

Exploring Place Attachment And Migration Dynamics: Insideness Vs Outsideness In The Indian Sundarbans

Dr. Abhik Dasgupta

Assistant Professor, Mankar College, India

Email: abhikdasgupta@mankarcollege.ac.in

Abstract

This study delves into the nuanced dynamics of place attachment and migration patterns within the Sundarbans region, examining the interplay between insideness and outsideness. Employing a mixed-methods approach, the research integrates quantitative analysis of survey data with qualitative insights derived from interviews and field observations. Methodologically, the study utilizes Guttman scaling to systematically measure place attachment, offering a comprehensive understanding of respondents' affinities and priorities. Additionally, a place response test is conducted to assess residents' preferences for alternative living arrangements, illuminating the complexities of insideness versus outsideness in their decision-making processes. The findings unveil contrasting patterns of place attachment and migration preferences between riverine and non-riverine villages, shedding light on the differential impacts of environmental dynamics on individuals' sense of belonging. Furthermore, the study identifies the role of insideness and outsideness in shaping migration patterns, with villages like Purandar, located in market areas, demonstrating a propensity for outmigration among the younger population. This trend is driven by the allure of urbanization and economic opportunities, highlighting the complex interplay between internal and external factors in shaping individuals' attachment to place. Overall, this research underscores the significance of considering insideness and outsideness in understanding place attachment and migration decisions.

Key Words: Place attachment, Migration, Place bond, Insideness, Outsideness.

Introduction

Place attachment, the emotional and cognitive bond individuals develop with their environment, are a fundamental aspect of human experience and have significant implications for well-being, identity, and community cohesion (Altman & Low, 1992; Manzo & Devine-Wright, 2014). Within the realm of place attachment, the concepts of insideness and outsideness play a pivotal role, delineating individuals' perceptions of safety, belonging, and identity within a particular place. If a person feels to be inside, he/she realises safe rather than threatened, enclosed rather than exposed, at ease rather than stressed (Seamon & Sowers, 2008). More profoundly if a person feels inside to a place, his or her identity will be devoted with that place (Replh, 1976). On the other hand, if a person being to consider him/her as an outsider, may be alienated from the place. The most crucial phenomenological point is that insideness and outsideness constitute a fundamental dialectic in human life (Seamon & Sowers, 2008). With varying intensity of insideness and outsideness, different places take on different identities for individuals as well as groups. The strongest identity what Replh (1976) calls existential insideness strengthens place bond and disregards the possibility of displacement.

In rural settings, the dynamics of place attachment are particularly pronounced, as individuals often develop deep-rooted connections to their native villages, shaped by a myriad of socio-cultural, environmental, and economic factors (Gieryn, 2000). These connections are not merely superficial; they run deep, intertwining with personal identity and community bonds, shaping the very essence of rural life.

Amidst the bucolic tranquility of rural landscapes, a tide of urbanization appears on the horizon, presenting formidable challenges to the fabric of rural communities worldwide (Berry, 1987; Cloke et al., 2001). Economic opportunities and social amenities are increasingly drawn towards urban centers, leaving rural areas devoid of vitality and prospects (Cloke et al., 2001; Halfacree, 1993). In the face of diminishing opportunities, outmigration emerges as a pervasive phenomenon, marking the onset of a period characterized by social upheaval and transformation in rural enclaves (Bell et al., 2005; Haartsen & Groote, 2005).

As rural communities grapple with the exodus of their inhabitants, they confront profound changes in their social, economic, and cultural landscapes (Cloke et al., 2001; Bell et al., 2005). The once-thriving villages, steeped in tradition and heritage, find themselves at a crossroads, grappling with the uncertainty of their future amidst the encroaching tide of urbanization (Halfacree, 1993; Haartsen & Groote, 2005).

This phenomenon is not confined to a particular region but is a global trend, observed across diverse geographical contexts and cultural settings (Berry, 1987; Cloke et al., 2001). In this era of rapid change, understanding the dynamics of urbanization and its impact on rural communities is of paramount importance (Bell et al., 2005; Haartsen & Groote, 2005). By unraveling the complexities of outmigration and social transformation, researchers can provide valuable insights into the challenges facing rural areas and inform policy interventions aimed at fostering sustainable development and preserving the vitality of rural communities (Berry, 1987; Cloke et al., 2001).

The Indian Sundarbans, designated as a UNESCO World Heritage Site and situated in the coastal regions of West Bengal, India, serves as a prime example of this phenomenon, with rural villages grappling with the repercussions of urban migration and socio-economic transformations (Sarkar, 2009). Renowned for its rich biodiversity, ecological significance, and cultural heritage, this region provides a compelling backdrop for investigating the impacts of urban migration on rural communities (Dasgupta et al., 2010). Despite the enduring allure of the Sundarbans' natural splendor and cultural legacy, the rising tide of migration and commuting to urban centers poses a threat to the traditional values and social cohesion that have long defined rural life in the area (Roychoudhury, 1980; Mandal, 2010).

Against this backdrop, understanding the dynamics of place attachment within Sundarbans' rural villages is of paramount importance for addressing the challenges of rural-urban transitions and fostering sustainable community development. By examining individuals' perceptions of insideness and outsideness, as well as their attachment to their native villages amidst urban migration trends, this study seeks to elucidate the complexities of place attachment in a changing socio-economic and environmental context.

Rationale to the Problem

The Sundarbans, characterized by its intricate network of tidal creeks and main rivers, has historically fostered a cohesive and integrated society, despite physical separation between inland and riverside communities (Roychoudhury, 1980). Until the mid-20th century, both inland and riverside inhabitants relied on the collection of riverine and estuarine resources, facilitated by the extensive creek and river-based communication channels (Jalil, 2000). This interconnectedness facilitated face-to-face interactions and enabled seamless travel between different parts of the region, reinforcing a sense of unity among diverse social groups.

However, significant societal transformations began to unfold in the Sundarbans, particularly after the 1950s, marked by rapid population growth and mass migration from newly formed states such as East Pakistan and later Bangladesh (Danda, 2007). The influx of migrants led to overcrowding, transforming the once natural landscape into densely populated areas, especially along the creeks of the region (Danda, 2007). This demographic shift disrupted traditional creek networks, converting them into freshwater ponds for household water consumption and severing connections between inland and riverside communities (Jalil, 2000). Consequently, the homogeneous society of the Sundarbans gradually splintered into two distinct groups – riverine and non-riverine communities.

In recent decades, burgeoning population growth has exacerbated pressure on the Sundarbans' resources, leading to declining agricultural productivity and diminishing fishing resources (Kanjilal, 2000). Mono-crop agriculture, susceptible to cyclones and saltwater inundation, faces increasing challenges, while fishing in deep rivers remains risky and yields uncertain (Kanjilal, 2000). In response, both riverine and non-riverine communities have adopted various livelihood strategies, including the adoption of new techniques, diversification of livelihoods, and migration (Roychoudhury, 1980). This trend is particularly pronounced in the northernmost villages, where degradation of river-based resources is most evident.

Village remains almost unchanged but the villagers are changing day by day. The emerging trends of migration or commutation from the rural villages to the urban areas, raptures the rural values as well as rural bonds. The Sundarbans does not behave exceptionally in this regard (Roychoudhury, 1980; Sarkar, 2009; Mandal, 2010). Over the past decade, this region has been grappling with profound changes, marked by feelings of alienation and a diminishing sense of community (Dasgupta et al., 2010). It is reeling under such kind of changes since for the last decade. The feelings of alienation and the erosion of community sense insist to alter the place and simultaneously opt for new one. As rural dwellers seek new horizons, the notion of place becomes interchangeable, reflecting a shift from the substitutability of occupation to the substitutability of place (Smith, 2008; Williams, 2012).

In this section an endeavour has been made to analyse place-bond by comparing one's place with other lucrative places. This attempt examines the place-bond of the respondents and tries to relate it with their place evaluation and sense of place.

The article delves into an extensive examination of place attachment, contextualized within the framework of insideness versus outsideness. We undertake a comparative analysis, juxtaposing individuals' emotional connections to their current locale with the allure of potentially more enticing alternatives. Our aim is to scrutinize the nuanced interplay between feelings of insideness—wherein individuals feel deeply embedded and connected to their environment—and outsideness, which may entail a sense of detachment or alienation. Additionally, the article seeks to deepen understanding of the factors underpinning individuals' place bonds with their environment and their influence on choices regarding place attachment. Through a comprehensive exploration, the article engages in a comparative analysis of individuals' affinity towards their current location as opposed to other potentially more appealing options. By undertaking this analysis, the article aims to provide insights into the intricate dynamics of place attachment and the various factors shaping individuals' relationships with their surroundings.

Area under Study

The data for this study originate from five specifically chosen villages within Basanti Block, Sundarbans. Three of these villages are situated along the riverside of the Matla River, while the remaining two are located at distances of 4 KM and 7 KM (walking distance) away from the river (Fig. 1). Among the riverside villages, the deterioration of the riverine environment is least pronounced in the southernmost village (Jhorkhali-4), where aesthetic pleasure is relatively higher due to the expansive nature of the river. Conversely, the riverine condition is most degraded in the northernmost village (Bhangankhali), where the aesthetic view of the river is limited due to its narrowing caused by rapid siltation. Purnadar village, located between Bhangankhali and Jhorkhali-4, possesses intermediate fishing resources and provides moderate aesthetic satisfaction. The phenomenon of river degradation not only impacts aesthetic appeal but also exacerbates fishing scarcity, further diminishing the place bond in these areas. These villages also face significant challenges, including outmigration, attributed to fishing scarcity in recent years and the inherent dangers associated with fishing in the Sundarbans. The threat of natural calamities, tiger attacks, coupled with declining fish stocks, creates an uncertain livelihood for residents of these villages, prompting many to consider migration as an alternative. Additionally, Purnandar village observes a trend towards outmigration, particularly among the younger population, driven by an increasing emphasis on formal education. As educational opportunities expand, individuals see migration as a means to pursue alternative livelihoods and economic prospects beyond the village confines. Furthermore, Purnandar's proximity to the semi-urban Basanti Market area fosters connections to urban employment opportunities, further enticing residents to seek their fortunes outside the village.

Conversely, the non-riverine villages located at a distance exhibit a weaker aesthetic impression, although the village at the southern end (Jhorkhali-2) enjoys a relatively more aesthetically pleasing environment due to its functional proximity with the river. Additionally, the non-riverine villages, reliant on mono cultivation and lacking sweet water irrigation, face an increased risk of outmigration due to limited economic opportunities and environmental challenges.

Materials and Methods

The connection individuals forge with their native place evolves gradually through repeated interactions, as noted by Milligan (1998). Tuan (1974) aptly characterizes place as a complex web of significance woven through lived experiences. Drawing from these perspectives, this study zeroes in on residents with considerable tenure (a minimum of 15 years) within their respective locales. Nonetheless, the study also recognizes the importance of valid verbal responses in quantifying variables associated with place bond.

The sample selection process encompassed five villages, spanning diverse age groups (20 to 35, 36 to 50, and over 50), with sixty participants from each village evenly distributed across these age categories. Preference was given to individuals with prolonged residency (minimum of 15 years) within their respective villages to ensure a comprehensive insight into their attachment to the place.

No specific method used by the earlier researchers is found to measure the place-bond. Many scholars, such as Altman and Low (1992) and Scannell and Gifford (2017), have highlighted the importance of employing structured scales to measure place attachment, emphasizing the need for methodological rigor in studying this complex phenomenon. Perkins (2006), have highlighted the importance of employing structured scales to measure place attachment, emphasizing the need for methodological rigor in studying this complex phenomenon. The present study adopts the Guttman scale (1944) as a systematic method to measure place bond. This scale, renowned for its structured approach, facilitates a comprehensive assessment of individuals' attachment to their environment. This scale includes a set of a binary questions answered by a set of subjects (Abdi, 2010). Designed with a progressive difficulty level, the scale presents questions in an ordered manner, with subsequent questions being posed only if the respondent answers affirmatively to the preceding question. This structured approach ensures a comprehensive assessment of the respondents' attachment to their environment, facilitating a nuanced understanding of place bond dynamics.

The connection individuals forge with their native place evolves gradually through repeated interactions, as noted by Milligan (1998). Tuan (1974) aptly characterizes place as a complex web of significance woven through lived experiences. Drawing from these perspectives, this study zeroes in on residents with considerable tenure (a minimum of 15 years) within their respective locales. Nonetheless, the study also recognizes the importance of valid verbal responses in quantifying variables associated with place bond.

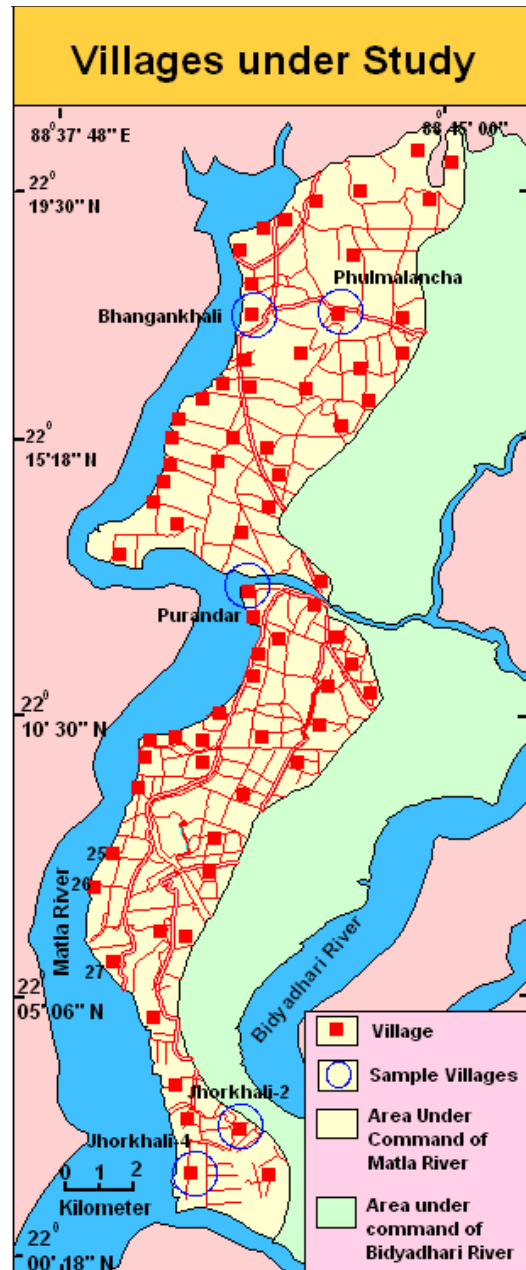


Fig. 1

The sample selection process encompassed five villages, spanning diverse age groups (20 to 35, 36 to 50, and over 50), with sixty participants from each village evenly distributed across these age categories. Preference was given to individuals with prolonged residency (minimum of 15 years) within their respective villages to ensure a comprehensive insight into their attachment to the place.

No specific method used by the earlier researchers is found to measure the place-bond. Many scholars, such as Altman and Low (1992) and Scannell and Gifford (2017), have highlighted the importance of employing structured scales to measure place attachment, emphasizing the need for methodological rigor in studying this complex phenomenon. Perkins (2006), have highlighted the importance of employing structured scales to measure place attachment, emphasizing the need for methodological rigor in studying this complex phenomenon. The present study adopts the Guttman scale (1944) as a systematic method to measure place bond. This scale, renowned for its structured approach, facilitates a comprehensive assessment of individuals' attachment to their environment. This scale includes a set of a binary questions answered by a set of subjects (Abdi, 2010). Designed with a progressive difficulty level, the scale presents questions in an ordered manner, with subsequent questions being posed only if the respondent answers affirmatively to the preceding question. This structured approach ensures a comprehensive assessment of the respondents' attachment to their environment, facilitating a nuanced understanding of place bond dynamics.

For this study, respondents were presented with a series of conditions arranged from the least to the most preferred options, as outlined in Table 1. Each condition pertained to different aspects such as dwelling place, income source, location, equipment, and social relations respectively. Respondents were asked to choose their preference based on the available alternatives presented in the table. Condition 1 indicated that only a dwelling place near any urban area would be given instead of living in the Sundarbans. As the conditions progressed, additional options were introduced, such as agricultural land, as a source of income (Condition 2). The availability of options was indicated by 'Yes' in the table and vice versa. These options were presented successively, with respondents asked to consider alternative living arrangements, potentially leaving the Sundarbans forever. The option "Not

willing to displace" was marked as condition 8, indicating a preference to remain in the Sundarbans. The assigned values in the arithmetic scale facilitated the measurement of place-bond, with the first condition receiving a value of 1, indicating the lowest place bond, followed by subsequent conditions incrementing accordingly, signifying increasing levels of place bond. The total responses were then averaged across respondents to determine the overall score of place-bond. This approach allowed for a systematic assessment of respondents' preferences regarding alternative living arrangements while remaining within the Sundarbans.

Table 1: Set of Conditions Used in Guttman Scale

Condi tion	Opti on 1:	Option 2	Opti on 3	Option 4	Optio n 5	Value in Arith metic Scale
	Dwel ling Place : River side near urba n place s	Incom e Source : Agricul tural Land	Locat ion: River Side	Equip ments: Equipm ents like – boats, nets, plough etc.	Social Relati on: Existi ng Neigh bour	
1	Yes	No	No	No	No	1
2	Yes	Yes	No	No	No	2
3	Yes	Yes	Yes	No	No	3
4	Yes	Yes	Yes	Yes	No	4
5	Yes	Yes	Yes	Yes	Yes	5
Condi tion	Hous e in Urba n Area	Urban labour work	Not Applicable (NA)			NA
6	Yes	No	NA			6
7	Yes	Yes	NA			7
8	Not willing to displace					8

Table 2: Lucrative Places for Migration and Their Functional Importance

	Distance From Basanti	Distance From Kolkata	Functional Significance
Canning	10 Km. (Average of the villages)	54 Km (Via railway)	Having partly urban functions and fishing business.
Kakdeep	125 Km.	87 Km (Via railway)	The centre of fishing business of the Sundarbans. Having same culture of the region.
Baruipur	48 Km.	28 Km (Via railway)	A small town close to Kolkata metropolitan. Most population of the town is native population of the Sundarbans.
Sonarpur	44 Km.	24 Km (Via railway)	A town very close to Kolkata metropolitan. Proliferate with luxurious urban amenities. Though, a considerable population of the town is the native of the Sundarbans.
Kolkata	64 Km.	0 Km	The second largest Metropolis of India.

Result**Place Bond Test**

The collected data has been articulated (Table 3) to show the responses (in %) in terms of different conditions. Accordingly, a line graph has been prepared (Fig 3A and 3B) representing the distribution of preferences from lower to higher options. It is prominent from the figures that non-riverine villages have similarity in their responses, while riverine villages differ from each other. The maximum respondents of non-riverine villages do not wish to leave the place, though, at the same time, few prefer to settle in such place where riverine environment is predominating along with necessary agricultural gears and agricultural land. Sometimes they wish to settle along with their existing neighbourhood relations. They express their desire to reside along a river side of sweet water which would be useful for agricultural purpose. Such type of observation has also been evident in Bhangankhali. The respondents either like to stay or migrate to another riverine location along with required fishing gears, neighbour relations and surprisingly agricultural land.

Following the collection of data, a rigorous process of organization and articulation ensued, resulting in the creation of Table 3. This meticulously crafted table serves as a comprehensive repository of the respondents' responses, systematically detailing their preferences across different conditions. Through the utilization of percentages, this tabulated data provides a nuanced depiction of the distribution of preferences among respondents, offering valuable insights into the multifaceted intricacies of their decision-making processes.

Moreover, to visually depict the distribution of preferences across different options, line graphs were meticulously crafted (refer to Fig. 3A and 3B). These graphical representations provide a clear and intuitive visualization of the respondents' preferences, delineating the trajectory of preferences from lower to higher options. Through these graphs, discernible patterns and trends emerge, offering valuable insights into the underlying dynamics influencing respondents' choices.

A striking observation gleaned from the figures is the discernible homogeneity in responses among non-riverine villages, contrasted with the notable variability observed among riverine villages. Within non-riverine villages, a predominant reluctance to depart from their current locale is evident among the majority of respondents. However, within this cohort, a subset of respondents exhibits a distinct preference for settling in areas characterized by a prominent riverine environment, complemented by access to essential agricultural equipment and land. Additionally, a notable contingent expresses a desire to relocate within their existing neighborhood relations, underscoring the significance of social ties in influencing place preferences.

Furthermore, respondents in non-riverine villages express a distinct preference for residing along riverbanks with access to sweet water resources, a factor deemed indispensable for agricultural pursuits. This sentiment resonates within Bhangankhali as well, where respondents exhibit a dichotomous inclination either to maintain residence in their current locale or to migrate to alternative riverine areas offering access to essential fishing equipment, neighborhood relations, and, intriguingly, agricultural land.

The situation in Jhorkhali-4 presents a perplexing juxtaposition, characterized by a sense of dualism and conflicting aspirations among its residents. A considerable proportion (48.33%) of respondents exhibits a steadfast attachment to their homeland, expressing a reluctance to depart despite prevailing challenges. However, an equally significant share (36.67%) expresses a desire to relocate to urban areas, where they envisage engaging in agricultural activities as an alternative to fishing. This dichotomy underscores the complex interplay of factors shaping individuals' perceptions and decisions within the community.

The fisherfolk of Jhorkhali-4 have long grappled with the uncertainties inherent in their occupation, grappling with the unpredictable nature of their livelihoods and the attendant risks it entails. In light of these challenges, many residents harbor aspirations of transitioning to agricultural pursuits in areas equipped with irrigation facilities, seeking greater stability and security for themselves and their families. It is notable that this sense of alienation appears to stem primarily from occupational hazards, suggesting that other dimensions of place attachment may remain relatively unaffected.

Similarly, Bhangankhali mirrors the dualistic tendencies observed in Jhorkhali-4, albeit with distinct nuances. Here, residents also exhibit a divergence in their preferences, with a significant portion (48.34%) expressing a steadfast commitment to their fishing occupation, yet concurrently valuing their existing neighborly relationships (26.67%). This juxtaposition underscores the intricate balance residents must strike between economic sustenance and social connections within their community.

Furthermore, two non-riverine villages echo a similar sentiment, albeit with their own unique variations. A predominant majority in both locales (48.33% and 51.67%, respectively) express a strong inclination to remain rooted in their native soil, underscoring a profound attachment to their homeland. However, a smaller segment in each village (16.67% and 15.00%, respectively) entertains the prospect of relocating alongside their neighbors, signaling a willingness to explore alternative living arrangements while maintaining close social ties. This divergence in preferences highlights the diverse array of factors influencing individuals' decisions regarding place attachment and underscores the multifaceted nature of their relationships with their environment.

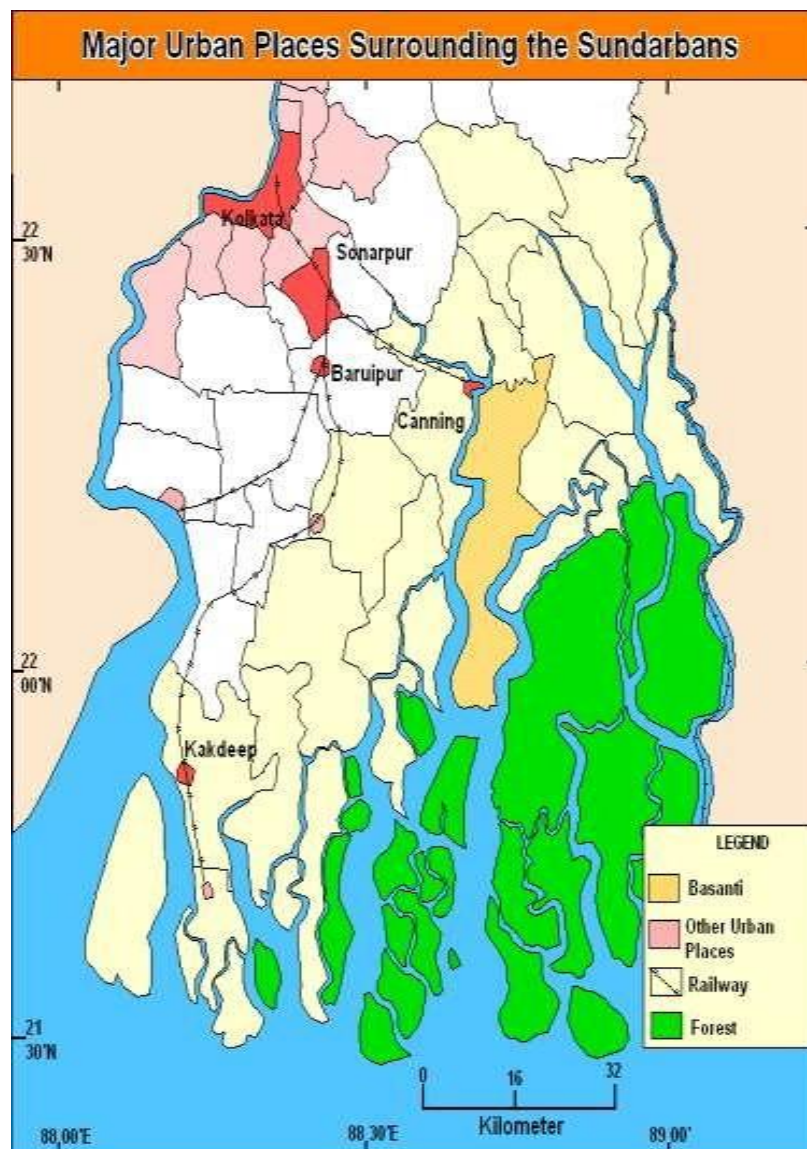


Fig. 2

Conversely, Purandar does not present any novel insights, exhibiting a consistent pattern of preference for leaving the native village. The majority of residents (56.67%) express a desire to relocate to riverside locations, equipped with both fishing gear and agricultural land, showcasing a pragmatic approach to securing their livelihoods. Interestingly, their decision appears to be largely independent of the presence or absence of their neighbors, suggesting a primary focus on individual economic stability.

In contrast, a smaller segment of the population (33.33%) opts to migrate to areas near urban centers, where agricultural facilities are readily available. Unlike their counterparts, this group demonstrates a preference for urban proximity over riverside living, indicating a divergence in priorities and lifestyle preferences within the village. This

variance underscores the complexity of individuals' decision-making processes and the diverse array of factors influencing their choices regarding place attachment and relocation.

Table 3: Responses about the Different Conditions (According Guttman Scale)

Condi tion	Responses in %				
	Bhanga nkhali	Puran dar	Jhork hali-4	Jhork hali-2	Phulmal ancha
1	0.00	0.00	0.00	0.00	0.00
2	5.00	33.33	30.00	6.67	5.00
3	6.67	16.67	6.67	10.00	11.67
4	21.67	40.00	1.67	11.67	11.67
5	26.67	6.67	18.33	16.67	15.00
6	0.00	0.00	0.00	0.00	0.00
7	3.33	3.33	0.00	6.67	5.00
8	36.67	0.00	43.33	48.33	51.67

Note: Total Samples 60

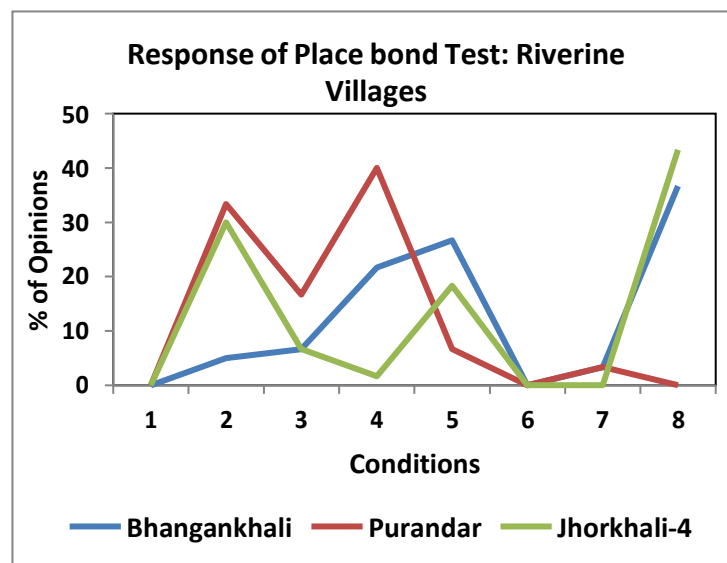


Fig. 3A

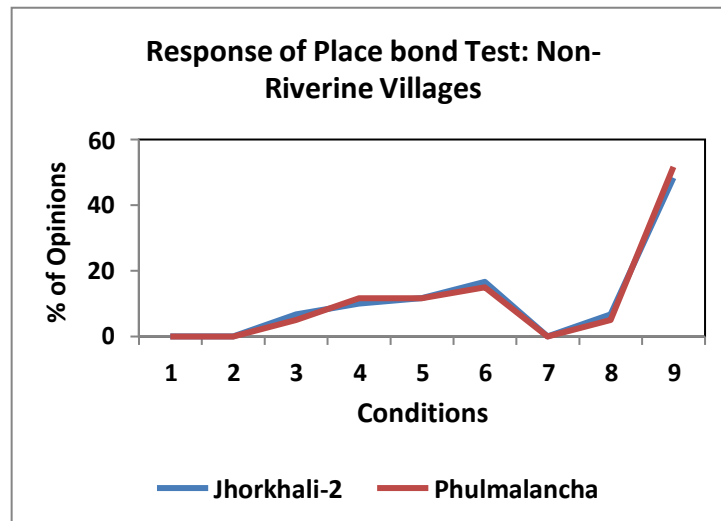


Fig. 3B

An average score of place-bond has been calculated by assigning an arithmetic scale to the various options presented in the Guttman scale. The dataset utilized for this analysis, as shown in Table 4, indicates that Purandar ranks lower than the other four villages in terms of place-bond score. Specifically, Purandar scores close to 4, suggesting a preference for agricultural occupation over fishing. In contrast, the remaining villages express a stronger attachment to their current lifestyle, with average scores exceeding 5.5. Notably, these villages prioritize either fishing or agricultural occupation, often emphasizing the importance of maintaining existing neighborhood relations.

Table 4: Average Place-Bond Score (According Guttman Scale)

Bhangankhali	Purandar	Jhorkhali-4	Jhorkhali-2	Phulmalancha
5.73	4.13	5.58	5.70	5.82

Place Response Test

At the culmination of this inquiry, a place response test was administered to gauge participants' preferences regarding alternative locations, taking into account their functional significance. This test serves as a validating measure for the findings obtained through the place substitution test conducted earlier in the study (Table 5 and Fig. 4A and 4B).

In the realm of place preference, a distinct pattern emerges within two non-riverine villages, indicating a strong inclination among residents to remain rooted in their current surroundings. Nevertheless, a noteworthy segment of

individuals from these communities, likely influenced by their urban upbringing, exhibit a heightened preference for urban centers like Sonarpur and Canning town. This dichotomy underscores the multifaceted nature of community sentiment, with some residents valuing the familiarity and sense of belonging in their village, while others are drawn to the opportunities and amenities provided by nearby urban locales. Figure 4A and 4B visually encapsulates these trends, delineating the consistent preference of non-riverine villages for their existing locales, alongside the fluctuating choices favored by riverine villages, which reflect a spectrum of preferences influenced by various factors.

Conversely, respondents from Bhangankhali overwhelmingly express a desire to remain in their village, yet there exists a noticeable trend towards considering migration to Canning. This inclination can be attributed to the economic opportunities and infrastructure available in Canning, including its robust fishing industry and access to transportation networks like railways, which may not be as readily accessible in Bhangankhali itself.

Similarly, while the majority of respondents from Jhorkhali-4 express a preference for their native village, there is also a discernible inclination towards favoring Sonarpur. This dualistic outlook underscores the complexity of place attachment within this community, with some residents deeply rooted in their village while others entertain the idea of relocation to nearby urban areas for various reasons.

Meanwhile, Purandar's responses closely mirror previous patterns, with Sonarpur and Baruipur emerging as the primary choices. These preferences may be influenced by factors such as proximity, economic opportunities, and social networks available in these urban centers.

Table 5: Opinions Relating to Place Response Test

Condition	Responses in %				
	Bhangankhali	Purandar	Jhorkhali- 4	Jhorkhali -2	Phulmalancha
Not Wish to Leave	36.67	0.00	43.33	51.67	48.33
Canning	45.00	0.00	8.33	10.00	15.00
Kakdeep	5.00	3.33	10.00	0.00	6.67
Sonarpur	5.00	48.33	30.00	16.67	18.33
Baruipur	5.00	43.33	8.33	10.00	5.00
Kolkata	3.33	5.00	0.00	11.67	6.67

Note: Total Samples 60

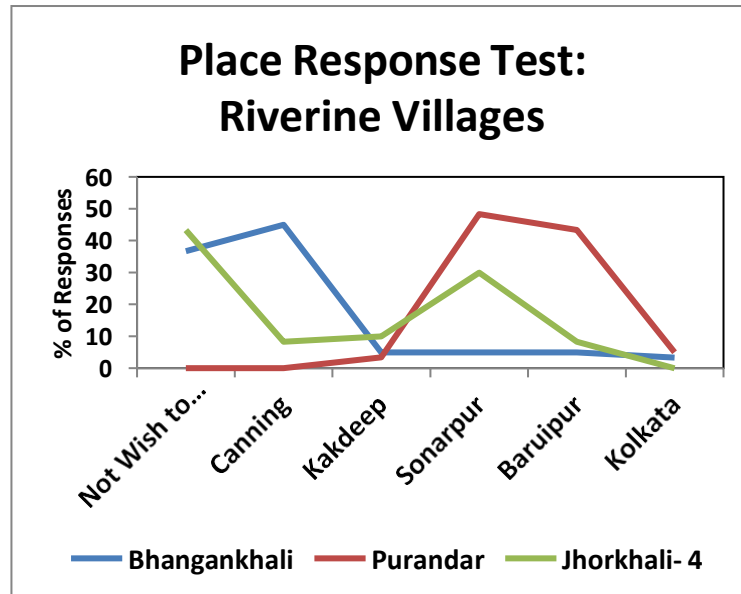


Fig. 4A

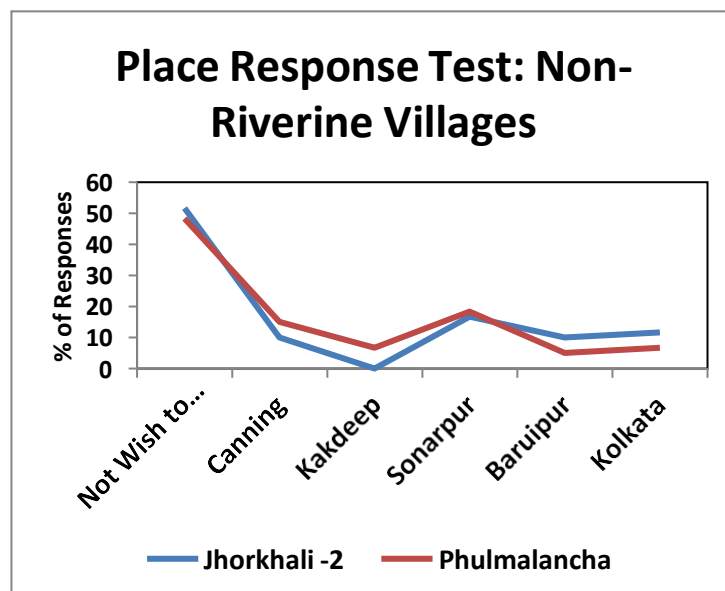


Fig. 4B

A significant observation gleaned from the analysis is the notable lack of preference among respondents for Kakdeep and Kolkata. Kakdeep, emblematic of the fishing heart of the Sundarbans, and Kolkata, renowned for its vast job opportunities in the metropolitan sector, represent contrasting prospects. While Kakdeep embodies the essence of aquatic occupations, Kolkata offers extensive avenues in the informal sector. Despite these divergent opportunities, respondents exhibit a reluctance to make an extreme decision, instead opting for intermediate locations with which they have some degree of familiarity in terms of livelihoods or social relations. This nuanced approach underscores the importance

of personal connections and familiarity in shaping individuals' place preferences, even in the face of contrasting opportunities offered by different locales.

Discussion

The analysis reveals a stark contrast in responses between non-riverine and riverine villages regarding place substitution, prompting the need for deeper exploration of this phenomenon. One possible explanation lies in the distinct characteristics of the primary resources available in each type of village. Non-riverine villages rely predominantly on land, which serves as a stable and fixed source of income despite being utilized seasonally. This stability may foster a strong and unwavering attachment to the land, leading to a consistent preference for staying in the same place over time. This attachment reflects a deep-rooted relationship between residents and their land, emphasizing the significance of land as a fundamental aspect of identity and livelihood.

Conversely, riverine villages depend on the dynamic and unpredictable resources of the river, which fluctuate in availability and yield. The river environment presents constant challenges and opportunities, with livelihoods often hanging in the balance between success and failure. The inherent uncertainty and volatility of river-based livelihoods can evoke a complex mix of emotions, including fear, excitement, and resilience. Residents of riverine villages may experience a heightened sense of attachment to their environment as they navigate the unpredictable waters, simultaneously drawn to and wary of its dangers.

This interplay between fear and affiliation, coupled with the dynamic nature of river resources, contributes to the variability observed in preferences for place substitution among riverine villages. Unlike the more stable and predictable land-based livelihoods in non-riverine villages, the ever-changing dynamics of river resources shape residents' perceptions and attitudes towards their environment, influencing their willingness to consider alternative locations. As a result, place substitution emerges as a nuanced phenomenon, reflecting the intricate interplay between human behavior and environmental dynamics in coastal communities.

The analysis reveals a nuanced perspective within Purnadar village, where the influence of formal education among the younger generation significantly shapes place preferences. Unlike other villages, where traditional livelihoods and social relations hold sway, Purnadar residents, particularly the younger demographic, exhibit a growing inclination towards settling in urban areas. This trend reflects a broader societal shift towards urbanization driven by the allure of better educational and economic opportunities in urban centers.

The propensity of younger residents to seek alternative livelihoods and economic prospects outside of the village is indicative of the changing dynamics within rural communities. The increasing emphasis on formal education opens up new avenues for personal and professional growth beyond the confines of traditional rural life. Consequently, many young individuals in Purnadar aspire to secure employment in urban areas, drawn by the promise of a more prosperous and fulfilling future. In addition to the influence of formal education, the location of Purnadar village in the market area of Basanti further accentuates the tendency for outmigration among its residents. Situated in close proximity to urban centers, Purnadar offers residents greater accessibility to employment opportunities and services available in urban areas.

Moreover, the analysis underscores the respondents' reluctance to embrace extreme choices, such as relocating to Kakdeep, the epitome of the fishing heart of the Sundarbans, or to Kolkata, a metropolitan hub teeming with job opportunities in the informal sector. Despite the stark contrasts offered by these two options, respondents exhibit a preference for intermediate locations that offer familiarity in terms of livelihoods or social relations. This reluctance to make drastic decisions suggests a nuanced approach to place preference, where residents weigh the pros and cons of each option against their existing circumstances and attachments.

Conclusion

In conclusion, this study delved into the intricate dynamics of place attachment and migration patterns within the Sundarbans region, shedding light on the nuanced interplay of socio-economic factors, environmental conditions, and individual preferences. Through a comprehensive analysis of residents' perceptions and preferences, the study elucidated the divergent patterns of place attachment observed between riverine and non-riverine villages.

The findings revealed that non-riverine villages exhibited a more consistent preference for maintaining residence within their current locales, driven primarily by stable land-based livelihoods and strong social ties. In contrast, riverine villages displayed greater variability in preferences, reflecting the dynamic nature of their environment and the inherent risks associated with fishing-based livelihoods.

Furthermore, the study identified the influence of external factors such as formal education and proximity to urban centers on migration patterns. In villages like Purandar, the allure of urbanization and economic opportunities, coupled with educational attainment, fueled a propensity for outmigration among the younger population.

Overall, the study highlights the complexity of place attachment and migration decisions within rural communities, underscoring the need for holistic approaches to development that account for local socio-economic contexts and environmental dynamics. By understanding the diverse factors shaping individuals' attachment to place and their migration choices, policymakers and development practitioners can devise more targeted interventions to support sustainable livelihoods and enhance the well-being of rural communities in the Sundarbans and beyond.

References

- Abdi, H. (2010). Guttman scaling. In N. J. Salkind (Ed.), *Encyclopedia of research design* (pp. 557-561). Sage Publications, Inc.
- Altman, I., & Low, S. M. (Eds.). (1992). *Place attachment* (Vol. 12). Springer Science & Business Media.
- Bell, D., Gray, T., & Haggett, C. (2005). The "social gap" in participation: The case of rural England. *Journal of Rural Studies*, 21(4), 367-382.
- Berry, B. J. L. (1987). *Geography of market centers and retail distribution*. Prentice-Hall.
- Cloke, P., Milbourne, P., & Widdowfield, R. (2001). In search of the post-industrial countryside. *Progress in Human Geography*, 25(2), 223-247.
- Dasgupta, S., De Neve, G., & Bhattacharya, N. (2010). A case study on tourism and sustainable development in the Indian Sundarbans. *Ocean & Coastal Management*, 53(10), 573-580.
- Gieryn, T. F. (2000). A space for place in sociology. *Annual Review of Sociology*, 26(1), 463-496.
- Haartsen, T., & Groote, P. (2005). Mobility or rootedness: A relational understanding of lifestyle migration and counterurbanization. *Population, Space and Place*, 11(4), 243-260.
- Halfacree, K. H. (1993). Locality and social representation: Space, discourse, and alternative definitions of the rural. *Journal of Rural Studies*, 9(1), 23-37.
- Jalil, S. (2000). Changing creek uses and their implications: A case study of the Sundarbans. *Ocean & Coastal Management*, 43(9), 619-632.
- Kanjilal, B. (2000). Coastal conservation and the Sundarbans. *Ocean & Coastal Management*, 43(3), 327-346.
- Mandal, A. (2010). Human settlement and landscape transformation in the Sundarbans of India. *Ocean & Coastal Management*, 53(8), 446-456.
- Manzo, L. C., & Devine-Wright, P. (2014). *Place attachment: Advances in theory, methods and applications*. Routledge.
- Milligan, M. (1998). Interactional pasts: The storage and structuring of lived experience in narrative identities. *Narrative Inquiry*, 8(2), 323-349.
- Perkins, H. E. (2006). *Measuring love and care for place: A research report on place attachment*. Department of Agriculture, Environment and Water Resources, Australia.

- Replh, F. (1976). *The Ecological Approach to Visual Perception*. Houghton Mifflin.
- Roychoudhury, B. (1980). An approach to rural development: The case of Sundarbans. *Economic and Political Weekly*, 15(8), 293-302.
- Sarkar, S. (2009). Changing settlement pattern and land use in the Indian Sundarbans. *Ocean & Coastal Management*, 52(8), 441-451.
- Seamon, D., & Sowers, J. (2008). Place attachment and phenomenology: The synergistic dynamism of place. *Journal of Environmental Psychology*, 28(1), 109-117.
- Smith, N. (2008). *Uneven development: Nature, capital, and the production of space*. University of Georgia Press.
- Tuan, Y. F. (1974). *Topophilia: A study of environmental perception, attitudes, and values*. Prentice-Hall.
- Williams, A. (2012). Counter-urbanization and its hinterland: Rural urbanization in south-east England. *The Geographical Journal*, 178(2), 117-127.