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Article

Eco-Authoritarian Legacy of Burdwan Raj Dynasty and Cultural Praxis for the Sustainability of Heritage Sites and Built-Up Eco Space in Burdwan Town, West Bengal

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Abstract: The concept of “Eco-authoritarianism”, although appeared in the 1970s, through the writings of Robert Heilbroner, William Ophuls etc., but Eco-authoritarianism as a theory has emerged very recently [1]. In this era of global environmental degradation and rampant defacement of green space in the rapidly expanding cities of developing countries especially in India, historical sites of green belts, or eco-space developed by royal dynasties or colonial rulers are still preserved by eco-authoritarianism and cultural praxis. A lot of such heritage sites and built-up eco-spaces have faded out over time but at the same time, huge numbers are still present due to the imposition of restrictions by the state or national government or statutory organizations. Built up eco-space under Burdwan Raj Dynasty during the 18th and 19th centuries is still preserved almost in its original form due to the eco-authoritarianism outlook of the present stakeholder (The University authority mainly and the Forest Department). People of this urban unit not only feel proud of such built up eco-space; they also give credit to the university authority for maintaining the legacy of the Raj Dynasty. This investigation attempts to capture not only the role of authoritarian legacy for the preservation and conservation of eco-space in the urban context but also clarify the benefits of this eco-space regarding the cultural ecosystem services and outlook of urbanites towards nature. To portray this, both the qualitative and quantitative methods have been applied to glean the whole perspective.

Keywords: urban green-space; eco-authoritarianism; preservation; conservation; cultural praxis; attitude towards nature

1. Introduction

Authoritarianism is a popular concept in political science which is conventionally viewed as an iron rule in the context of state administration. In the Popular context of socio-political theory, Authoritarianism refers to the general orientation of individuals towards being anti-democratic and prejudiced [2]. The core concept concerns that people become subordinate regarding their desire and the overwhelming dominance of authority. As people's desire is restricted, authoritarianism is linked to lower levels of openness to experience [3–5] and higher levels of conscientiousness [5–8]. Such a non-democratic subjugative outlook is in most cases viewed as a negative aspect concerning humanitarianism but keeping away the social context, authoritarianism has a positive impact on the restoration of heritage and nature. Beyond, this popular socio-political context, Eco-authoritarianism is widely recognised in the context of preservation and conservation of nature in an urban landscape and its rationale of socio-cultural context. The concept of “Eco-authoritarianism”, although appeared in the 1970s, through the writings of Robert Heilbroner, William Ophuls etc., Eco-authoritarianism as a theory has emerged very recently, that seeks to protect the environment [1].

In this era of global environmental degradation and rampant defacement of green space in the rapidly expanding cities of the developed and developing countries especially in India, historical sites of green belts or parks, sanctuaries, forests etc. developed by the Raj Dynasty and feudal lords are standing apart like monadnock in the city surface by dint of historical legacy of authoritarianism of

preservation of urban heritage sites or protection and conservation of eco-space by eco-authoritarianism and its sustainability by cultural praxis. This idea of eco-authoritarianism was prevalent during the medieval period in an Indian context, as the developed built-up eco-space was under the control, dictum and wisdom of feudal lords and kings. Prohibition or restricted entry to those sites and proper maintenance of Eco space was the common parlance. Under the democratic structure at present such an eco-space can experience its sanctity and sustenance if it is preserved and maintained by the people or the state. In the Indian context, a lot of such built up eco-spaces have faded into oblivion due to a lack of prohibition and maintenance. However, huge numbers persist due to the imposition of restrictions by the state or national government or the authoritarian legacy of the new stakeholder, prompted by the authoritarian legacy that followed earlier. Built-up eco-space under Burdwan Raj Dynasty during the 18th and 19th centuries is still preserved almost in its original form due to the eco—authoritarianism outlook of the present stakeholder (The University authority mainly and the Forest Department). People of this urban unit not only feel proud of the built-up eco-space, they but also give credit to the university authority for the continuation of the legacy of the Raj Dynasty and for setting up values and norms for the preservation and protection of this built-up eco-space.

Therefore, Eco-authoritarianism is widely highlighted and practised in Western countries (It is also found in developing countries for the ecological hotspot, reserved forests, and sanctuaries). The concept of “Eco-authoritarianism”, although appeared in the 1970s, through the writings of Robert Heilbroner, William Ophuls etc., Eco-authoritarianism as a theory has emerged very recently, that seeks to protect the environment [1], sets public policymaking in the face of severe environmental challenges [9] intensifies outlook to solve the defacement of the environment [10].

2. Conceptual Framework

Do urbanites in developing countries care for nature? The room for nature in the urban areas in the developing country is low. Following the evolutionary growth of urbanization, it may be precluded that for runaway urbanization and hectic urban life, there is little room for nature due to the over-emphasis on the non-primary productive force in the urbanization process. Therefore, the city is conventionally thought of as the spaces of material production and consumption. But growing urbanization with the invasion of technologically empowered production of finished resources made the urban area poor in the component of physical environment i.e., air, water, land and soil. Therefore, urban areas have been transformed into brown belts with the growing industrialization and massive production. To avoid this situation, urbanization of the developed world has changed its paradigm from the purely production-consumption space to the presence of nature.

Such a notion was present in the ancient and medieval cities of India. During the kingship era or feudal dynasty, the kings and feudal lords built the cities with the presence of nature in the form of parks, forests, gardens, and wetlands as the means of recreation and royal prestige. However, the situation turned around from the colonial era, as the face of urbanization was valued by trade, and port function initially and production centre later on. Monetary urbanization after World War II continued the tradition. But the development of planned cities after independence initiated the presence of nature in some selected areas and enough open space. The outlook has changed in the 21st century due to a downward filtration of the urban-eco-space model of developed countries. Therefore, the need for the presence of nature is the need of the hour of developing countries and the preservation of heritage sites and conservation of Eco-space that was developed through the historical process can be possible through authoritarian policy and cultural practice. It has become the reality for Burdwan town where heritage sites surrounded by eco-space are preserved by the enthusiastic attempts of the present stakeholders and the value system of the urbanites.

3. Study Area

To give the research study a geographical outlook in describing spatial patterns and processes, Bardhaman town and its surroundings up to 5 km from the core area has been selected for scrutiny (Figure 1). Burdwan Raj dynasty established a large number of landmarks and architectural structures during their ruling period which at present not only holds high historical importance but also high socio-cultural relevance with time. The study considers four important Royal sites of the Burdwan Raj Dynasty located within the Burdwan Municipality based on their importance. These

royal sites include Rajbati located at $23^{\circ} 14' 20.23''$ N latitude and $87^{\circ} 51' 05.69''$ longitude which was both the administrative as well as the residential area of Burdwan Maharaja. The Golapbag Campus situated at $23^{\circ} 15' 13.50''$ N latitude and $87^{\circ} 50' 50.63''$ E longitude was the royal garden for recreation as well as a zoo during the past. Krishnasayar tank ($23^{\circ} 14' 43.84''$ N, $87^{\circ} 50' 51.86''$ E) and Ramna Bagan ($23^{\circ} 15' 09.86''$ N, $87^{\circ} 51' 01.11''$ E) were also selected for their historical importance and attachment with the royal family. Thus, from the time of the royal dynasty, these royal sites are influencing not only the cultural perspective of the town with a historical flavour in it but also serve as a social space. The ecological perspective is more dominant in Golapbag which is designated as the "Lungs of Burdwan" due to its ecological richness.

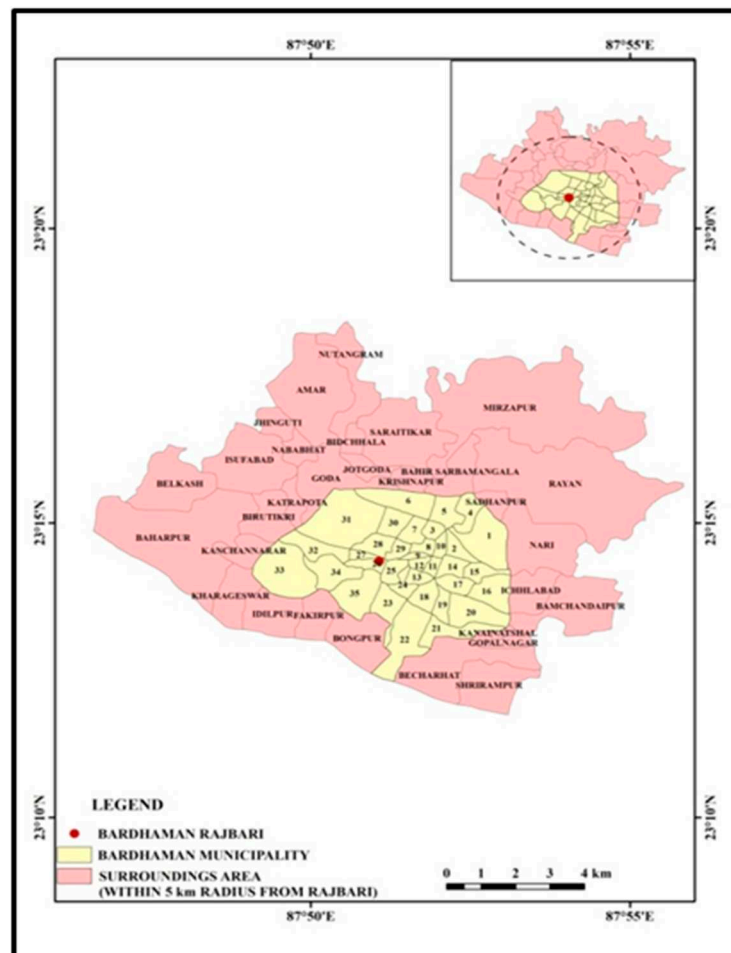


Figure 1. Location of the Study Area.

The process of Land Use Land Cover (LULC) classification involves categorizing and mapping diverse land use and cover types within a defined geographic region. It utilizes remote sensing techniques, such as satellite images or aerial photographs, to analyse and classify different land features accurately. Typically, the classification scheme comprises various categories, including urban areas, agricultural lands, forests, water bodies, wetlands, barren land, and other specific land cover types relevant to the study area where each category represents a unique class that signifies a particular land use or land cover type. In this study, the LULC map of 2020 here shows the major royal sites of Burdwan (Ward No.-19,22,25) where the greenspace is still intact even after so many years whereas the other places of Burdwan Municipal area and its surroundings show high urban growth.

The LULC 2020 (Figure 2) image path is 139, the row is 44, and the data source is LANDSAT 8 OLI-TIRS taken on 28/03/2020. The LULC classification and change of the years 1990,2005,2020 shows a significant increase in the vegetation cover over these years which is only possible due to maintenance of these sites by significant authorities who have maintained the ecology of these sites over the years. The percentage of dense vegetation shows an increase from 19.61% in 1990 to 19.89%

in 2005 and 27.45% in 2020 and space vegetation has also increased from 10.36% to 11.20% in 2005 and 15.41% in 2020 over the years showing. Thus, the ecological richness of this area has resulted in designating this area as the “Lungs of Burdwan”. This paper tries to find the reason for this ecological sustenance even at this pace of rampant urbanisation and the perspectives of the people living in it.

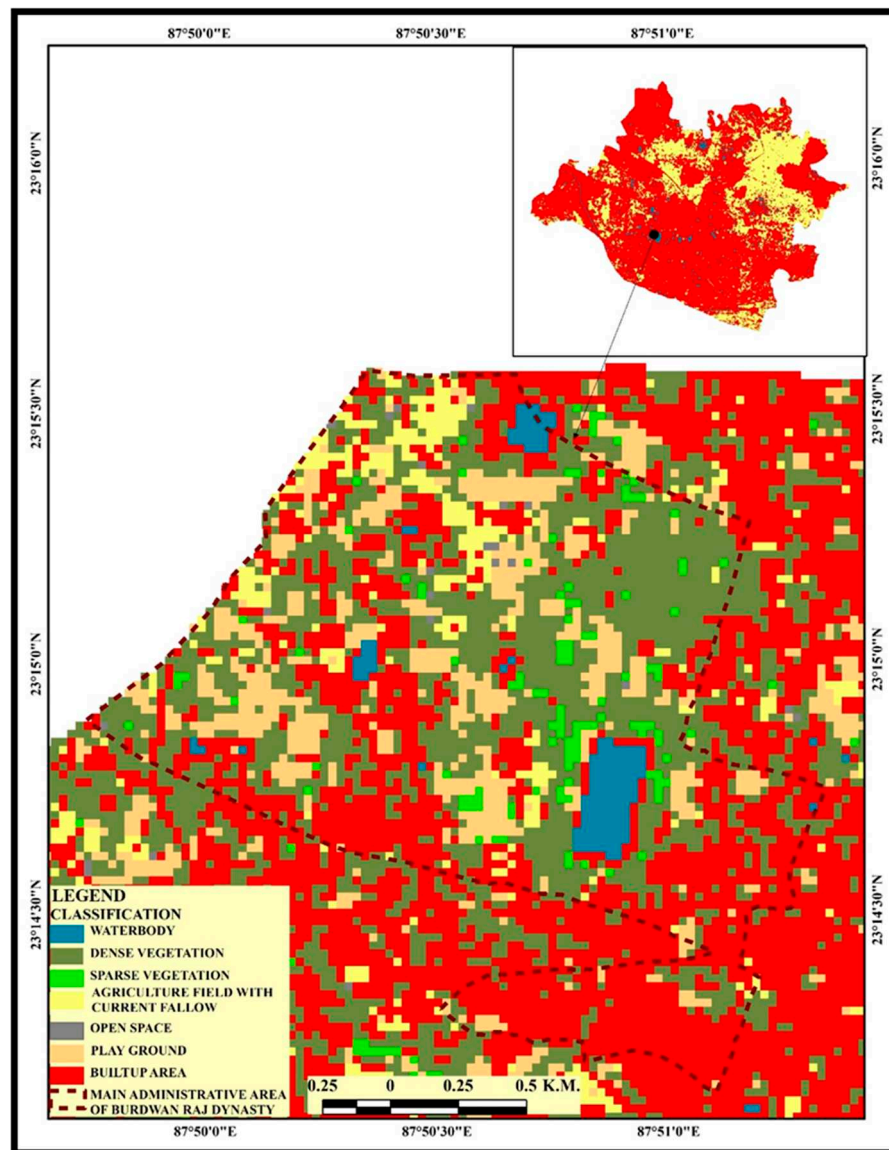


Figure 2. LULC 2020.

4. Methodology

Urban life at present usually starts with the noises of vehicles rather than the chirping of birds. The lost voices of the birds that have disappeared in the daily mundane of urban life are very much present in this area. Urbanites welcome authoritarianism for maintaining the ecological image of this area. Now, the study tries to find out through some specific questions how the role of eco-authoritarianism is important in maintaining the ecological image of this area. Moreover, it also tries to consider how far eco-authoritarianism is controlling the other factors that are important for heritage sites and eco-space of this area as voiced by the respondents.

Therefore, to critically analyse the importance of eco-authoritarianism in the functioning of the Burdwan Raj royal sites, a five-point Likert scale questionnaire (1-Strongly disagree, 2-Disagree, 3-Neither agree nor disagree, 4-Agree, 5-Strongly Agree) has been used upon various aspects that can be witnessed in this area related to the physical, social and emotional backdrop, where respondents from various backgrounds are asked to agree or disagree to a particular situation. The narratives and statements of the respondents are also important in this study. Data were collected through semi-

structured, participant observation; audio recordings, photography etc and notes were jotted down utilizing inscription, description and transcription among based on purposive sampling.

A triangulation approach has been used in this study which entails the usage of more than one method or data in articulating the social perspective. Here the analysis has been made using a mixed method (Quan-Qual) to come to a proper conclusion for the assertion whether quantitative analysis makes parity with qualitative information. The Qualitative methods used in this research justify the utility and validity in terms of the present scenario through narratives while the Quantitative methods used in this study include statistical calculations such as Exploratory Factor Analysis and Partial Correlation to find out the credibility of this study.

Narrative analysis is adopted initially to glean the perception and image of the respondent about the importance, historicity and feeling about the heritage sites and eco-space. Narrative analysis is a subjective judgement through which dominant dimensions relating to their perception cannot objectively be defined. Therefore, Exploratory Factor Analysis (EFA) has been applied to dig out the major variables in ascertaining the urge and feelings of the respondents concerning heritage sites and eco-space. To justify the role of authoritarianism partial correlation of all the variables and control variables (authoritarianism as a control variable) are judged side by side. The notion is whether authoritarianism has a definite impact on developing the image and perception of the urbanites about the heritage site and eco-space.

5. Result

The study has been made to find out how the royal sites have left an impact in the minds of the urbanities, the factors prevailing and dominating the royal sites of Burdwan Raj present, and lastly the role of authoritarianism in maintaining the historical legacy and ecological image of this place. A three-step analysis has been made to justify the following objectives. At first narrative analysis has been conducted to portray the emotions within the minds of the residents. Secondly, logistic regression has been conducted to know the probability of perception level among the respondents and lastly, exploratory factor analysis has been conducted to find out the factors dominating within these sites and partial correlation has been conducted to find out the importance of eco-authoritarianism.

6. Narrative Analysis

Narrative analysis is a type of qualitative data analysis that focuses on interpreting the core narratives from the study groups' personal stories. Sociologists believe that narratives help people make sense of their social experiences and form social identities. It helps to interpret our experiences, knowledge, and interactions in the social environment. In other words, narrative-based analysis is a theory rather than a methodology for interpreting speech. Narrative Analysis involves the collection of narratives from different respondents that can be converted into useful data by analysing statements. Burdwan being a historical town has evoked not only a physical attachment to the royal place but it has also established an emotional perspective, within the mindset of the respondents regarding a different urban image mosaiced by architecture and eco-space. In other words, it is nothing but the *topophilia* [11] that shows the "affective bond between people and place setting". The overviews of the respondents during participant observation collected during the field survey, clearly show that the emotional attachment of the urbanities is more than their physical attachment to this place as such the place identity is more dominant than the place dependence on the mind of the residents that is perceived from their use of certain terms in describing the topophilia which is closer to their past identity than their present one.

In the case of Burdwan town, the urbanities have a high appreciation for the ecological imprints left behind by the Raj family as it is the dominant green space to be found over the entire town at present along with the royal heritage (Royal Palace, recreational palace and royal gate named as Curzon gate named after Lord Curzon). The -year-old complex of Rajbati is now the official space of Burdwan University. The Archaeological Survey of India declared the entire Rajbati Complex a heritage property on 29 April 2013. Since then, the initiative has been taken and the process is continuing. The Ram Bagan at present is under the forest office divisional and at present it is the Zoological Park; the Krishnasayar is the recreational park and the recreational garden is the University academic complex. The love for nature along with the urge for collecting the unknown

history of this place makes it more special to the people of Burdwan. Thus, based on purposive sampling (who have some idea about this built-up eco-space and architecture and also who access if whenever required) interviews were taken into consideration and questions were framed to glean out the historical and ecological perception of the individuals. The ecological perception of the urbanites was based on their ability to perceive the need for ecological conservation and maintenance, while the historical perception is taken into account through their knowledge regarding the historicity of this area. The narratives have been collected through a ground-level survey and the methodology used in this case is the storytelling, narrations and in-depth interviews.

Some of the important narratives that clearly justifies the ecological essence in the mindset of the individuals and their emotions attached with it are given below:

"Golapbag seems like a *Mini Santiniketan* to me. I don't miss Bolpur (Santiniketan, Birbhum District, West Bengal) where once I had been living for years before my marriage after I came and settled here in Golapbag," -S. Bairagya, (F,30 yrs.)

"The Hawa Mahal, the Dilkhusa palace, the moat, the gates and the beauty of this place still make an image of *Golapbag to be truly a garden of roses* as it was named and even today," -M. Chatterjee, (M,65 yrs.).

"The very first image that comes to my mind whenever I visit Golapbag, Rajbati, Ramna Bagan and Krishna Sayar are that they are *symbols of greenery and that they are royal site*," -M. Dutta, (M 42 yrs.).

"I feel very much connected with the nature present over here and as if I could also visualize the past. *The age-old trees have a lot more to tell*," -S. Bhattacharya, (F,45 yrs.).

In the very first instance, the narratives reveal **the ecological image within the mindset of the individuals** and their appreciation towards the ecological imprints that are sustaining for centuries and even at present. The given statements clearly express the feeling of love for eco-space within the minds of the residents where the residents also designate the place by their past royal identity more rather than their present one. This love towards the place has been aroused from their love towards the royal sites as well as the ecology. The statement that "*Golapbag seems like a Mini Santiniketan to me*" clearly shows that ecological image is still present in this area and it could be compared to Bolpur, Santiniketan renowned as Tagore's place with immense ecological beauty and calmness. This proves the existence of greenery, calmness and mental peace in this area as well as their psychological attachment towards the greenery. The statement that "*The very first image that comes to my mind whenever I visit Golapbag, Rajbati, Ramna Bagan and Krishna Sayar are that they are symbols of greenery and that they are royal site*" clearly justifies their boding and physical attachment to the place solely because of its royal identity and aesthetic beauty. The Golapbag as the garden of roses was its earlier identity in the past but is still fresh in the minds of the urbanities as they could still feel its beauty even at present that was once developed by Maharaja Tejchand.

However, in the second instance it is found that there is a **deep psychological connection between the urbanities and the ecological set up**. R. Nandi, (M,18 yrs.) says "*I enjoy going to Ramna Bagan with my friends and enjoy the nature over there. I like Golapbag also; we enjoy visiting these sites and spending time more than Big Bazaar or Inox. Furthermore, I feel relaxed whenever I visit these sites.*" Another respondent also highlights the positive emotions attached with this place that act as a space of mental relaxation. P. Dey, (M, 25 yrs) says "*I feel relaxed from the hectic life, the domestic tensions and enjoy the greenery. The trees, the birds as well as the atmosphere over there have always been an outstanding experience. As we live in the core area of the town, we miss the greenery so we like this place.*" Other says "*The feeling towards Golapbag is completely different because of the enormous trees and ecological setting, the trees and these architectures catch my eyes every time I visit the older parts of the city.*" S. Bhattacharya (F,45 yrs.).

In the third instance the **love and concern for historicity of the town** is seen "*Such a historic city needs people's consciousness and system to keep the city beautiful*" says R. Nandi, (F,18 yrs.). Similarly, N. Nandi (M,39 yrs.) say "*It represents the older part of the city the historicity of the place as well as the greenery of the area attracts me a lot.*"

When asked about the historicity of the place A. Roy (M,15yrs) replies with a smiling face, "I really **enjoy** watching the older parts of the city, the old buildings, streets etc. They **attract me a lot** and I like the historicity attached with it as well as the **aesthetic part** of these areas. Although the

overall history is not known to me but I know some of it." It is seen that although the history of the place was not known but to everyone the place seemed quite attractive and overwhelming and they all know that it was created by the kings of Bardhaman.

In the last instance, **the nostalgia and emotions attached within the minds of the residents** could be clearly seen in the present contextual reality even after the end of the Raj Dynasty Rule. As for example, S. Chowdhury (House Wife, 52 yrs.), a local resident of Burdwan living near Rajbati says that *"We are the **neighbours of the king**. I feel very proud of staying just beside Rajbati and could still feel that historical efflorescence even today. The establishment of the University has created **high social value** and has benefitted all sections of society. As it is an administrative office it is functioning as a unit and everyday people come here and goes and though **restrictions are present** it is open to everyone. The museum is also open the buildings are re-coloured without losing the **royalty of the place**."* She further adds that *"It is because of this business and working space the Rajbati still **remains grandeur and pomp** in the everyday life. The magnificence of these places would have been lost if it was converted into a complete heritage place open to visitors only. The flavour of living within the Rajbati (King's Palace) and witnessing every part of it is closer to heart today than it would have been else."* S. Ghosh (Local resident, F, 30 yrs.) says that *"Whenever I enter Rajbati, the wooden stairs, the walls, the architecture, the coloured glasses make me feel the presence of royal signature and it seems that the workers working inside it are as if working in a Raj Dynasty"*.

Regarding the working condition within Rajbati, T. Chatterjee (Officer, M, 37 yrs.), says "People tell us even today as the workers of the king as we work in Rajbati (Administrative Office of the Burdwan University), and we feel **not only proud but also honoured**. The walls, the floors, the windows and the entire building itself symbolize the **royalty of the king and historicity of the place**. We could feel the past even at the present here." Whereas, T. Nasreen (University Professor, F, 45 yrs.) on her experience of working within a royal site says that *"I feel like walking into **history every day**."* Regarding the experience of living within Golapbag Campus, A. Chatterjee (University Student, M, 28 yrs.) says *"The **ecological and aesthetic value** is high compared to other historical sites in Burdwan. **The silent observers or the trees** since the time of the Raj Dynasty rule are seen even today."*

The narratives of 311 individual cases (respondents) are collected and analysed on the basis of certain codes in QDA Miner (Qualitative Software) based on particular key words. The following codes were considered for conducting a grounded theory analysed based on the data and information collected through interviews. The questions asked during the survey were mainly based on:

- There in-depth knowledge regarding the historicity of the area,
- Their knowledge based on ecological conservation and need,
- Lastly, there perception regarding the place or how they feel.

It was found from the coding frequency table that nearly 59.8% of the cases were nostalgic however, about 31.2% and 31.5% had a love for historicity and were connected to nature, while 25.1% of the cases talked about eco-authoritarianism (Table 1). However, from the initial coding, it is found that the concept of eco-authoritarianism, conservation, and preservation are very much linked up with the ecological perspective. But it is also found that there is a deep psychological connection between urbanities and green space. This psychological connection could be found especially because living in an urban space with hectic urban life, human beings find themselves as robots people feel suffocation and therefore, they urge for peace, relaxation, and serenity (Table 2). Nostalgia and emotions are much more connected with their love for historicity, and recall of memories and artefacts.

Table 1. Coding Frequency Table.










	Count	% Codes	Cases	% Cases
 Ecological Perspective				
 Love for Ecology	55	9.4%	52	16.7%
 Eco-authoritarianism	86	14.7%	78	25.1%
 Human Psychology and Ecology	104	17.8%	98	31.5%
 Historical Perspective				
 Love for Historicity	111	19.0%	97	31.2%
 Nostalgia and Emotions	213	36.5%	186	59.8%
 Neutral				
 No feel	15	2.6%	15	4.8%

Table 2. Table for Code and Keywords.

Code	Key Words
Love for Ecology	Greenery, green-space, ecology
Eco-Authoritarianism	Sustainability, restriction, development, management, preserved, administrative, authority, maintained
Human Psychology and Ecology	Relaxed, happy, tension free, peaceful
Love for Historicity	Historical, architecture, past
Nostalgia and Emotions	Nostalgic, connected, proud, feel
No feel	No, not, does not

7. Exploratory Factor Analysis

The core concept revolves around two fundamental aspects- what is the reason for the sustenance of this heritage sites and eco-space and how the people appreciate this [12,13]. Therefore, all the expressions are connected with two main drivers- historical legacy and ecological image. Sustenance of such a royal architecture and built-up eco-space for more than two centuries at least is the outcome of the authoritarian outlook of the Raj dynasty and also carrying out the eco-authoritarian legacy of the present stakeholder i.e., the University Authority and also Forest Department (Stakeholder of the Zoological Park).

Indeed, narrative analysis, or qualitative analysis cannot distinctly define in which context the people appreciate this royal architecture and eco-space. Therefore, to articulate the intensity of the different dimensions of appreciation about this royal eco-space multivariate analysis is employed and the technique is the Exploratory Factor Analysis **EFA** has been conducted to sort out the variables based on factor loading using **Varimax rotation (Kaiser-Varimax rotation)**.

Rietveld & Van Hout [14] defined factor analysis as “the dimensionality of the original space and to give an interpretation to the new space, spanned by a reduced number of new dimensions which are supposed to underlie the old ones”. It reduces the observed variables in terms of underlying latent factors [15]. The variables with low loading values are rejected and the dominant variables are considered for this study. All together fifteen variables are taken into consideration of which some are used in some literature [16–19]. Here Kaiser-Meyer-Olkin Measure of sampling adequacy (KMO test) is conducted to test the proportion of variance caused by underlying factors and Cronbach’s Alpha has been used to measure internal consistency (“reliability”) among variables. Factor analysis, therefore, involves grouping similar variables for reducing them into a fewer number of dimensions.

Table 3 shows the exploratory factor analysis for all the variables functioning in this area. The value of Cronbach’s Alpha is .941 which clearly states the internal consistency of the data to be highly reliable. The KMO value of .819 also indicates high sampling adequacy. The variables are sorted down into down into three components after PCA. The Eigen values of the first, second and third component are 9.00, 1.54 and 1.24 respectively. The cumulative percentage of variance in rotated sum of squared loadings explains 48.65 %, 63.65% and 78.61% respectively.

Table 3 displays the results of PCA (Principal Component Analysis), highlighting the first component that accounts for 48.65% of the variance. This component is characterized by the presence

of “historical and cultural identity” formed through emotional attachment to the royal built-up spaces. The love for the historicity, royal architecture, and aesthetic beauty of this place defines the nostalgic sentiments associated with it, contributing to the preservation of the historical legacy of Burdwan Raj Dynasty sites and fostering socio-cultural attachment. Additionally, the table acknowledges the significant role of eco-authoritarianism in the ongoing maintenance of these royal sites, emphasizing its importance in the present context.

Table 3. Exploratory Factor Analysis.

	Rotated Component Matrix ^a		
	Component		
	1	2	3
1.Emotional Attachment	.882	.251	.135
2. Nostalgia	.879	.038	.312
3. Historical Importance	.876	.159	.238
4. Aesthetic Beauty	.870	.102	-.029
5. Attachment to Royal Architecture	.862	.178	.264
6. Socio-cultural Attachment	.830	.037	.185
7. Restriction and Eco-Authoritarianism	.817	.209	.323
8. Security	.817	.392	.111
9. Attachment to Royal Family	.726	.219	.390
10.Mental Relaxation and Well-being	.641	.369	.462
11.Recreation	.602	.272	.312
12. Ecological Richness and Attachment to Ecological zone	.197	.912	.115
13. Conservation and Awareness	.178	.909	-.002
14.Attachment to Place (Burdwan)	.174	.049	.863
15.Physical Attachment to Royal Built-up space	.232	.029	.794

Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization. a. Rotation converged in 5 iterations.

The second component explains 15% of the total variance. It highlights the importance of ecology as an important factor in this area. Therefore, the second component highlights “Environmental Consciousness”. The term Environmental consciousness refers to an individual’s awareness, understanding, and concern for the natural environment and its conservation. It encompasses the recognition of the interdependence between humans and nature and the importance of sustainable practices. The love for ecology is influenced by various factors of which environmental consciousness is a significant one.

The third component explains 14.96% of the total variance and is associated with physical attachment to royal built-up space (environment) and place attachment to Burdwan town itself developed through staying is “sense of belonging.” Sense of belonging refers to the feeling of being connected, accepted, and rooted in a particular place. It encompasses the emotional attachment and identification with a physical environment, which includes both the built-up spaces and the broader community or locality.

8. Role of Eco-Authoritarianism by Partial Correlation

To judge whether eco-authoritarianism is the dominant factor for the sustainability of such royal heritage and built-up eco-space, partial correlation analysis has been applied taking nine major variables from EFA and later on eco-authoritarianism is taken as the control variable. Partial correlation tries to measure the strength of relationships between two variables, controlling the effect of one or more other variables. **Partial correlation tries to measure the strength of relationships between two variables, controlling the effect of one or more other variables. Cramer [20] distinguished it as “the outcome of partialing out one or more variables from the association between a predictor and a criterion variable in both cross-sectional and longitudinal studies.”**

The entire work has been done on the basis of selected variables that are prevailing in this area. Table 4 for **Correlations** is split into mainly two parts: (i) *The Pearson Product-Moment Correlation Coefficients* for all your variables and (ii) the results from the *Partial Correlation* where the Pearson

Table 4 shows the results of partial correlation where there is a high positive partial correlation of 0.792 between emotional attachment and historical importance of this place, statistically significant at ($r=99\%$) where $n=100$ and $p=0.01$. In both cases, the emotional attachment of the respondents plays a significant role along with the historical importance of the royal sites. However, in the first case, eco-authoritarianism plays an important role where due to the presence of an educational hub and its value system the economism is less and is bound by both natural as well as human values to preserve the traditionalism. As such the ecology of the area is highly maintained where no illegal cutting is done rather the area is preserved utilizing conservation and restriction.

9. Discussion

The concept of authoritarianism rather eco-authoritarianism was present during the kingship area and is continuing at present where ecology (ecologism) and eco-authoritarianism has made the Golapbag- Tara bag- Babur bag area a sensible built-up eco-space betraying the theory of Tragedy of Commons [21] and also the Tragedy of Anti-Commons [22] making it an unique royal site where apart from conservation of historical legacy the ecological image of the age-old trees since the time of Raj dynasty rule are also preserved. It is undeniable that royal sites play a significant role in visualizing human beings from a psychological and emotional perspective in this techno-centric era urban world has left no space for mental solace forming the need for green places. Artificial gardening, urban green, street plantation, and green parks are developed but the urbanities search for something that could feed their need for ecology along with their psychology. Thus, they search for places where they could feel connected.

High social attachment developed in this place is quite sensible and suitable and the factors responsible for such development are education, security of this place, socio-cultural integration, mental harmony and greenery [23,24]. However, the main reason behind socio-cultural development is education. The emotional attachment to the place has developed among the minds of the residents from various reasons but the main reason behind it is the continuation of historical legacy and image of historical legacy even today. The aesthetic pleasure and love towards the beauty of the royal sites could be clearly seen in the eyes of the residents and it could directly be perceived through their vision even today and is increasing day by day. Thus, in this era of modernization and crowdedness where people live in a virtual world with artificial means of entertainment in a city space, the urge for mental solace, calmness and peacefulness of their mind are found more.

Social attachment to this place has also increased due to calmness and security of this place [25]. As an educational hub, it has been open to all sections of the society and even the poorest of the poorest person is getting benefitted from it thus causing high social integration. Moreover, in the daytime, it works for seven hours a day as an educational space that has a high impact on socio-cultural development providing mental alertness, harmony and a working mindset of the people. However, in the peak period 5 pm to 10 am it appears as a zone of silence, it converts into a shadow zone with no such human interference providing environmental harmony and peace, thus becoming highly important in the natural sphere thus feeding each other and living in symbiosis. Thus, has further caused not only socio-cultural development in the modern perspective with glimpses of sustainability but also the continuation of culture, holding the hands of traditionalism with the essence of royal flavour in it. Apart from the biotic richness of these areas, the urbanities have recognized it as the only available well-maintained green space amid rampant urbanization within the town. The feelings of emotional attachment, mental harmony, peace and security that have developed among the urbanities significantly fall into the super-structure and are given more priority at the very first stage. Golapbag even today is first recognized as a royal site even today by the residents of Burdwan living through generations. The image royal place is still in their mind which when questioned and allowed to think and answer comes directly into their vision more as emotion, retrospection, nostalgia and love towards past local history than their attachment to the place through its physicality.

The second component accentuates the imperative of ecology as a pivotal determinant and reveals ecological persistence as the preeminent standpoint interweaving in this locale to uphold sustainability. At the outset, an overwhelming two-thirds of the populace discerns the nostalgia enshrouding this place, yet in the subsequent stages, they become cognizant that, beyond its historical threshold, ecology has bestowed upon the area an emblem of solace and a sanctum for mental

reprieve amidst the urban bustle. The concept of conservation comes through mental awareness and a sense of knowledge. Therefore, the conservation of royal sites is not only a matter of historical significance but also a vital endeavour for cultural preservation and the sustainable enrichment of our society.

Place attachment can be classified into two distinct types: emotional attachment and physical attachment. The initial component (first component) emphasizes cognition or the super-structure, while the third component elucidates the underlying hidden structure that develops over time through one's experience of staying in a place. The feeling of friendship, togetherness and bonding developed with nature and surrounding has developed through interactions and love that came through staying for a longer period in this place among the urbanities. Here time has played an important role in forming an attachment to the place. The attachment towards Burdwan as such is perceived by the urbanities later at the cognitive level.

The elderly generation has witnessed the time of the Raj dynasty rule especially those above the age of 80 years say "Compared to what we have seen today there is very less left of it". So, their attachment to the royal family is very obvious, whereas the middle-aged section and young generation say "It is good that it is looked after by the university, otherwise it might have become a ruin by today." Here generation gap has played a significant role in distinguishing their views as such the outlook of the younger generation towards attachment to the royal families has become diluted. Moreover, opinions are diluted among generations where the younger generation preferred amusement within the royal sites the middle age groups opted for mental relaxation, personal space, leisure and love of nature and its sounds like the chirping of birds. The elderly generation liked afternoon hours to be spent amid historicity and royal fragrance that rebuilt their emotions with nostalgia. Hence, based on this EFA, it is evident that the predominant factors influencing this domain are emotional attachment and socio-cultural attachment during the initial phase, followed by ecological attachment and conservation in the subsequent phase, and finally, physical attachment in the later phase.

Similarly, high positive partial relation of 0.73 is found between emotional attachment and the aesthetic beauty of the royal sites and 0.72 between historical importance and the aesthetic beauty of the royal sites. Here we can say that the historical importance of this place forms a strong reason for emotional attachment to this place as aesthetic beauty at present forms an important reason for emotional attachment and emphasizing historical importance, they can be justified irrespective of the role of eco-authoritarianism. However, in the case of other variables, we find a medium positive relationship example between the preference for a visit to royal sites and aesthetic beauty (0.58); between historical importance and social attachment (0.582); social attachment and aesthetic beauty of these sites (0.529). A very low positive partial correlation is found between physical attachment to the site and its historical importance (0.273). Whereas very low negative relationships are found between awareness among people and ecological zone (-0.41); and visit towards the royal site (-0.46) are statistically significant at ($r=99\%$) at 0.01 level. Here the role of eco-authoritarianism is important and, in its absence, a negative relationship is seen. Even a very low positive relationship is seen between conservation and awareness with emotional attachment (0.26) statistically significant at ($r=95\%$) at 0.05 level. It is to be noted that in all these cases the role of "Eco-Authoritarianism" has been kept controlled as such the strong positive correlation is less among the variables.

On the other hand, when we refer to Pearson's product-moment correlation which is also known as the zero-order correlation between the variables, without controlling for "eco-authoritarianism", we can see that a statistically significant positive relationship exists between all the variables. However, the highest positive correlation exists between eco-authoritarianism and social attachment among the urbanities having a 0.93 value; and between emotional attachment and historical importance (0.93) where ($r=99\%$, $n=100$, $p=0.01$). A very high positive correlation also exists between emotional attachment and social attachment (0.91); and aesthetic beauty (0.90). It shows how emotional attachment has induced social bondage among urbanites. Thus, we could say the role of eco-authoritarianism is highly significant in establishing positive correlations among the other dependent and independent variables. Moreover, eco-authoritarianism has high positive relationships with independent variables such as maintenance of the aesthetic beauty of the place, maintaining the historical legacy, preference of urbanities to visit the royal sites, social and emotional attachment to the place and last but not least preserving the ecology of this place significant at 0.01

levels. So, it can be clearly said that eco-authoritarianism is needed and it plays a very important in the case of Burdwan Raj Sites and its functioning in the present perspective. We could find a high positive correlation between eco-authoritarianism and other important variables, it also plays a significant impact in increasing the correlation between emotional attachment to this place with the other variables such as social interactions, bonding, the aesthetic beauty of this place and last but not the least the historical legacy of this place itself.

Lastly, the narratives once again make it clear that the legacy of the Burdwan Raj Dynasty still exists within the minds of the urbanities even after the passage of 63 years (Burdwan Raj handed over the property to the University Authority in the year 1959) from the time of the abolition of the Zamindari system and Raj Dynasty rule. The place attachment is still present in the minds of the residents and their attachment towards the identity of the place is more than their place dependence. The dominant factor establishes the relationships of the urbanities with the Burdwan Raj royal sites with that of physical (aesthetic and ecological beauty), psychological (mental peace and calmness) and emotional attachment (nostalgia and retrospection). The residents of Burdwan feel Nostalgic even today both working within the site and also living outside it. They are also in love with the present functioning as this transformation has not loosened the identity of this area rather the statutory body (University Authority) is trying to preserve the legacy of the Raj Dynasty through not only preservation, conservation, and maintenance but also through maintenance of royal signature even in the new buildings and structures made by them. The first image that comes into the minds of the residents once they see Golapbag is of a royal site. Thus, we can accept the fact that eco-authoritarianism has not only maintained the image of this area through conservation and maintenance but also has indirectly maintained the legacy of this place within the minds of the residents.

10. Conclusion

After independence with the abolition of the Zamindari system, the ownership of the Burdwan King has been transferred to the University Authority mainly (and the Forest Department for the small forest patch) where the stakeholder has some fixed notion and also has an authoritarian outlook for the smooth running of academic ambience as well as protection of built-up nature in and around it. Similarly, for Ramna Bagan and Krishna Sayar Park, the stakeholders are different and each of them is functioning in their sphere without harming the ecology of this area rather than protecting it. Therefore, it can be said that neither the common people nor the State is intervening in its affairs rather the statutory bodies are taking efforts for the protection, conservation and maintenance of the royal site and eco-space.

The investigation tries to focus on the importance of eco-space and royal sites of Burdwan Raj and the reason for the sustainability of this area even under the stupendous urban development of the city for the last thirty years where the green space and eco-space are rapidly vanishing. It is the oasis in the jungle of concrete. And the urbanites not only appreciate it but give credit to the present authority for its sustenance. They are proud of it and never hesitate to express their urge, emotion, feelings, and mental satisfaction and ultimately appreciate eco-authoritarianism.

References

1. Shahrar, *Rejecting eco-authoritarianism, again*. Environmental Values, 2015. **24**(3): p. 345-366.
2. Hadjar, A. and K. Boehnke, *Authoritarianism*. Reference module in neuroscience and biobehavioral psychology, 2017: p. 1-6.
3. Akrami, N., B. Ekehammar, and T. Araya, *Category and stereotype activation revisited*. Scandinavian Journal of Psychology, 2006. **47**(6): p. 513-522.
4. Stenner, K., *Three kinds of "conservatism"*. Psychological Inquiry, 2009. **20**(2-3): p. 142-159.
5. Perry, R., C.G. Sibley, and J. Duckitt, *Dangerous and competitive worldviews: A meta-analysis of their associations with social dominance orientation and right-wing authoritarianism*. Journal of Research in Personality, 2013. **47**(1): p. 116-127.
6. Hotchin, V. and K. West, *Openness and intellect differentially predict right-wing authoritarianism*. Personality and Individual Differences, 2018. **124**: p. 117-123.
7. Dallago, F. and M. Roccato, *Right-wing authoritarianism, Big Five and perceived threat to safety*. European Journal of Personality: Published for the European Association of Personality Psychology, 2010. **24**(2): p. 106-122.

8. Nicol, A.A. and K. De France, *The big five's relation with the facets of right-wing authoritarianism and social dominance orientation*. Personality and Individual Differences, 2016. **98**: p. 320-323.
9. Gilley, B., *Authoritarian environmentalism and China's response to climate change*. Environmental Politics, 2012. **21**(2): p. 287-307.
10. Beeson, M., *The coming of environmental authoritarianism*. Environmental politics, 2010. **19**(2): p. 276-294.
11. Tuan, *Topophilia: A study of environmental perceptions, attitudes, and values*. . 1978, Chichester, NY: Columbia University Press.
12. Leslie, E., E. Cerin, and P. Kremer, *Perceived neighborhood environment and park use as mediators of the effect of area socio-economic status on walking behaviors*. Journal of physical activity and health, 2010. **7**(6): p. 802-810.
13. Lee, A.C.K., H.C. Jordan, and J. Horsley, *Value of urban green spaces in promoting healthy living and wellbeing: prospects for planning*. Risk management and healthcare policy, 2015: p. 131-137.
14. Rietveld & Van Hout, *Statistical techniques for the study of language and language behaviour*. 2011: Walter de Gruyter.
15. Habing, *Exploratory factor analysis*. 2003.
16. Kweon, B.-S., W.C. Sullivan, and A.R. Wiley, *Green common spaces and the social integration of inner-city older adults*. Environment and behavior, 1998. **30**(6): p. 832-858.
17. Maas, J., et al., *Social contacts as a possible mechanism behind the relation between green space and health*. Health & place, 2009. **15**(2): p. 586-595.
18. Karmanov, D. and R. Hamel, *Assessing the restorative potential of contemporary urban environment (s): Beyond the nature versus urban dichotomy*. Landscape and Urban Planning, 2008. **86**(2): p. 115-125.
19. Korpela, K.M., et al., *Determinants of restorative experiences in everyday favorite places*. Health & place, 2008. **14**(4): p. 636-652.
20. Cramer, *A Cautionary Tale of Two Statistics: Partial Correlation and Standardized Partial Regression*. The Journal of Psychology: Interdisciplinary and Applied, 2003. **137**(5): p. 507-511.
21. Hardin, *The tragedy of the commons*. Science, 1968. **162**(3859): p. 1243-1248.
22. Heller, M.A., *The tragedy of the anticommons: property in the transition from Marx to markets*. 1998: Harvard law review.
23. Marques, B., et al., *Sense of place and belonging in developing culturally appropriate therapeutic environments: a review*. Societies, 2020. **10**(4): p. 83.
24. Keles, R., *The quality of life and the environment*. Procedia-Social and Behavioral Sciences, 2012. **35**: p. 23-32.
25. Mikulincer, M. and P.R. Shaver, *Boosting attachment security to promote mental health, prosocial values, and inter-group tolerance*. Psychological inquiry, 2007. **18**(3): p. 139-156.

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