethnic community in transition for decades. Conventional wisdom in the development circles is that tribals are waiting to be market driven and urbanized, to join a consumerist society and economy. What emerged was a notable though weak persistence of ethnic know-how and skills along with concerned norms, despite the prolonged and on-going transition efforts.

The third axis of the findings surrounds certain impacts of the above-mentioned muted dilemma and weak socio-cultural fabric. These repercussions of development that is being pursued for decades were apparent in individualization in villages within what used to be a relatively cohesive community. Such individualisation for development, say for the sake of availing welfare benefits in food, livelihoods, education and tenurial security eventually has been eroding their 'tribalness' to varying degrees in different places and communities. Detribalization or erosion of cohesion and tribalness that weaken their socio-cultural fabric, and the silent dilemma in trading-off social-ecological resilience for short-term livelihoods, leads to the unstated outcome of turning *Adivasis* into a ecologically deskilled minority community. The fact that the development process has not yet completely individualized or totally isolated them from their social-ecological systems, indicates the existing scope for reconfiguring and realigning development with informed and inclusive adaptive processes.

The last axis around which the conclusions can be mapped is about how these ethnic margins of Indian society can co-evolve with a market-driven urbanizing society and move towards a dynamic equilibrium of their choice. If this appears demanding and idealistic, the unique gains in treading the unfamiliar path ridden with challenges are unpacked below.

7. Imagined Way forward – Challenge and Opportunity

Going beyond tribal agriculture, adaptive skilling could be seen as an overarching and interlinked process that bridges the gaps within and between sectoral interventions. In the process, it can prevent ruptures in the social-ecological foundation of tribal wellbeing. Forests, mountains, grazing lands and water bodies, along with the hamlets, farmlands and the community constitute the tribal social-ecological system. The paper reveals how this would mean crafting informed, deliberative and adaptive mechanisms engaged in the generation of blended knowledge that links diverse systems of learning and practice. In the Adivasi context, it should begin at the overlapping triad of people, farmlands and commons.

Such adaptive skills and processes among the ethnic communities need to also engage with external interventions and agencies. In order to confidently deal with external agencies intervening in their social-ecological system, these communities need egalitarian self-governance mechanisms that are well informed on the pros and cons of each intervention. In ASAR villages located in the Central

Indian Plateau, this meant fostering individual and community know-how required to move towards a resilient production system around food, health and livelihood needs that are shaped by cultural-ecological norms. Creativity and information needed for shaping and setting in motion such adaptive processes, pose new challenges to development actors while promising new vistas of progress for nearly 20 crores forest dependent Indians[20].

Harnessing the remnant systems of Adivasi know-how and of social organization and synergizing them with modern sciences and society is challenging - especially for sectoral line agencies to catalyse the process. It needs open minded, ready to experiment development practitioners, who can network within and across sectors and knowledge domains. With more than 70 agricultural universities and associated 200 research institutes, more than 20,000 farm extension offices, thousands of tribal development offices, and half-a-lakh voluntary agencies working in the social sector, if such a process can't be spearheaded among the tribal farmers of India, then we shouldn't be surprised about persisting marginalization amidst incessant rhetoric on development.

Agrarian adaptive skilling that is unfolding from the on-going project ASAR, is slowly diffusing into planning and managing biodiversity, nutrition, healthcare, livelihoods and lifestyle[21]. This suggests a larger opportunity embedded in pursuing the path of adaptive skilling. It pertains to what Adivasi society, being the last source (though weak and patchy) of agro-ecological know-how and self-governance offer to the mainstream society facing multiple uncertainties in the 21st century. Thus seen, adaptive skilling does not limit itself as a development journey of the marginalized but becomes a civilisational necessity for all of us.

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20   Estimate from Khare et al (2000)

21   As tribal lifestyle is being mainstreamed, an informed strategy for material progress or for carbonising tribal lifestyle – where and how to make activities more energy intensive, for instance – can be thought through and deliberated in forums that emerge for and from the process of adaptive skilling. In this project, deliberations were around agriculture and led by the Adhyayan groups.

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About *Azim Premji University*

Azim Premji University was established in Karnataka by the Azim Premji University Act 2010 as a not-for-profit University and is recognized by The University Grants Commission (UGC) under Section 22F. The University has a clearly stated social purpose. As an institution, it exists to make significant contributions through education towards the building of a just, equitable, humane and sustainable society. This is an explicit commitment to the idea that education contributes to social change. The beginnings of the University are in the learning and experience of a decade of work in school education by the Azim Premji Foundation. The University is a part of the Foundation and integral to its vision. The University currently offers Postgraduate Programmes in Education, Development and Public Policy and Governance, Undergraduate Programmes in Sciences, Social Sciences and Humanities, and a range of Continuing Education Programmes.