

# A PREFATORY NOTE ON THE CULTURAL ECOLOGY OF THE MAL PAHARIYAS OF JHARKHAND

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## ABSTRACT

Cultural ecology, which appears to be a new phrase, has been used to refer to the nature of human adaptations that people have developed with their 'social and physical environments' [Frake \(1962\)](#). The adaptations that have been conceptualized as being associated with biological and cultural processes are considered inevitable as they enable the population enough to live successfully in their given and changing environmental settings [Joralemon \(2010\)](#). As cultural ecology provides opportunities for understanding the adaptation processes of communities both diachronically as well as synchronically, in this study, it has been used as a methodological framework/perspective for exploring the socio-cultural life of the Mal Pahariyas of Jharkhand concerning their social and physical adaptations. In other words, this study looks at the role of (their) natural environment in the construction and contemplation of their social organizations and overall collective behaviours. However, this study also pays attention to the limitation in the relationship between the Mal Pahariyas and their natural environment because the relationship that seems to be eternal depends entirely on the nature and level of the livelihood dependency of the people on their environment. Therefore, it can be understood that, for many of the indigenous and tribal communities, their association with the environment enables their survivability through its vital role that resulted in the establishment of a strong reciprocal relationship between the people and their natural environment and beyond. as studies on the reciprocal relationships between the indigenous and tribal communities and their environment are scarce, particularly in the context of Jharkhand, and the Mal Pahariyas, to be specific, a research proposal entitled "A Study on the Cultural Ecological Knowledge of the Mal Pahariyas of Jharkhand" had been submitted to the Indian Council of Social Science Research (ICSSR) for consideration for financial support and subsequently, the project proposal had received funding for its implementation with effect from February 15, 2024. Therefore, the aim of this note on the cultural ecology of the Mal Pahariyas of Jharkhand is to give an outline of the ongoing project and also to do an indicative role of the whole research programme, which promises many academic things as outcomes at its successful completion of the first year.

**Keywords:** Adaptations, Culture, Ecology, Social-Physical Settings, Sustainability, Environment

## 1. INTRODUCTION

The coining of the term, 'cultural ecology' by Anthropologist Julian Steward (1902-1972) in his *Theory of Culture Change: The Methodology of Multilinear Evolution* (1955) is seen as a turning point in science and social science researches, since it has represented the way that reflected the complex role that the environment has on the characteristics of human adaptation. So far the interaction

between culture and environment is concerned, Steward combined the following four approaches: 'explanation of culture in terms of environment'; 'relationship between culture and environment as a process rather than as a correlation'; 'consideration of small-scale environment rather than culture area sized regions'; and 'examination of connection of ecology and multilinear cultural evolution' Sutton and Anderson (2010), 20. As a theory, cultural ecology provided different parameters and variables for research such as 'culture as an adaptive mechanism of human communities with the natural environment', 'indigenous and traditional knowledge systems', 'ethnoscience', 'knowledge of the biotic environment', 'ethnobotany', 'ethnozoology', 'ethnomedicine', 'knowledge on the abiotic environment', 'art and environment relations', 'human control of the environment', and 'environmental resource management' Sutton and Anderson (2010), 85-123. Any ambiguity in understanding the cultural ecology can be simply avoided with the help of Julian Steward, who points out its reference to the "ways in which culture change is induced by adaptation to the environment" (Steward (1955), cf. [https://en.wikipedia.org/wiki/Cultural\\_ecology](https://en.wikipedia.org/wiki/Cultural_ecology)). By and large, the key terminology provides ample scope for integrating elements with the ability for successful living in a given environmental setting, and they are technologies, practices and knowledge. This integration must be seen as important because it covers, from tradition to modern, all aspects of elements that seem to be vital for the successful survival of the human population in the environment. In this context, signifying the ecological locale as a vital to the shaping the culture of a given region, then the cultural ecology proposed will have to be taken into account for documenting the nature of technologies and methods that have been actively used for the utilization of environment for making life successful, focusing on the use of environment facilitated through the 'patterns of human behaviour/culture' and assessment of other aspects of culture that have been influenced by these patterns of human behaviour. The third point promises to accommodate a vast amount of folklore materials that stand as evidence for how the natural settings that have great influence on human livings in a given society to be reflected either in oral tradition or material culture, beliefs and customary practices including medicinal practices and performing arts. However, the theoretical contributions of Steward such as 'multilinear evolution' and 'cultural ecology' have established the research scope for studying indigenous and traditional knowledge of tribal communities and their strong cultural systems, for example, the micro-cosmos of tribal culture became the area of research through the studies of Conklin, Linden on lost tribe and lost knowledge and Berkes (1980;1991) on 'traditional ecological knowledge'. Having a thrust on an interdisciplinary paradigm accommodating domains of human sciences (anthropologists - "cultural ecology") and natural sciences (biologists - "traditional ecological knowledge"), many researches pivoted on the ecology, cultural/traditional/indigenous knowledge the researches. Therefore, the theory of cultural ecology has its relevance in this proposed study for unearthing the cultural-ecological knowledge of the Mal Pahariyas to substantiate the claim that the Mal Pahariyas promote 'a more acceptable sustainable cultural relationship with the environment.' Apart from the present lifestyle of their association with the nature-oriented life, there are historical evidences that they have a strong reliance due to their dependency on the forest products. Further, considering their deep affiliation with their environment and their concern for the protection of nature, the Mal Pahariyas provide a great opportunity in this study for incorporating various aspects of their life within the framework of cultural ecology.

## 2. DISCUSSION ON CULTURAL ECOLOGY

Cultural ecology developed by Julian Steward is derived from the work of Franz Boas and it has grown to accommodate various aspects of human society, importantly, it pays attention to the wealth distribution as well as power structure that affects human behaviour. Emerged as an influential theory, not only in ecology but also in culture studies, it appeared as a paradigm by covering and including various cultures of knowledge that evolved in history with the evolution of modern science treating them as segmented and specialized disciplines and subdisciplines (Finke (2005), cf. [https://en.wikipedia.org/wiki/Cultural\\_ecology](https://en.wikipedia.org/wiki/Cultural_ecology)). Within the cultural ecology, the sphere of human culture is treated as independent but influenced by ecological processes. In other words, acknowledging the self-reflexive dynamics of cultural processes gives way to understanding the difference between cultural and natural evolution. However, Bateson (1973) related cultural ecology to the ecology of mind, in which the latter appears to be a dehierarchized entity that has a mutual dependency with the organism on the one hand and with its environment, similar to subject and object. It is always insisted to pay attention to the ecology of man and there is demand for the 'skillful application to human affairs' Sears (1957) , 51. Moreover, the interdependence in nature has also been stressed through various writings and they all highlighted how through cultural ecology we can even understand how early societies can be seen having examples for showing their adaptation to endowment through their tools, technologies, and social groupings. However, twenty-first-century academic works highlighted that humans are seen as having more ways to develop more acceptable relations with nature and the environment. The traditional ways of life could also be seen as one way of reflecting a cordial relationship with the environment from which even the urban society must take it a lesson and there must be a change in the environmental perception of the urban population, as pointed out in Berkes (1999)

Therefore, human society has enormous potential to adjust itself to the ecological realities through its cultural mediation. Meanwhile, the mistakes that humans have made and that have resulted in disastrous effects on the environment must be also treated as lessons for learning what should not be repeated which is somewhat more essential than learning something for the improvement of nature, or in other words, to respect nature. That is, the ways humans have moulded the environment through over-projected technologies and manipulated justifications have to be addressed even before making any attempts to protect and preserve nature. Therefore, scholars from across the disciplines must pour in to develop interdisciplinary or multidisciplinary tools by which contemporary environmental issues could be addressed in more acceptable ways. Humans must be free from moulding not only the environment we encounter now but also the future earth. Thus, considering the urgency and inevitability of protecting nature and the environment, the educational framework on cultural ecology must be strongly developed which can teach the overall dimensions of both aspects of ideas in connection with the exploitative management systems (which includes 'ideas of - human production, nature's production, and biogeographical systems') as well as of the conservation management systems (which includes 'ideas of - culture, society, development, environment, and war and peace') (cf. [https://en.wikipedia.org/wiki/Cultural\\_ecology](https://en.wikipedia.org/wiki/Cultural_ecology)). In this background, it is important to note that Julian Haynes Steward has proposed the notion of the cultural core framework which, according to him, is a constellation that includes the fundamental features of a culture that provides subsistence and economic arrangements for the people. Steward (1955). His framework highlighted the fundamental human-environmental relationships concerning the subsistence

opportunity on the one hand and innumerable direct features such as tools, knowledge, economics, etc and less direct but influential elements associated with historical, institutional and political or social factors [Steward \(1955\)](#). The cultural-historical factors are considered important since they provide the unique outward appearance to the culture in which the cultural ecology utilizes this core framework for determining and understanding the features associated with the utilization of nature and environment by humans and cultural groups. [Steward \(1955\)](#). The points discussed here make us feel that humans and the environment are not to be seen as separate which is against some of the views of Western society which is evidenced by the Bible origin narrative as the world was created first and then the 'man' was created for subduing the environment (the world) (Genesis 1:28, cf. [Mark Sutton and Anderson \(2010\)](#), 1, and similar origin stories are also found around the world. This detached view has also continued to shape human societies, and many of the current innovations could be seen on this line to conquer the environment. There is also a justification that since humans are part of nature, then the changes happening to nature as part of human activities could be termed as natural rather than alarming. However, traditional societies have always been on the positive side as far as the protection of nature and the environment, and this fact has also been realized and accepted by ecologists who feel that there is an established harmony between the traditional communities and their environment. This strong relationship, reciprocal, could be seen as established through the existential necessity supported by their strong philosophy, traditional (religious) belief system and worldview. Further, the less complex technology employed by the traditional communities in handling their sustainable activities does not make any adverse impact on the environment, and it must be seen along their local and trusted mechanism to take care of their natural resources with a sense of morality and futuristic attitude. Therefore, concerning traditional communities, the cultural ecology, that is, the adaptations through cultural means must be situated within the human ecology, an overall coverage of human interaction with the environment, alongside the biological ecology that focuses on the nature of adaptations through biological means. This explanation of the nature of cultural ecology helps us to encompass everything that is related to the adaptations of the Mal Pahariyas that happened through their cultural means – rituals, ceremonies, agriculture activities, celebrations, natural resource management, cattle rearing, livestock management, traditional and local knowledge, development of personal epistemology for fulfilling everyday tasks, etc. Many of the items collected and documented from the Mal Pahariyas of Jharkhand through this ICSSR-sponsored major project will be subjected to further analysis to find their validity and applicability for other communities around the world. The identification of elements that are located within the culture-based knowledge domains of the Mal Pahariyas and that have value for the wider world is a humongous task.

Within Anthropology, already a known discipline dedicated for the study of human beings through its broader perspectives with holistic, cross-cultural, and comparative approaches, and covering a wide range of issues concerning people such as human biology, evolution, language, culture, social structure, economy, technology, etc., by focusing on small community or group through qualitative or quantitative data, the emergence of cultural ecology within human ecology has been emerged as an empirical science having its philosophical foundation on, or at least governed by the procedures and rules of, modern western science [Sutton and Anderson \(2010\)](#), 8. Despite all and its vast application and coverage, anthropology brings to alive a general discussion on the nature and characteristics of culture as a way to differentiate humans in general and to identify small groups who have their

own learned and shared behaviours to differentiate themselves from others as well as to share, interact and negotiate with others groups. However, there are complexities associated with human behaviour within their cultural ring and also outside of it, which generally has resulted in the emergence of multiple theories of culture that are not free from supporters and critics, making them available always for reference and also for understanding culture on different occasions. In contrast to the general opinion, popularized through mass media, that the culture of a particular group is a 'steel-walled' and 'separate universe', which proved to be 'utterly wrong' and illogic, considered as a matter of ethnocentric as due to its porous characteristics, culture tends to merge and produced hybrid culture, except on the occasion of being learned separately from neighbours. Therefore cultural relativism has been positively projected as methodological that does not encourage any judgements on other cultures and cultural practices. Despite having a strong stand against some of the inhuman practices, by and large, by quoting [Nagengast and Turner \(1997\)](#) and [Merry \(2003\)](#), [Sutton and Anderson \(2010\)](#) mention that the anthropologists display their strong belief that "all people and cultures are valid, that they have the rights to exist, to have their own culture and practices, and to speak their own language, and that individuals have fundamental human rights" (2010:6).

Cultural ecology has been accepted as one of the frameworks that has the goal of exploring the role of the environment in cultural adaptations for making the traditional communities address all their sustainable issues. Being an eclectic science, similar to other branches of anthropology, it has developed a goal to understand how people interact with their physical settings by the mechanism of adaptation, this perspective has seen animals like any other animals, and the second one treats humans as rational choosers, they set a variety of goals, not necessarily they are necessity based, with methodical and rational approaches to achieve them. Though the individual choice is given attention, there are occasions to show that they lack good information about the environment as well as many of the choices are affected by various factors such as 'emotion', 'social pressures', 'cultural traditions', and by 'plain, ordinary mistakes'. [Sutton and Anderson \(2010\)](#), 9. Despite being considered inadequate for not covering long-term goals, the third perspective concerns the political processes which set to include from minute entities to the major ones, for example, 'individual negotiation to worldwide political forces', or in other words, 'village power authority to multinational agencies and corporations.' These are some of the approaches highlighted here in connection with human ecology, and there are flexible theories that are being employed to understand the various aspects of human ecology. However, it is always insisted that any ecological practices must be subjected to its historical understanding of those practices. The proposal on the cultural ecological knowledge of the Mal Pahariyas promises to explore what is important within the human ecological inquiry the changes that had happened in their environmental settings and their cultural impact on the people make themselves adapt to the changes. That means that when changes are inevitable the adaptation to the changes cannot be escaped. It is to say that the environments are dynamic and ever-changing which makes the situation compulsory for the organisms to make their own way of adaptation concerning the changes in their physical settings, with the mediation through culture and cultural arrangements. Therefore, the proposal seeks to study the community both diachronically and synchronically to generate comprehensive knowledge based on the cultural ecology of the community that can facilitate further application of similar methods and models on the other communities that are closer to their nature and environment. However, it is to be noted that not all changes in the environment are impactful



within the perspective of adaptation as a response to evolution which does seem to be understood as having a direction, or a move towards progress on a particular ladder. On the other hand, human cultures have never been static, but they evolve, which makes cultural anthropologists treat it as an important topic in their studies. When cultures are equated with the living organism, whether metaphorical or not, in a large part, it has been identified with 'progress' within the hierarchical model reflecting a pejorative attitude towards "backward" communities. For societies as living organisms, to put it metaphorically, adaptation must be purely biological as well as cultural which means that the cultural arrangements are to adapt to the changes in a shorter time. Depending on the nature of conditions that exist in the environment and how they are solved, cultures may seem to adapt quickly. To go by the ideational theory of culture, with suitable definitions and remarks by Ward Goodenough, one can note that culture exists with people not as a static entity with lifelessness as ossified. Rather, it consists of rules and norms to guide its members not to deviate but to behave appropriately or in acceptable ways, and the other hand, its dynamic aspect makes itself adjustable to the changes in the environment. This culture as a cognitive system accommodates folklore as part of the culture to function and to mould the behaviour of community members - here it refers to the "pattern of life within a community - the regularly recurring activities and material and social arrangements" [Goodenough \(1961\)](#), 521, cf. [Keesing \(1974\)](#), 77. Ward Goodenough's understanding of culture specifies the role and nature of folklore: "A society's culture consists of whatever it is one has to know or believe to operate in a manner acceptable to its members. Culture is not a material phenomenon; it does not consist of things, people, behaviour, or emotions. It is rather an organization of these things. It is the form of things people have in mind, their models for perceiving, relating, and interpreting them." [Goodenough \(1957\)](#), 167, cf. [Keesing \(1974\)](#), 77. He continues further that "Culture... consists of standards for deciding what is,... for deciding what can be, ...for deciding what one feels about it... for deciding what to do about it, and ...for deciding how to go about doing it." [Goodenough \(1961\)](#), 522, cf. [Keesing \(1974\)](#), 77. However, this definition gives a broader perspective and includes a vast quantity of materials that are tangible and intangible. Theories that surround the notion that cultures as adaptive systems have perceived culture from the evolutionary perspective. This perspective explored the linkages between hominid evolution and biological and cultural components of human behaviour. But within the adaptationist framework, the role of culture has been widely discussed - as a distinctive entity culture helps people to relate themselves to their ecological settings, that is, culture makes people either as individuals or groups as ecological communities [Binford \(1968\)](#), 323 cf. [Keesing \(1974\)](#) by the way of adjusting them to the external changes. The change in any culture is viewed as a process of adaptation to suit the changed environmental settings by which an adaptive relationship has been maintained for survival [Meggers \(1971\)](#), 4, cf. [Keesing \(1974\)](#), 75. Therefore, it has been argued that the culture change is always possible following the direction of equilibrium within an ecosystem which reflects a complex relationship that exists between various elements of environment, population, and technology. The arrangements related to productions such as technology, economy and social organization are adaptive strategies occupying central realms of culture. Further, there is an adaptive consequence due to the existing ideational components of cultural systems which can be seen as a form of knowledge which operates suitably concerning the ecological conditions and its equilibrium. [Meggers \(1971\)](#), 43, cf. [Keesing \(1974\)](#), 76-77). However, the ideational theories proposed under cultures as cognitive systems, in contrast to the adaptation theories of culture, have treated cultures as ideational systems for which the examples have been given by

Ward Goodenough. There are also other theories of cultures that have treated cultures as either structural systems or symbolic systems. Since this article aims to focus on giving an outline to the proposed research concerning the cultural ecology of the Mal Pahariyas, the discussion on the nature of culture has been shortened here. But what needs to be mentioned here is a quote from Clifford Geertz who portrays that “Either culture is regarded as wholly derivative from the forms of social organization . . . or the forms of social organization are regarded as behavioural embodiments of cultural patterns. In either case . . . the dynamic elements in social change which arise from the failure of cultural patterns to be perfectly congruent with the forms of social organization are largely incapable of formulation [Geertz \(1957\)](#), 992, cf. [Keesing \(1974\)](#), 75. These theorists expressed the independent distinctive nature of both social and cultural realms and their interrelationship maintained in their own right. However, culture must provide an opportunity to explore how it is shared among individuals, and particularly it can be witnessed when two individuals meet and share something in common, which means that culture transcends an individual’s mind. In this context, Goodenough provides the solution to the paradox of social life is to understand the culture as an ‘idealized systematization of individual’s cognitive world’ that helps the individuals to perform or produce culturally appropriate responses in social situations, and thus explanation though reduce culture to an individual’s idealized point of view, it is understood as a composite of cultural knowledge of individuals reflected in different social settings. [Keesing \(1974\)](#). Despite having room for accommodating subcultural variations and individual differences, Geertz, who finds it (Goodenough’s) as mere as a simplistic cognitive reductionist one, mentions that “People learn as individuals. Therefore, if culture is learned, its ultimate locus must be in individuals rather than in groups . . . . Cultural theory must [then] explain in what sense we can speak of culture as being shared or as the property of groups . . . and what the processes are by which such sharing arises . . . . We must . . . try to explain how this analytically useful construct relates to . . . the social and psychological processes that characterize men in groups” [Goodenough \(1971\)](#), 20, cf. [Keesing \(1974\)](#), 84. Even ‘cultures seen as transcending individual actors and even as transcending ethnic boundaries’, as Levi-Strauss agrees that the collective representations of could reveal a lot for an in-depth study [Keesing \(1974\)](#), 84. However, the fear that understanding culture as a cognitive system could lead to ‘extreme subjectivism’ subsequently to ‘formalism’, or seeing culture as mental phenomena as another problematic, has also created the danger when culture is freed from individual minds which facilitate its realization. However, one can argue in favour of the human mind because, without individual minds and brains, the structure of the cultural system cannot be created, shaped, and constrained. In this context, Keesing says “What forms cultures take depend on what individual humans can think, imagine, and learn, as well as on what collective, behaviors shape and sustain viable patterns of life in ecosystems. Cultures must be thinkable and learnable as well as livable.” [Keesing \(1974\)](#), 86. Therefore, there must be a deep and clear understanding of the knowledge of structure and processes of the human mind which can help us to explore the cultural ecological knowledge of the Mal Pahariyas of Jharkhand. Further, the exploring human brain is associated with a lot of challenging tasks because of the complexity that exists in studying the human mind and its involvement in the creation of human culture and also in its representation, and therefore there is no escape from studying the human mind because, as indicates “The human brain integrates the facts that it acquires through experience and other forms of learning into a model of the world. New facts are interpreted in the light of the model . . . Understanding . . . such world models, their

neutral organization, their dependence upon environment and culture, are fundamental and difficult questions that cut across many scientific disciplines." [Bremermann \(1970\)](#), 43. And also this study remembers that "culture is best seen not as complexes of concrete behavior patterns  $\neq$  customs, usages, traditions, habit clusters  $\neq$ ... but as a set of control mechanisms  $\neq$  plans, recipes, rules, instructions (what computer engineers call 'programs')  $\neq$  for the governing of behavior" [Geertz \(1965\)](#), 57. Therefore, to conceive culture epistemologically same on the level of language, so parallel to 'linguistic competence' (in terms of Chomsky) (or *Saussure's langue*) and 'linguistic performance', we need to be conscious in approaching both cultural competence and cultural performance in which both are having distinguishable existence differentiating one from the other.

Following this discussion, cultural ecological knowledge is conceived in this study as a system of competence shared by the community with a broader design and deeper principles. As this study aims to explore and also construct for the first time the cultural ecological knowledge of the Mal Pahariyas, this study pays less attention to, or ignores, the individual variations in their specificities. Further, it is not the consolidation of what the individuals as community members know, think and feel about their world, rather, it is their theory of the code that facilitates everything possible – from interaction to interpretation. Like the theory language that constitutes the linguistic competence, or like the grammatical system, of an individual, the individuals' theory of their culture, by and large, is considered to be unconscious. Therefore, the individuals are not consciously aware of the rules that are used while describing or interpreting their surroundings. The individuals assume that they are created with the help of 'culturally shaped and shaded patterns of mind'. Quoting [Goodenough \(1971\)](#), [Keesing](#) writes "We can recognize that not every individual shares precisely the same theory of the cultural code that not every individual knows about all sectors of the culture. Thus a cultural description is always an abstracted composite. Depending on the heuristic purposes at hand, we, like the linguists, can plot the distribution of variant versions of competence among subgroups, roles, and individuals. And, like the linguists, we can study the processes of change in conceptual codes as well as in patterns of social behavior" [Keesing \(1974\)](#), 89). This point helps us to realize that no one has a thorough knowledge of the culture, but each one is having a variant version of the code – therefore, we don't need to assume a culture as an assemblage of symbols and projected by the researcher, rather "as a *system of knowledge*, shaped and constrained by the way the human brain acquires, organizes, and processes information and creates "internal models of reality"" [Craik \(1943\)](#), [Gregory \(1969\)](#) cf. [Keesing \(1974\)](#), 89). These points are useful in this study because it provides ample scope for understanding cultural competence as epistemologically and logically similar to the linguistic competence.

By agreeing with the conception of culture as an ideational system, this study on cultural ecological knowledge explores and maps in their own terms, not 'in terms of the domains of social life.' The discussion provides a framework to study how the Mal Pahariyas form as a group and their strategies for sustaining their social life. It makes us aware that understanding the 'internal models of reality' [Chomsky \(1959\)](#), [Goodenough \(1971\)](#) is essential for understanding the life of other people, not simply by mapping their culture. It clarifies that though meanings are shared by people their conceptions of their culture are not identical, and thus, the magic of shared symbols is achieved through their "collective application of the general to the particular, the private to the social." [Keesing \(1974\)](#) , 90-91. The change and diversity of culture could be studied by focusing on humans-in environments, that is, we pay attention to the point that cultures tend to produce 'viable patterns-of-life



in eco-systems.’ The discussion pursues us to link the study of cultures to ‘social systems, to ecosystems, to the psychology and biology of individuals’. Effective language use is very much needed to comfortably describe culture as a system of knowledge. This discussion having orientation of ideational conception of culture is, in one way or another, heuristic in nature, in this study, because it attempts to explore how the cultural ecology of the Mal Pahariyas be best explored through studying their general conceptual codes that interconnect their theory of the world and their social life within the given environmental settings.

### **3. THE MAL PAHARIYAS OF JHARKHAND AND THIS PROPOSED STUDY**

The existing research gap is instrumental in this study. The Mal Pahariyas of Jharkhand, or their counterparts in West Bengal, have not been much studied from the perspective of cultural ecology. However, the available socio-cultural studies are also at minuscule levels, and thus, it leaves more scope for in-depth studies on the Mal Pahariyas to understand them from holistic as well as comparative perspectives. Particularly, their traditional knowledge systems associated with agriculture activities, food practices, natural resource management, health and illness, traditional medicines and treatments, climate and weather changes, flora and fauna, pest control, etc., are yet to be studied to understand their complex relationship with the nature and environment. A vast amount of folklore particularly oral traditions, material culture, social customs and beliefs and performing arts that are embedded with a vast quantity of elements of traditional knowledge are yet to be documented and studied. Their long association with the forest and its adjacent landscape comprises its own properties and characteristics that might have resulted in the creation of traditional botanical wisdom that needs to be properly studied. Even the ethnographic account of the Mal Pahariyas is not complete. This project aims at receiving its second and third grants respectively. Therefore, we find this research gap as a rare opportunity, this research design has been developed to explore the cultural ecological knowledge of the Mal Pahariyas who maintain a complex relationship with the environment and this relationship is very distinctive since it interlinks their socio-cultural life and spiritual life with the nature and environment in which the latter plays a significant role in shaping the identity and worldview of the community. Therefore, this study has converted some of the research gaps and listed them along with other objectives which include the botanical wisdom that integrates the community with the environment; the sustainable development strategies that bring together both their culture and environment as well as natural resources, the available folklore materials that explore and reflect the inherent relationship the community is having with its environment and culture, the strategies for protecting the environment and other natural resources facilitated through cultural systems or cultural forms, the existence of biotic and abiotic knowledge with the community, and the trans-disciplinary perspective on the ethnoecology of the Mal Pahariyas.

Having found the research gap that the cultural ecological knowledge of the Mal Pahariyas living in the state of Jharkhand, or elsewhere, has not been studied from the anthropological, or inter-disciplinary, perspective, this study has been proposed with the following objectives: to prepare a comprehensive and updated ethnographic account of the Mal Pahariyas of Jharkhand; to have a thorough study on the traditional knowledge systems on the abiotic biotic and ethno-ecology of the Mal Pahariyas; to have an in-depth study on the culture specific understanding of food practices and its environmental adaptability facilitated through cultural

adjustments in order to manage, or as a prevent measure of, famine and drought; to study and understand the system of inter-dependence as well as the existing strategies and systematization of resource sharing the Mal Pahariyas have with their neighbouring communities; to have diachronic and synchronic study on the changes, towards sustainability, that the Mal Pahariyas have undergone and they are visible and induced by the environmental changes and accepted through cultural adaptation; to explore the indigenous knowledge system that the Mal Pahariyas have on their health and healing within the traditional knowledge system having been influenced by the local environmental settings; to make a comprehensive study on the indigenous knowledge system associated with the use of technologies, methods, strategies keeping environment and local resources management; and to study folklore materials of the Mal Pahariyas to understand the role of cultural materials in the transmission as well as in the preservation of traditional knowledge systems of traditional communities. Considering these gaps, a few research questions have been framed for handling this complex issue pertaining to the Mal Pahariyas and their cultural ecological knowledge, and these questions include the followings: what is the way, or method, by which a vast quantity of both traditional botanical and zoological wisdoms are being preserved for the future?; what is the way of contemplating the traditional medicinal practices along with their knowledge and understanding about their health and healing practices of the Mal Pahariyas that has kept their environment at the centre?

What are the cultural changes that have been witnessed among the Mal Pahariyas that have been influenced by, and subsequently adapted, the changes that happened to the environment?; what are the diachronic and synchronic changes that happened to the culture of the Mal Pahariyas as a response to the environmental changes, that have facilitated their survival possible?; the nature of traditional technological practices, methods and strategies developed by the Mal Pahariyas over a period of time in the given environment as well as the nature of changes that happened to them as a response to the environmental changes? What is the comprehensive account on the patterns of behaviour and culture associated with the Mal Pahariyas that have been tuned to their environment?; what is the perception of cultural ecology that the Mal Pahariyas have as part of their interaction with their environment in a reciprocal relationship of making impact on each other for their survival?; and any conflicting spot on the intersections between the Mal Pahariyas' cultural ecology and modern cultural ecology that pulls in elements of historical and political ecology as well as rational choice of theories such as post-modernism and cultural?

Having these logical research questions with comprehensive objectives, this study employs a methodology that handles both quantitative and qualitative studies. The basic components of the methodology of this study include the following: Both primary and secondary research methods are intensively used in which the former is used for primary data including surveys, focus group discussions, interviews and observations and the latter focuses on secondary data uses case studies, review of published works and reference to online resources. All the research questions have been converted into standard questionnaires and schedules with no ambiguity. The Mal Pahariyas populated districts in Jharkhand have been included in the list of field areas where a systematic and thorough study will be done to meet all the parameters. However, wherever it is required the tools, methods, and theoretical frameworks from the cognate disciplines within social sciences and humanities will be utilized, particularly, to have an interdisciplinary perspective for exploring the unexplored. Importantly, as part of the methodological clarity, a functional definition of "cultural ecology" will be framed for

accommodating and reflecting the very fine aspects of the local elements that may appear as unique to its environment. For example, the conception of traditional knowledge is understood here as people's knowledge that is practiced for survival; learned in an informal way and transmitted orally to forthcoming generations with the help of or through the medium of folklore such as customs, rituals, oral literature, material culture, performing arts, etc. To study the impact of similar environments on cultures, this study will explore the environmental adaptations not only of the Mal Pahariyas but of their neighbouring communities. Further, the religious practices of the Mal Pahariyas will be paid attention to since they play a vital role in their sustainability by interlining people, culture and their environment on the one hand and their cosmos, worldview and cultural identity on the other hand. Finally, any anthropogenic interference, if anything evidenced by the Mal Pahariyas will also be thoroughly studied. This study on the cultural ecology of the Mal Pahariyas promises to establish and reestablish the fact that the indigenous communities can be seen as the epitome of the theorization of cultural ecology in the Indian context. The cognitive dimension inherent to traditional cultural knowledge associated with the Mal Pahariyas gives a global perspective on this study and it is advantageous in the sense that it provides a great deal of opportunity to deal with the emerging environmental philosophy in the context of modernization and globalization contexts. Importantly, based on the findings, a policy paper will be worked out to give thrust on the welfare of the Mal Pahariyas from their traditional knowledge systems.

The Malto (one of the Dravidian languages) speaking Mal Pahariyas living in the states of Jharkhand, West Bengal, Bihar and Assam, the original inhabitants of the Santal Parganas division, have been classified under the category of scheduled tribes and further into particularly vulnerable tribal group. (As per 2011 census, their population is 182560 and with the breakup 135797 in Jharkhand, 44538 in West Bengal, 2225 in Bihar, and 6389 (as per census 1951. "Estimated Population by Castes, 5. Assam – Census 1951". Office of the Registrar General, India.1954) in Assam ([www.wikiwand.com/en/articles/Mal\\_Paharia\\_people](http://www.wikiwand.com/en/articles/Mal_Paharia_people)). In Jharkhand, they are thickly populated in the Dumka and Pakur districts of the Santal Parganas, and they are hilly forest dwellers as their settlements are situated adjacent to dense forests. The demographic data of the Mal Pahariyas used in this study have been collected from the pilot survey and a few rounds of intensive fieldwork carried out in the select villages in Dumka district (Keirabani, Amlagariya, and Bodopahar villages during the first phase) and pilot survey in Keirabani, Amlagariya, Bodopahar, Telopara. And a few rounds of intensive fieldwork in Bodopahar village (in the first phase) in Pakur district. The details of fieldwork such as the number of households covered, male and female populations interviewed, findings, etc., will appear in the final project report to be prepared and submitted to the funding agency as per the respective timeline, provided by the ICSSR, New Delhi vide the sanction order reference cited elsewhere.

The social and cultural life of the Mal Pahariyas has something interesting, and their independent and asserting nature has also been proved historically through their struggle against various groups at different periods. As per the available literature, it is learnt that they had been betrayed by the Zamindars when they sought their independence ([www.wikiwand.com/en/articles/Mal\\_Paharia\\_people](http://www.wikiwand.com/en/articles/Mal_Paharia_people)). Their distinctive life during the Muslim rule in Bengal was highly acknowledged and it showed that the Mal Pahariyas had enjoyed their independence from the government but maintained good relationships with local landowners. They also practised friendly relationships with people who lived in hills and plains with their own pattern of arrangements. Similarly, when their relationship with the Zamindars

was affected and they were betrayed by the same Zamindars, they became raiders of the plains with their own decisions for their survivability [Panda \(2021\)](#). Further, it was their association with the nature and environment, that the impact of the Bengal Famine of 1770 was minimal and it was even effectively managed by them with the help of forest products. The jungles and forests in another way protected them and helped them to fight with the British rifles, and their traditional weapons were also advantageous in their fight with the British forces (around 1777s). There were more historical instances to show how the Mal Pahariyas had themselves been brave. The British later recruited many of the Mal Pahariyas into the new forces with their traditional weapons of bows and arrows and known as the Paharia regiment, or the Bhalpur Hill Rangers, it continued till the 1857 revolt. In another incident, they had to fiercely resist the entry of the Santal cultivators in their lands who were brought in from the Chota Nagpur Plateau, by the British since the government's attempt to settle the Mal Pahariyas in the plains to make the land productive got failed, but the struggle continued until 1857 by that time the number of Santals become overwhelming. Whatever their past may be, it is visible that their identity has now been reduced to an insignificant minority in their own land. ([www.wikiwand.com/en/articles/Mal\\_Paharia\\_people](http://www.wikiwand.com/en/articles/Mal_Paharia_people))

The studies and other secondary literature available on them portray some of the Mal Pahariyas as 'Hinduised' and non-beef eaters, particularly those who live in 'the southern hills of Damin-i-koh and in the south and east of SantalParganas' ([www.wikiwand.com/en/articles/Mal\\_Paharia\\_people](http://www.wikiwand.com/en/articles/Mal_Paharia_people)), and it is also being observed that the other Mal Pahariyas worship Dharmer Gosain, a solar deity. Although they have great access to both agriculture and forest produce, rice is their staple food. Their customary practices related to life ceremonies and rituals are still intact with a strong continuity of traditions which can be evidenced by their marriage practices, rituals, worship, festivals, etc. However, this project will explore how far the Mal Pahariyas as an ethnic group has retained its homogeneity to the heterogeneity by resisting themselves being influenced by the culture and customs of neighbouring communities. Further, with the spread of globalization and modernization, having a massive impact on neighbouring non-tribal communities, and also tremendously on rural life, the study pays efforts to assess how far this community has fortified their indigenous culture and identity. However, there is evidence to show that there is a disturbance in their village integrity and solidarity [Manna and Ghosh \(2015\)](#), and thus, this study has a greater responsibility in handling the broader issues associated with the Mal Pahariyas.

#### 4. CONCLUDING REMARKS

With the arrival of new terminologies, in any field of inquiries, there are enthusiastic moves and trends in studies that are seemingly looking for new meanings and creative findings on mundane issues or problems as these terminologies appear as distinctive methodological and theoretical frameworks, a lot of promises by default, and therefore, here also, this study of cultural ecological knowledge in dealing the Mal Pahariyas of Jharkhand, has been loaded with promises. However, there is a paradigm shift in this study which is a move from the traditional ecological knowledge towards the cultural ecological knowledge for understanding the complexity of relationships between different components of socio-cultural and ecological systems. As an accepted scientific approach, the cultural ecology in this offers an advanced framework for reflecting the complex relationship between the Mal Pahariyas and their natural environment, and thus, this study is inherently interdisciplinary as it draws elements from various cognate

fields of inquiries from social sciences and humanities which is essential in facilitating a dialogue between human society and natural environment in which cultural core of this relationship is paramount. This interdisciplinarity ensures and retains the distinctive approaches of related and unrelated fields with different paradigms but has a common goal of revealing this eternal relationship that exists between human society and their natural environment both diachronically and synchronically. With the completion of the first phase of fieldwork activities in the select villages in Dumka and Pakur districts, subsequent data collections to be done in the forthcoming months, outcome of this project sponsored by the Indian Council of Social Science Research (ICSSR), New Delhi, will positively shed new light on the Mal Pahariyas and their dialogue with the natural environment facilitated through their cultural settings. The focus on this dialogue which is mutual and reciprocal between the Mal Pahariyas and their environment, as equal parties, brings together both science and the public to a common platform for addressing the issues that tamper the aspects of the human nature relationship.

### **CONFLICT OF INTERESTS**

None.

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