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5 ***Original Research Article***

6 **Managing environmental degradation using traditional, cultural and spiritual strategies**  
7 **the tale of Dagaaba and Birifor people**  
8

9 **Abstract**

10 The environmental laws seem not to be effective in protecting the environment. The article  
11 looked at alternative ways of protecting the environment from stressors and disturbances. It  
12 utilized personal observation, narration, and primary data from the role traditional/cultural traps  
13 play in environmental conservation in the Dagaaba and Birifor communities. Findings revealed  
14 individuals with Dagaaba and Birifor background have rich indigenous cultural systems which  
15 facilitate environmental conservation of different ecosystems. This paper concludes that  
16 environmental taboos (i.e., cultural norms, values and traditions) and the fear of the wrath of the  
17 gods (i.e., beliefs and spiritualism) have enhanced the conservation of some portions of the land  
18 for the people of Dagaaba and Birifor. However, this approach is not effective in minimizing  
19 bushfires, considering the fire's propensity to escalate and extend from one community to the  
20 other. The traditional/cultural/spiritual strategies can be adopted to minimize illegal mining  
21 which is currently destroying the forest reserves, land, air and water bodies, among other  
22 ecosystems in Ghana. These strategies are effective in managing environmental degradation.

23 **Key Words:** Spiritual, Traps, Dagaaba, Birifor, Anthropogenic, Phenomenological, Ethno-  
24 methodological

25

## 26 **Introduction**

27 Environmental degradation is seen as the deterioration of the environment through depletion of  
28 resources which includes all the biotic and abiotic element such as air, water, soil, plants,  
29 animals, and all other living and non-living elements of planet earth that form our surroundings  
30 (Maurya et al. (2020). Sarfo, Shuoben, Otchwemah et al (2022) view the key drivers of the  
31 environment as biophysical, cultural and technological factors as they have the potential of  
32 influencing climate sensitive sectors Kaledzi, (2021) opined that the forest areas have shrunk five  
33 times in 100 years. Anthropogenic activities like illegal artisanal and small-scale mining,  
34 inappropriate agricultural practices, urbanization and industrialization are destroying water  
35 bodies, aquatic lives and the air we breathe (Bawakyillenuo, 2020). The destruction of the  
36 environment has led to extinction of some species of living elements. These have equally led to  
37 land degradation, pollution of the natural air/ water/land, global warming and deforestation. The  
38 air, water and plastic pollution affect health and hygiene; illegal mining, improper solid waste  
39 disposal, and contaminated sites release hazardous chemicals; land degradation, deforestation  
40 heavily impact livelihoods and limit growth and development (Srivastava & Pawlowska, 2020).  
41 These equally have the propensity to cause prolong drought, water shortage and inadequate  
42 plants and animals in the ecosystem if not managed well. Therefore, Protection of interests and  
43 concerns about climate change and observable changes in the Earth's system increase the need  
44 for further research that will improve information, innovations and informing the decision-  
45 making of urban planners, municipalities, researchers and interested organizations (Sarfo,  
46 Shuoben, Otchwemah et al, 2022). As warned, the natural resources underpinning the success of  
47 Ghana must be protected, sustained and managed for the future (Srivastava & Pawlowska, 2020).

48 Most rural people in Ghana depends on agriculture for survival. The Environmental Protection  
49 Agency (EPA) (2002) has indicated that the agricultural sector have employed about 70% of the  
50 rural labour force, contributes 45% of the GDP, accounts for over 55% of the foreign exchange  
51 earnings and is responsible for meeting over 90% of the food needs of the country. Poor land  
52 management leads to land degradation (Srivastava & Pawlowska, 2020); polluted air and water  
53 affects human and animal health (Bawakyillenuo, 2020) and felling of trees and bushfires  
54 destroys the forest and grassland thereby reducing transpiration, precipitation and rainfall (Plaut,  
55 et al, 2013).Therefore, the rural people whose livelihood depends on agriculture suffer when the  
56 environment and the ecosystem are not well protected and therefore, allowed to be destroyed or  
57 degraded.

58 Today, most governments have initiated several policies and legislative instruments to protect  
59 the environment. However, ineffective implementation coupled with lack of political will, have  
60 left the land, air, water resources, plants and other natural resources in an increasingly alarming  
61 state ( Bawakyillenuo, 2020). According to Mbiti (1969) cited in Saani, (2016), “the African is  
62 notoriously religious”. For most African communities all aspects of nature, plants and wildlife  
63 and water bodies are under the mystical tutelage of ancestral spirits and guardian animals. People  
64 are therefore mandated to use natural resources sustainably on behalf of these spirits. The  
65 application of environmental taboos are intended for the ethical use of the environment. These  
66 taboos help keep people away from further depleting the environment. The Dagaaba and Birifor  
67 people have a rich indigenous knowledge system which help in environmental conservation.

68 The Dagaaba and Birifor located in the Upper West Region of Ghana and the southern part of  
69 Burkina Faso believed the gods reward and punishes. These rewards include protection from  
70 sicknesses, inexhaustible material gains, ability to conquer enemies, and so on. The punishment

71 from the gods, ancestral spirits are characterized with an incurable sickness and death. The  
72 symbol of any traditional/cultural/spiritual element placed on a land, trees, living or non-living  
73 object in the environment has a positive or negative connotation to a Dagaaba or Birifor. Therefore,  
74 these people collectively adopted traditional/cultural/spiritual/ traps to protect and sustain the  
75 environment. As Srivastava and Pawlowska, (2020) suggested, it is better to act now to protect  
76 the ecosystem and the impact of environmental degradation on vulnerable groups, especially in  
77 the Ghana. It is also key to understand the importance of well-informed community norms that  
78 seek natural justice, transparency and discipline. Therefore, the Dagaaba and Birifor belief in:  
79 taboos, totems, sacred groves, deities (rain god, hunch back, water god, earth god) and curses.  
80 These beliefs and deities are employed to complement the environmental policies to protect the  
81 environment.

82 If the exotic methods are failing, resort to the traditional methods to combat environmental  
83 degradation. In the Dagaaba and Birifor cultural setting, certain natural features like trees, rivers,  
84 mountains and animals are considered sacred and should be conserved. The 'Benge' grove/forest  
85 in Wogu located in upper west region has been dedicated to the gods of the land and no body  
86 enters there to cut any wood or hunt without performing certain rituals or sacrifices. Therefore,  
87 the living and non-living elements are protected. The 'Wetuo' land located around the northern  
88 part of Nadowli along the N1 road on Nadowli-Babile road is a land which forbid hoe, axe and  
89 other metallic objects. Therefore, the land, trees and other shrubs are protected and therefore are  
90 in their natural state. The Dahiile mountain located between Hamile and Fielmuo in the upper  
91 west, Ghana is forbidden for people to farm or hunt around. The curses surrounding the  
92 mountain protect all the living and non-living species on the mountain. The Ombowira is a  
93 mountain in Nadowli-Kaleo District which have a gorge located at the eastern part of the

94 mountain with water which contain fish that are forbidden to be harvested without any ritual. The  
95 python, crocodile, hedgehog, aligator, etc are animals the Dagaaba and Birifor believed they  
96 played roles in the lives of their forefathers. These animals are highly revered and protected from  
97 any danger. A dagao/Birifor who sees a jackal berry stick with three white stocks/broom sticks,  
98 three white stones with feathers fixed on a land dare not fetch sand, farm, fell a tree, or kill any  
99 animal on that land. This means there is a curse on the land and anybody who violates the curse  
100 suffers punishment, including death. Tress with traps such as black marks, thunder mark  
101 (serpentine flat rod), dry okro, gourd, moulded clay and many more are avoided for fear of  
102 thunder striking, epilepsy, barrenness, hunch back and many more. A dead fowl floating in a  
103 river is an indication that the river has been cursed and anybody who unlawfully enters the water  
104 for fishing/mining is bound not to survive. All these seek to sustain and protect the biotic and  
105 abiotic elements in the environment.

106 The study seek to help the government and other agencies to adopt traditional strategies that seek  
107 to prevent land degradation and thereby minimising cost of reclaiming degraded lands. It will  
108 also help traditional rulers to enforce the environmental protection laws locally. Law makers and  
109 other agencies seek to recognise the importance of traditional strategies in enacting laws for  
110 people. The cultural strategies used by Dagaaba and Birifor people to combat environmental  
111 destruction in this paper will enrich basic materials for further studies at the continental level.

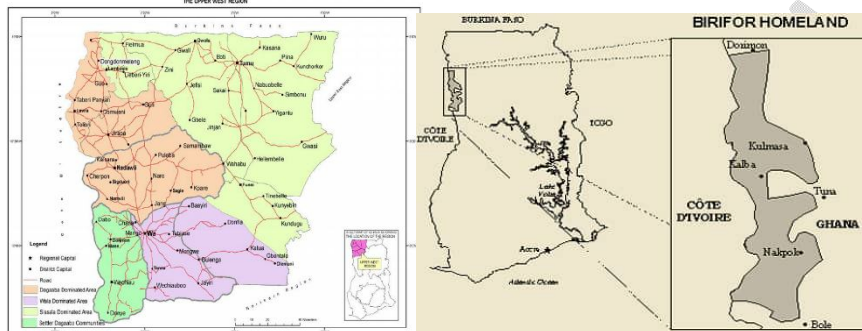
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### 113 **Brief history of Dagaaba and Birifor**

114 The Dagaaba and Birifor are located in the north-western part of Ghana, and some part of  
115 southern Burkina Faso and Côte d'Ivoire. These people are predominantly farmers. They grow

116 various crops and rare animals. Tuozaafi is their staple food, while dog meat is their delicacy.  
117 Both men and women wear Smock. They depend largely on the environment for survival.  
118 The people of Dagaaba and Birifor believe in so many deities. They invoke the spirits of these  
119 deities to fight, protect their properties and people, cure their sickness and curse the enemy. They  
120 believe that everything in the environment needs protection, which is why some animals, water  
121 bodies, mountains are prohibited from destruction.

122 Adopted Maps showing Dagaaba and Birifor communities in Ghana



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124

125 **Fig 1 : Study area**

126 **Objective**

127 The main aim of the study is to provide an alternative way of preventing and conserving the  
128 environment from destruction.

129

130 **Methodology**

131 This is a phenomenological and ethno-methodological studies which transcends the importance  
132 of beliefs, primacy and objectivity of consciousness with regards to the surrounding. Our  
133 knowledge in beliefs and everyday world inheres in social order as the world is socially ordered

134 (Cohen, Manion and Morrison, 2007). Therefore, phenomenological and ethnomethodological  
135 studies delve into the ideals of everyday life and how people make sense of their everyday  
136 world. According to Burrell and Morgan (1979) cited in (Cohen, Manion and Morrison, (2007),  
137 phenomenological and ethnomethodological studies indicate the relationship between actions  
138 and statements in social context producing them and the way the meanings are interpreted.  
139 Therefore, traditional/cultural/spiritual strategies are actions or statements related to social  
140 context that are stated/shown explicitly.

141 This article used personal observation, narration, primary data from the role traditional/cultural  
142 strategies are playing in environmental conservation in the Dagaaba and Birifor communities.  
143 Other secondary information are sought from articles, papers and publications regarding  
144 environmental degradation. The belief of the people regarding the gods within the communities  
145 were sought from the chief priest of some of the deities as primary data. This was done through  
146 unstructured interview. Some of the sacred environments were visited to see the signs of the gods  
147 prohibiting people from entering.

148 The research team got access to the deities through linguist. The purpose of the visit was stated  
149 to the various chief priest and their acolytes. The chief priest of the various deities narrated  
150 stories of the gods. The dos and don'ts of the gods were equally presented. The research team  
151 performed some rituals to enable them snap pictures of the deities.

152

## 153 **Results**

154 From the unstructured interview, the sign of rain god on a piece of land is a jackal berry stick,  
155 three white stocks, three white stones and or a serpentine rod. Either of these is fixed together

156 with feathers. The sign of any of these show that the land is cursed and can therefore be pacified  
157 with rituals. The sign of the hunchback is shown with a shaped moulded clay or carved wood in  
158 the form similar to the sickness. People who enters the land without the required ritual develops  
159 hunchback. A cursed river or water bodies are shown with fowl blood and dead fowl floating in  
160 the water. In most of the sacred groves, there are no signs, however, there are known by  
161 members of the communities, and the community people are ever ready to warn anybody who  
162 wish to enter the land. The land gods (in the form of stones, curved wood, or moulded clay) and  
163 signs of sacrifices (feathers, blood, animal skin, wool) made are visible signs in sacred groves  
164 showing that the land is prohibited to be exploited.

165

## 166 **Cultural Strategies**

### 167 **Rain gods**

168 The sign of rain god invoked on a land, tree, mountain and other natural resources are shown  
169 with either a serpentine flat rod, dry okro, three white stones, or jackal berry stick with white  
170 stock/broom stick. All sacrifice to invoke or dispel the wrath of the rain god is on a local roof. It  
171 is believed that violation of this god bring thunder which kills the offender.



172

173 Fig 2: The Rain god in Dapuori, Nadowli-Kaleo District in Upper West Region-Ghana

174 **The Water gods**

175 Invocation of water gods is done publicly and the fowls thrown into the water. Anybody who  
176 secretly goes into the water to fish or do mining must follow the due processes to perform  
177 sacrifice to cleanse themselves or suffer death in water.



178

179 Fig 3: A pond with crocodiles located in Wa Kumbiehi upper west region, Ghana believed to  
180 have spirits capable of rewarding and punishing wrongdoers.

181 **Taboos/totem**

182 Every community in the dagaaba/Birifor land revered or adored a particular animal for playing  
183 key role in the life of their for-fathers. These animals are not ill-treated; and for that matter they  
184 can be seen roaming freely in the community, such as the red pidgin for the people of Nuorung,  
185 Goli-Nuorung, crocodile for the people of Kumbiehi, python for the people of Nadowli and mud  
186 fish for some people in Jirapa and their related clans.

187 **Discussion**

188 The study has established that people who died in some lands, water bodies, through thunder and  
189 lightning were alleged to have died through the wrath of the gods. Rituals were performed in  
190 these death scenes to enable the bodies of the decease to be retrieved. People who died in water  
191 bodies were buried along the water, after the ritual. Those who died through thunder and

192 lightning had to wait for the rain god ritual performed before burial. Some people who violates  
193 an order of invocation of the rain gods bath herbs as a way of pacifications. People who go into  
194 any sacred environment performs rituals to be free from the wrath of the gods. The perpetrators  
195 and the deceased families borne the cost of the rituals.

## 196 **Conclusion**

197 The study established alternative ways of managing environmental degradation using traditional,  
198 cultural and spiritual strategies. An unstructured interview was conducted among some deities'  
199 Chief Priest of some Dagaaba and Birifor communities. It can therefore be concluded that there  
200 are still virgin lands in the Dagaaba and Birifor setting that are yet to be exploited. The  
201 environmental taboos and the fear of the wrath of gods have necessitated the ethical use of the  
202 environment. The traditional/cultural/spiritual traps are effective in managing environmental  
203 destruction. However, the method is not effective in minimizing bushfires as the fire has the  
204 propensity to escalate from one community to other. The traditional/cultural/spiritual traps can  
205 be adopted to minimise illegal mining which is destroying the forest reserves, land, air, water  
206 bodies and the ecosystem in Ghana. The Dagaaba and Birifor people have a rich indigenous  
207 cultural system which if adopted wisely may help in environmental conservation and protection  
208 of the ecosystem.

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