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Narratives of Change: Actors' Perceptions of Climate Change and Community-led Innovation in Banspal, Odisha, India

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Narrative Insights on Agroforestry, Livelihoods, and Communication in the Banspal Area, Kendujhar District, Odisha, India

While climate change is a global phenomenon, its impacts manifest very differently in different regions across the world (Pascht, 2022; Thiault et al., 2018). The differences in impact are due not only to local atmospheric and environmental conditions, but the effect on local populations varies significantly due to social systems, agricultural and forestry practices, and government policies (Chigbu, 2025; Dearing et al., 2014; Szetey et al., 2021).

In an effort to understand and guide innovation to ameliorate adverse local impacts of climate change in the Banspal area of Odisha state, India, in the second half of 2025, we undertook the project described in this report through the CGIAR Climate Action Science Program (<https://www.cgiar.org/cgiar-research-portfolio-2025-2030/climate-action>).

The project was done under the auspices of the International Food Policy Research Institute (IFPRI <https://www.ifpri.org/about-ifpri/>) and in collaboration with the Indian NGO, Foundation for Ecological Security (FES <https://fes.org.in/>). It was designed, organized, and then conducted in Banspal block in Kendujhar district of Odisha State, India. The project gathered insights from analysis of interviews and narratives contained therein as a basis for understanding the agriculture and forestry practices and governance, perceptions of local impacts of climate change, and livelihood concerns in the Banspal area, an area that has a tribal population characterized by the Indian government as belonging to Particularly Vulnerable Tribal Groups (PVTG) (UNDP & FES, n.d.; Wikipedia, 2011).

This was done to provide a greater depth of knowledge for more effective, fair, and inclusive decision-making and implementation in a Living Lab in Banspal, which is being designed and developed in a process led by Dr. Thomas Falk of IFPRI in collaboration with FES. The Living Lab (König & Evans, 2013; “Living Lab,” 2025) is, in this instance, an initiative to stimulate and nurture local innovation for developing and implementing pathways to local and regional climate change mitigation and adaptation.

As noted above, my project aimed to gain insights from narratives expressed by stakeholders and affected citizens that reflected their attitudes, beliefs, and cultural values related to the environment, livelihoods, policies, and climate change and which thereby could influence their decisions and engagement in climate actions, including in the Living Lab.

The project was begun in June 2025 by creating a semi-structured interview protocol (Castillo-Montoya, 2016; Turner, 2010) that served as a flexible guide for interviews that were mostly to be done in Odia, the local language of tribal members in Banspal. Though originally a total of 15-20 interviews were planned to be completed, translated, and transcribed by the end of September 2025, a total of nine semi-structured interviews were collected in August 2025. Translation to English from Odia and transcription were completed for the nine interviews in November 2025.

Seven tribal members were interviewed and recorded by Bhabani Shankar Parida (FES) in Odia and two interviews with district officials were done by Bhabani and myself in English. The work was also supported in India by Vaishnavi Paliya (FES).

Finally, a few key takeaways were drawn from the analysis. It is important to note that the takeaways are tentative and subject to three essential caveats. One caveat is that I was not able to check the accuracy of the translations and transcriptions; second is that the semi-structured interview protocol left room for the interviewer to follow up responses with different degrees of probing, which was evident in different interviews; and third that the very limited number of interviews can at best only provide a few hints at the range of views in the communities. The data was anecdotal, rather than statistical, so it is not certain whether the views represent outliers or lie within the mainstream of perspectives and convictions.

Methods

Analysis of data

Using a formal coding (Qureshi & Ünlü, 2020) process for analysis of the interviews, as was planned initially, was not feasible due to the small sample size delivered and the two month delay in receiving the transcriptions. Instead, I manually clustered all the transcriptions into a set of themes and used AI (Microsoft CoPilot) to summarize the main points from the themes. I then edited the AI summary for accuracy and clarity.

The interviews provided the data for an inductive, grounded theory approach (Strauss & Corbin, 2008). The recorded interviews were translated to English and transcribed by computer. The analysis of the data, done manually, sought to identify recurrent narratives and unique perspectives, as well as comments on relationships between tribal members and district officials. The results of analysis are intended to support the mapping of a network of actors, institutions, resources, and perceptions which, in turn, help shape a Living Lab aiming to foster innovations for climate action. The interviews provide a view of the network, affordances, and concerns which are complementary to the views of future conditions in the Kendujhar district that emerged in the [Vision to Action process](#) conducted by Dr. Thomas Falk and the FES team.

Data handling and IRB procedures for data protection

Each interview began with a verbal summary of the purpose, process, and use of the interview. Participants were informed that their responses will be held in strict confidence, and they may skip any questions they do not wish to answer. The prospective interviewee had the opportunity ask questions which were to be answered by the interviewer(s). The prospective interviewee could again choose to withdraw or to consent.

Digital audio recordings were only made with the explicit permission of participants, and all notes and recordings were treated with strict confidentiality. These digital audio recordings and other data were stored on password-protected devices to ensure confidentiality. Once the recordings were transcribed and translated, all recordings were deleted.

While personal identifiers will not be collected, it is acknowledged that for some interviewees, there may be a possibility of deducing identities based on their roles or expertise. To address

this, all data were stored on password-protected devices accessible only to authorized researchers. Interview responses were anonymized by removing any indirect identifiers that could link participants to their responses, and access to the data will be strictly limited to the research team. Any necessary data transfers will be encrypted to prevent unauthorized access.

The interviewers were instructed that they must not guide the respondents to provide specific answers.

The principal investigators in this study, Dr. Thomas Falk and Prof. Ilan Chabay, have experience with IRB procedures and Dr. Falk has qualified for IRB through IFPRI. In contrast, the Government of India does not require IRB approval. The partner organization (Foundation for Ecological Security) does not have an IRB. However, the nature of this research is not highly sensitive, as it is a preliminary small sample interview study, which will not collect personal identifiers.

Results: Interview responses grouped by topics

Livelihoods¹

- Most TM reported that farming is their main source of income.
- Two said they are also social workers in their communities.
- One TM mentioned collecting forest products, as well as cultivating crops
- DO noted that only 40% of self-help groups (SHG) are using 10-20 lakh rupees offered by the government as an incentive to engage in a wider range of livelihood activities. The DO's remarks seemed to express his frustration that not more of the groups have used the funding. Nonetheless, the DO expressed commitment to increasing its use in the next years.

Forestry and plantations

- One TM expressed the need to protect the forests habitat for animals and suggested that "barren land" be used for cultivation (fruit and vegetables) and forest land used as a source of produce (e.g., Sal and Mahula leaves).
- DO stressed development of bamboo plantations to counter loss of forest cover and provide source of income when planted area matures.
- DO also pointed out the need for community support to plant bamboo and prepare vermicompost.
- A strong narrative that was expressed in meetings in two different villages was to have tribal rights and tenure of their traditional forest lands legally and practically recognized to protect them from encroachment by commercial interests, most relevant locally being iron mining and logging.

¹ Abbreviations: interviewer I; district official DO; tribal member TM; self-help group SHG: scheduled tribe ST (Indian government designation)

Water access and quality

- DO: water level is decreasing, so dams are needed for irrigation. Water is not suitable for drinking because of high iron content. Over next 2-3 years the government will install pipes for safe drinking water.
- TM: water scarcity is main problem for farming. Need to collect rain water, rather than ground water for irrigation.
- TM: There is a lack of drinking water facilities

Medical care access

- TM: Roads to improve access to medical facilities and ambulance service have been lacking, but there are some recent improvements.

Climate change and environmental effects

- TM: most said effects of climate change are quite evident, while others said they didn't observe any change.
- DO: steps are being taken by government to decrease shifting cultivation with “reckless cutting of trees” in forests
- TM: changes in timing and amount of rainfall has impacted farming cycles and productivity.
- TM: decreasing cultivation of food for one's own use has led to more dependence on store-bought food, which may be less healthy

Wild animals as resource or pests

- DO: loss of forest leads to elephants going into villages. Therefore we focus on plantation development.
- Some TMs said number of wild animals causing trouble in villages is decreasing, others said it is increasing.
- One TM made the observation that scavenger species (jackals and crows) used to clean up carcasses, but now there are less of these scavengers due to decrease in forest cover.

Farming practices

- DO: it is too difficult to shift to organic farming due to faster growth of crops with inorganic fertilizers and the difficulty of farming in this mountainous area.
- DO: Sadhana charitable trust provides Rs 5000 per hectare for organic farming, but still farmers are not utilising this money properly
- TM: In the coming years we will educate people to reduce the shifting cultivation practices and should shift towards a regular farming practice in the farming land in the villages. In the coming 5 years, we want people to focus on afforestation and protecting the forest areas so that the problems like water scarcity, shifting cultivation or wild animals destroying the crop cultivation in the village will reduce.

Education

- DO: Scheduled tribal members are not getting proper education beyond secondary school. Education will improve standard of living.
- DO: problem remains of drinking alcohol and not attending to children's needs among 40% of population. Anganwadi worker addresses this problem.
- TM: this whole scenario [of changing climate] has inculcated a sense of responsibility in our generation and we are receiving education related to this, which our forefathers could not.

Communication between villagers and district officials

- DO: we hold regular discussions in committees and a chain of responsibility to address problems. Also there is a phone helpline, which is important for those TM with difficulty in writing. There is also a system of overseers who can visit farmers to reach those without means of communication.
- TM: I would trust the NGOs more than the Government departments because although the government is trying but the effect is not noticeable. They have failed to implement various schemes related to the environment and also, I have seen only few surveys being done by the government regarding these climate change issues.
- I: whom do you think you can contact or communicate to find a solution for you? Have you talked to the village head about this? TM 6: no. I: Maybe the village head can help you. TM 6: The village head is not present here so we haven't communicated.

Misunderstanding or mistranslation?

- DO: The CO₂ level is increasing day by day so the oxygen released by the bamboo trees will neutralize it.

Takeaways for further investigation

Three key points stood out in the perspectives and narratives heard from Kendujhar district officials and Banspal area tribal members.

1. Establishing tribal land tenure in the forest areas in both legal and practical terms was very vociferously advocated in meetings of tribal village members with the IFPRI and FES teams. The risk of *de facto* displacement from traditional tribal land and the loss of its value in provisioning and protecting the villages from commercial interests is long standing and serious, including from mining and logging. This is an issue of fundamental ownership which may affect the motivation of tribal members to engage in and support innovations in the Living Lab as it develops.
2. The assessment of communication between district officials and tribal members is not aligned between these two parties. This may reflect the difference between the intentions of the district officials expressed as official policy and the reality as experienced by tribal members. This misalignment offer a worthwhile opportunity for facilitated dialogue to narrow the gap between policy and practice and build greater mutual trust.

3. While there was no overall agreement on climate change, *per se*, the impact that could be ascribed to climate change was noted by several tribal members, for example by mentioning changes in timing and amount of rainfall with the consequent effect on farming. The impact of changing rainfall pattern on drinking water availability and the level of the water table was also mentioned.

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Appendix 1

AI Summary of Main Points and Points of Difference

Produced from interview transcripts selected and organized by Ilan Chabay, then summarized by Microsoft CoPilot AI and edited by Ilan

Livelihoods

- **Government Support:**

The Government of Odisha is providing substantial incentives to Self-Help Group (SHG) members (up to 10–20 lakhs rupees) to encourage participation in livelihood activities such as paper/leaf plate making, goat rearing, vegetable farming, fisheries, poultry, and pottery. Not all SHGs or individuals benefit equally, and the success depends on how well the funds are utilized.
- **Community Involvement:**

Participation in these programs is partial; about 40% are involved in such activities, while the rest are not. Some villagers rely mainly on agriculture with varying levels of family participation, while others are the sole workers on their farms. Social workers in the community focus on education and collective growth.
- **Mining:**

Mining provides income, but the distribution is uneven. There is an emphasis by district officials on ensuring that mining benefits society as a whole rather than individuals.

Water Quality and Access

- **Water Scarcity and Quality:**

Groundwater levels are dropping, leading to inadequate drinking water and challenges with irrigation. Iron contamination is also an issue. Efforts include dam construction and pipeline access to provide safe drinking water in coming years.
- **Villager Priorities:**

Water availability and drinking water quality are top priorities, with some emphasizing the need for soil fertility and improved road access for emergencies. Rainwater harvesting is suggested as a solution.
- **Adaptations:**

Some villages use rainwater for non-drinking purposes and boil pond water for drinking.

Wild Animals as Resource or Pests

- **Human-Wildlife Conflict:**

Deforestation has driven elephants and other animals into villages, causing crop damage. The community and officials are working on reforestation and awareness to address the issue.
- **Wildlife Observations:**

Some report a decrease in wild animal populations and birdlife due to habitat loss, while others note an increase in crop-raiding incidents.

Farming Practices

- **Organic vs. Inorganic Farming:**

There is heavy reliance on inorganic fertilizers and pesticides, with limited success in shifting to organic methods despite incentives. Soil fertility concerns are rising due to chemical use.
- **Shifting Cultivation:**

Efforts are ongoing to reduce shifting cultivation in favor of regular farming and afforestation. Community education is seen as key to change.

Education

- **Education Barriers:**

Most of the population belongs to scheduled tribes and faces educational challenges. Many leave school after secondary education, and adult literacy and awareness are limited, compounded by social issues like alcoholism.
- **Climate Change Awareness:**

Younger generations are more aware of environmental challenges due to education.

Forestry and Plantations

- **Forest Dependence:**

Many community members rely on forest produce for supplementary income. There is a concerted push for afforestation, bamboo planting, and protection of existing forests, with SHGs involved in vermicompost production.
- **Community Action:**

Village-level decisions support protecting forests and shifting cultivation practices to fruit/vegetable farming or non-timber forest produce collection.

Climate Change and Environmental Effects

- **Perceived Changes:**

Most report less predictable rainfall, more extreme weather, and negative impacts on farming and forest cover. Some see positive developments in infrastructure, while others note health and agricultural challenges.
- **Community Discussions:**

Climate and environmental issues are regularly discussed at the village level, with a focus on finding solutions and adapting practices.

Communication and Governance

- **Channels of Communication:**

Platforms like Farmers Information and Advisory Committee (FIAC) facilitate problem-sharing between villagers and officials. However, isolated villages lack access to information and services.
- **Trust in Institutions:**

Residents trust both government and NGOs, but some prefer NGOs due to perceived greater effectiveness. Participation in governance and awareness of schemes has increased.

Resilience and Cultural Identity

- **Pride of Place:**

Many express pride in their natural environment, cultural traditions, and community. Some would encourage urban natives to return, citing the peacefulness and resources of rural life.
- **Challenges:**

Some mention internal social barriers to development but emphasize the importance of youth, strong leaders, and collective effort for progress.

Points of Difference

- **Engagement in Livelihood Activities:**

While some SHGs and individuals actively participate in government-supported livelihood programs, others do not, citing lack of interest or challenges in utilization.
- **Family Participation in Agriculture:**

Some depend on the entire family for farming, while others work alone.
- **Perception of Wildlife Trends:**

Interviewees differ on whether wild animal populations are increasing (leading to more crop damage) or decreasing (due to habitat loss).
- **Experience of Climate Change:**

Some observe more rainfall and positive changes; others report more erratic weather and negative impacts on farming.
- **Trust and Reliance on Institutions:**

Some trust government agencies; others prefer NGOs or community institutions for addressing local issues.
- **Approach to Governance and Participation:**

Participation in village meetings and awareness of government schemes varies, with some noting positive change and others remaining less engaged.

Appendix 2

The following is the introduction and protocol designed by the author in July 2025 for use by interviewers in the project in Odisha in August 2025.

Culture and methodology

It will be very important to use these questions as general prompts in a guided conversation, but as they are written now, they lack cultural nuances that the interviewers should provide. This will be one point to be discussed in training sessions with the interviewers.

A second key point is that the interviews supply the data for an inductive, grounded theory approach. The recorded interviews will be transcribed and translated to English using automated software. The process of coding the transcriptions can be facilitated by AI software to identify recurrent and exceptional narratives with the frequency of their occurrence and context. The researchers will then use the coded data to map a network of actors, institutions, resources, and perceptions that shape the potential in Keonjhar Living Lab for undertaking innovations for climate action.

The results of the interviews will provide a view of the contemporary network, affordances, and concerns that are complementary to the view of a more distant future success posited in the Vision to Action process.

15-20 interviews are planned

Introduction to project objectives for interviewer:

These interviews will sample narratives expressed by men and women in the region of Keonjhar that can provide insights into attitudes, perceptions, and relationships regarding climate change and opportunities for innovative action in the Living Lab area. The objective of the study is to develop a map of the regional network indicating 1) personal and professional connections among a sampling of key stakeholders and other citizens in the Keonjhar area of Odisha state, 2) resources (financial, legal, and technical knowledge) available in principle and practice to interviewees, and 3) perceptions and priorities of interviewees about the environmental, ecological, and livelihood issues positively or negatively affecting them personally and affecting other individuals or groups in the region.

Protocol for semi-structured interviews

Greeting, purpose, and consent

Greet and thank the prospective interviewee for agreeing to meet.

Explain the purpose of the interview: We are interested in learning about and understanding how people in the Keonjhar region are thinking, making decisions, and acting in response to the increasing effects of climate change on local conditions and ways of living. This information will help local institutions and people to jointly develop fair, inclusive, and effective innovative climate change actions.

State that the prospective interviewee can withdraw from participation at any time without any consequences and without having to justify his or her decision. The prospective interviewee will have the opportunity ask questions which will be answered by the interviewer. The prospective interviewee will then have the opportunity to withdraw or to consent verbally and by signing a form with the verbal information as presented to him or her.

Interviewee responses will be held in strict confidence, and he or she may skip any questions they do not wish to answer.

Digital audio recordings will only be made with the explicit permission of participants, and all notes and recordings will be treated with strict confidentiality. These digital audio recordings and other data will be stored on password-protected devices to ensure confidentiality. Once the recordings are translated and transcribed, all recordings will be deleted.

Though personal identifiers will not be collected, we acknowledge that for some interviewees, there may be a possibility of deducing identities based on their roles or expertise. To minimize this risk, all data will be stored on password-protected devices accessible only to authorized researchers. Interview responses will be anonymized by removing any indirect identifiers that could link participants to their responses, and access to the data will be strictly limited to the research team. Any necessary data transfers will be encrypted to prevent unauthorized access.

About the interviewee

Begin by creating a sense of informal conversation and mutual interest, rather than diving right away into sensitive questions.

Tell me about your family – Partner/spouse, children, parents, siblings, others

Where do you live? Did you grow up there? How long have you lived there?

What do you do on most days? What kind of activities do you do on most days?

Do you work alone or with other people in your family, with neighbors, or others?

About living in this area (Keonjhar)

Which resources (soil quality, forest access, type of jobs, housing, water for home and irrigation, expert assistance related to work) are important to you?

Would you recommend that a friend or family member who lives in another state move to Keonjhar area? Why or why not? Or what is the best part of living here? What is not so good?

About local impacts of global change

Have you personally noticed changes in the past few years in the climate (perhaps phrased as trends in weather), environment (water, forest use, air or water quality), or in jobs and markets?

If you have noticed such climate, environment, or market changes, what are they? How important are they to you now? Do you think these changes will become more or less important in the next 10 years?

If you heard or read comments about the changes, who or what are sources of information on such changes that you think are reliable and useful to you?

Do these changes affect you or your family or your work? In what way?

Are you facing any challenges in agriculture? If yes, have you thought about some alternative agricultural practices?

Have you noticed any changes in the fauna near your village in the last 10 years? How does it impact your community/village?

About the future for family and community

What would you most like to see in the next 1 year that would improve the situation for you and for the community? In the next 5 years?

Do you think those improvements will happen? What can you do or want to do to help them happen?

How would such improvements or changes benefit your family and community? Might some affect them adversely?

Which institutions or individuals do you think would support making needed changes? Have you or would you be comfortable in asking for help for yourself, your family, or your community at an institution or from a particular individual?

Do you have any additional comments or any questions for me (interviewer)?

Inform interviewee that an anonymized summary of this study will be made available to all interviewees

Thank you for your time and helpful input

Close interview

