

# Inclusion of Local People and Their Cultural Practices in Biodiversity Conservation: Lessons from Successful Nations

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**Abstract** The inclusion of local people and their cultural practices impact positively on biodiversity conservation. This is the underlying factors behind the success stories of countries with high numbers of biological diversity resources. It is sad to reckon that most biodiversity policies of developing countries like Ghana do not fully include the voices of the local people as well as their cultural practices. There was, therefore, the need to thoroughly review the national biodiversity strategies and action plans of some countries that have effectively factored the local people and their cultural practices in their biodiversity policies. This was to elucidate how and in what areas the views of the local people and their cultural practices can be effectively incorporated into biodiversity conservation initiatives. The study utilized qualitative research approach with document analysis method. Related literature on the subject from peer-reviewed manuscripts, biodiversity strategic reports and strategies of different countries were rigorously reviewed and analyzed using Interpretative Phenomenological Analysis (IPA). The study revealed that local people have time-tested conservation knowledge enfolded in their cultural practices like religious beliefs, taboos, etc. Legal backing was seen as the main driving force behind the utilization of the cultural practices of the local people in the biodiversity strategies reviewed. Moreover, the local people were fully involved in the development of the biodiversity strategies. This was seen in the areas of planning, management, and decision-making, recruitment of staff, as well as the dissemination and implementation of the biodiversity strategy. The study concluded that effective biodiversity policies must reflect the cultural practices and the views of local people since they are powerful instruments of conservation. It tasks biodiversity policy designers to fully incorporate local communities and their cultural practices in the development of biodiversity strategies.

**Keywords:** *national biodiversity strategies, conservation, cultural practices, local communities, taboo, totem*

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## 1. Introduction

Over the years, various governments across the globe have had to deal with the challenging degradation of their country's biodiversity. Due to this, through their various agencies in charge of environmental protection such as the Ministry of Environment, various strategies, and projects on conservation have been formulated and implemented to arrest the menace. Some of these conservation schemes of nations have drastically failed while others have attained some degree of successes. A critical look at the national biodiversity strategy and action plans of successful nations with high numbers of their biodiversity resources show the massive incorporation of local people and their cultural practices. This is because of the enormous conservation wisdom evident in these traditional practices. Indeed, the conservation ethos in the cultural practices has a great impact on biodiversity conservation. Reference [48] contends that the cultural practices and views of local

people are charged with dynamic insight, skills, and capabilities. These wonderful traits of the traditional practices are derived from many years of experience, passed down from one generation to another. This indigenous knowledge of local people is modified and adapted over time. Through informal experimentations and adjustments, they are designed as viable responses to the current environmental and socio-economic circumstances. Their effectiveness is vouched by the high biological diversity of the majority of the earth's land mass stepped in the territories of the local communities [17].

In addition, biodiversity conservation incorporated with cultural knowledge and values of local communities plays important roles in social relations [42]. A co-management approach between state authorities and local people is seen by some scholars as the best management option because it brings together cultural practices with biodiversity [15]. This co-management approach is relevant because local chiefs and their people provide important knowledge on a lot of socio-ecological issues such as biodiversity conservation. The gathering and proper utilization of such local conservation

knowledge of the cultural practices like taboos, totems, myths, folklore and the like in conservation programs help build confidence between the local people and project managers. It aids in reducing the risks associated with local communities adapting to new scientific techniques and practices. Owing to the fact that these local people are direct custodians of the biodiversity resources of the environment, their views and practices must be factored into biodiversity conservation decisions. Moreover, the cultural practices and the management approaches of local people in biodiversity conservation are effective, cheaper and less time consuming in comparison to the modern scientific models of conservation [24].

Empirical evidence attests to the fact that the approach used by the so-called trained scientists and experts in developing conservation strategies have failed because of their refusal to integrate indigenous peoples' knowledge and cultural practices [26]. This underscores the importance of factoring the views of local people and their cultural practices into biodiversity conservation schemes. However, according to [1], the conservation ethics in the traditional cultural practices does not find much recognition in modern conservation management theories and practices. These modern scientific conservation models are somehow new to the local communities, accounting for their downsides. Therefore, factorization of the views and cultural practices of local people in biodiversity strategies by modern conservationists and developers is imperative.

In the heat of the global decline in biological diversity resources, it is heartwarming to know that some countries have been able to mitigate the wanton depletion of their bio-resources while registering major increases. These successful countries cleverly involved the local people and their cultural practices in their biodiversity conservation initiatives. For instance, when China started experiencing the downside of Western-style industrial modernization, the nation returned to its traditional cultural practices for solutions [19]. This giant renaissance to their cultural practices has really aided in arresting the deficiencies in their prior conservation programs and initiatives [33].

The same impact of cultural practices and local peoples' participation in the conservation of biodiversity exists in India. India's prime minister at the inauguration of the high-level segment of the 11th conference of parties to the convention on Biological Diversity on 16th October 2012 revealed the success of the country's rich biological diversity resources. He admitted that India's great headway in biodiversity conservation is as a result of the participatory approach they adopted. That approach, he hinted, encouraged and incentivized the involvement of local communities as well as their traditional cultural practices in their conservation initiatives.

The same can be said of Brazil. The country harbors the earth's richest flora of about 50, 000 species which is one out of six of the total planetary resources. This is as a result of her factorizing the cultural practices of the local people in their biodiversity conservation initiatives. These examples illuminate the high currencies of incorporating the local people and their cultural practices in biodiversity conservation strategies. Also, it clearly refutes the claims made by some scholars that the conservation values in these cultural practices are ineffective in this modern age.

The perfect precepts set by these countries must be thoroughly reviewed. This will furnish rich lessons for developing countries that do not include and/or find it difficult to incorporate local people and their cultural practices in the development of biodiversity conservation strategies. Thus, the research gap the study seeks to fill is to analyze the national biodiversity conservation policies and strategies of some of these successful nations. The study will attempt to answer the following questions: Which successful countries set powerful lessons in the effective inclusion of local people and their cultural practices in biodiversity conservation strategies? In what areas are the local people and their cultural practices factored into the development of the biodiversity strategies of these successful countries? What lessons can developing countries like Ghana learn from these successful countries on how to effectively incorporate the views of local people and their cultural practices in biodiversity conservation schemes?

## **2. National Biodiversity Strategies and Action Plans of Different Countries**

This section of the paper delves into the national biodiversity and action plans of some successful nations in biodiversity conservation initiatives. These countries have effectively included the local people and their cultural practices in every aspect of their biodiversity conservation initiatives and programs. These aspects include the planning, management, and decision-making processes as well as the implementation and recruitment of staff in spearheading conservation plans for biodiversity. Also, the dissemination of conservation initiatives demonstrates the strong influence of local people and their cultural practices. In addition, the exact cultural practices of the local people that have played significant roles in biodiversity conservation have been discussed. These successful countries whose biodiversity conservation strategies and action plans are reviewed are Brazil, China, Japan, India, Tanzania, Kenya, and Angola.

### **2.1. National Biodiversity Strategy of Brazil**

Brazil happens to be one of the world's countries that have a high peak of biodiversity resources. A critical analysis of their national biodiversity strategy and action plan shows the high factorization of cultural practices. This is laudable because of the different indigenous people and communities numbering over 230 in Brazil. Poised in implementing the rudiments in the Convention on Biological Diversity, Brazil, as it has been their culture, revamped the incorporation of the local people and their cultural practices that have effective conservation values. The national target 18 in the national biodiversity strategy and action plan captured in their fifth national report to the Convention on Biological Diversity, 2015, was aimed at respecting the traditional knowledge and innovations of the local communities. This included formulating legislation for the factorization of their traditional cultural practices while granting them full participation in the decision-making and management processes at all relevant levels in their nation's biodiversity conservation and

sustainable usage. This was not just abiding by an international obligation because the Brazilians have a historical record of how the cultural traditions of the people have helped in the preservation of their forests and wildlife resources. Thus, the NBSAP of Brazil aimed at developing effective means of protecting, valuing and promoting the outstanding and successful experiences of the traditional conservation initiatives. It was also aimed at assisting in the dissemination of the conservation ethos in the traditional cultural practices to the younger and unborn generations.

Moreover, in raising the awareness of the worth of the traditional cultural practices in biodiversity conservation, the Ministry of Culture in the country constantly supported and funded annual events geared to the promotion and preservation of the cultural heritage of the indigenous communities. A typical example is the funding of the 2013 meeting of the traditional cultures of some states in Brazil. As part of the event observance, workshops regarding the national policy on traditional knowledge linked to biodiversity were organized. The various educational institutions in the country also aided in the dissemination of the traditional knowledge in the cultural practices. The Ministry of Culture and the Ministry of Education liaised with the educational institutions to incorporate traditional knowledge into formal education. Modules on traditional knowledge and cultural practices with lessons on traditional beliefs, mythology, folklores and their relation to nature are relayed by instructors as has been done by the University of Brasilia since 2010 [34].

According to [49], despite the massive developmental roles traditional societies and their splendid cultural practices have played in diverse areas of life, such as biodiversity conservation, it is difficult to understand why their voices are conspicuously missing in national decision-making forums. These forums, register either minimal or nil representation of their voices. This situation is very true in most countries and it is very distressing to know. This situation does not exist in developed countries like Brazil. The strategic objective E of the NBSAP of Brazil stressed on the enhancement of the implementation processes of the policy through participatory management. This partnership is forged between the governmental ministries and the set up community-specific protocols who act as the representative voices of the local communities [34]. This participatory management seeks to solicit the opinions of the local residents in every household in the local communities through workshops with community stakeholders. Their views are then debated and carefully scrutinized for a possible factorization into national policy documents related to biodiversity conservation. This co-management approach helps project managers in seeking the consent of the local people who are part of the decision-making team before projects that are agreeable to the customary laws and cultural practices of the local people are undertaken [34].

The strategic coordination and partnership between the Ministry of Environment, the Ministry of Education and the Ministry of Culture has successfully assisted in the promotion, dissemination, and integration of the wisdom of the traditional cultural practices of the various ethnic societies into the biodiversity policy in Brazil. This has

ensured cultural diversity among the numerous ethnic societies.

## 2.2. National Biodiversity Strategy of China

Global conservation and nature protection usually takes place at the official level in China [9]. This is due to the fact that the country houses a pool of sacred sites with rare and endemic species of biodiversity. It is interesting to know that most of these areas are traditionally conserved through the implementation of cultural practices such as religious beliefs, taboos, folklores and others. This commendable example of China was highlighted in the fourth world wood day. This event was organized by the International Union for the Conservation of Nature (IUCN) held on the 21st of March 2016 themed 'Nature and Culture.' The event was aimed at exploring the interrelationship between nature and culture. China was applauded because of the precedence she has set in looking into the books of culture for solutions to halt the degradation of biodiversity. Policy designers in China aver that the Chinese cultural practices, together with its religious values and ideals can contribute immensely to the sustainability and conservation of nature [28]. They again liaised with the Chinese indigenous traditional religion, Daoism, popularly labeled as the 'green religion.' This was due to the religion's strong advocacy for environmental sustainability and conservation. The ideals and values propagated in this indigenous religion as well as other cultural practices play archetypal roles in biodiversity conservation.

As a result of this, education and communication are used as mediums for encouraging the wider participation of local communities and their cultural practices [33]. Aside from the sensitization campaigns, the team embarked on an astronomical improvement in the documentation of all forms of traditional knowledge related to biodiversity conservation. This documentation was aimed at preserving the conservation values in the traditional practices for future generations.

Furthermore, the document highlighted on the establishment and enhancement of biodiversity management and coordinating bodies at the local level. This was to heighten their capacities to handle challenging biodiversity situations at the local communities. Biodiversity partnerships between these local communities, urban centers, and NGO's were established to ensure that the effective traditional cultural practices used by some local communities could be equally implemented in other areas of the country.

In addition, the biodiversity-related laws and regulations in the country are very effective. This is because the law enforcing systems, both at the local and national levels were given that mandate by parliament. This gave the local authorities the legal right to administer punishments to the defaulters of the established biodiversity-related laws and regulation. In making sure that the implementation processes become very effective, the implementation powers were vested in the hands of the local governments in every jurisdiction in China. The reason for that action is that the rich biodiversity resources are located in various communities and towns. Thus, supervision and implementation will be effectively carried out at the local level better than at the national level.

However, at the national level, measures were taken to regulate the general execution of the international biodiversity agreements and treaties. How did the Chinese monitor the duties of the local governments? The monitoring power was vested in the hands of the Ministry of Environmental Protection in China. They were tasked to inspect, supervise and review the roles of the implementation bodies while presenting regular reports to the state council. To assist the local governments in performing their duties successfully, the Ministry instituted administrative training programs, workshops, and seminars to groom and update the implementing agencies on their expected roles. This robust legal, implementation and monitoring mechanisms put in place by China ensured the continual attainment of the vision, objectives and action plans of their national biodiversity strategy.

### 2.3. National Biodiversity Strategy of Japan

Japan, like her oriental neighbors, seriously considers the inclusion of the local people and their local communities. Recognizing the import of traditional knowledge, a meticulous assessment of the existing traditional conservation knowledge for biodiversity resource usage that characterizes the local regions in Japan was carried out [35]. Since decision making, planning and management are at the core of conservation programs, the policy developers included the coordination between the national and local governments in the biodiversity strategy. This served as the platform where the local people and experts shared ideas on biodiversity conservation issues. This ensured that formulated policies reflected the culture and traditions of the local communities.

To increase the involvement of the local people and their communities, the government intensified capacity building workshops and seminars with the local residents who are well versed in local conservation methods of biodiversity.

Local people were hired by the government to oversee forest and wildlife conservation activities in the local communities. This is a step in the right direction because the local people usually know much about the biodiversity resources in their environment. Sensitization and awareness programs are carried out using modern technological approaches like the internet and other online media. Also, printed media of the conservation initiatives were distributed to various people in both the rural and urban centers.

### 2.4. National Biodiversity Strategy of India

India is one of the top countries that have high biodiversity resources. The secret behind the successes in their biodiversity is with the incorporation of the traditional conservation practices of the local communities. The policy designers recognize that the local people are direct stakeholders in the protection and conservation of nature's biodiversity. Thus, their cultural practices such as taboos, myths, and cosmological beliefs played powerful roles in the sustainable usage and conservation of the bio-resources. It is reported that various taboos and religious beliefs have helped in conserving the numerous

sacred groves in the *Meghalaya*, *Karnataka*, and *Kodagu* districts in India [41].

The policy designers ultimately aimed at preserving as well as strengthening the traditional, religious, ritualistic, ethical and cultural methods of conservation. They were convinced that the traditional cultural practices are best practices that must be revived and revitalized. This need was as a result of the massive shift to the scientific conservation models which the team realized was overshadowing the traditional cultural practices. However, the team tried to bridge the science-based strategy with the sustainable traditional cultural practices that are applicable today.

Moreover, to intensify the involvement of the local people and their communities in the decision-making process governing biodiversity conservation, the team encouraged capacity building at the grass root levels. This participatory approach in the decision-making process factored the voices of the local people in the policy. This co-management approach between the local communities, project officers and foresters has been discovered as the best means of enhancing the implementation processes of biodiversity conservation strategy [27].

Indigenous knowledge and its valuable imports evident in the cultural practices are not very popular in contemporary biodiversity schemes due to the influx of foreign conservation models [6]. Owing to this, the team decided to enhance public awareness campaigns on the conservation values of the traditional cultural practices via audio, visual and print media.

Furthermore, to assist in the preservation of the traditional knowledge in these cultural practices of the local people, the team that developed the national biodiversity strategy adopted the *sui generis* system of intellectual property rights. This was in consonance with the advice of the International Committee on Intellectual Property and Genetic Resources, Traditional Knowledge and Folklore, Second session's report on December 14, 2001, paragraph 17. This action was undertaken by the biodiversity conservation strategy developers to preserve these traditional cultural knowledge systems of the various ethnic cultures and communities in India.

### 2.5. National Biodiversity Strategy of Kenya

The biodiversity strategy of the Kenyans also demonstrates a high impact of traditional conservation practices deeply rooted in the cultural practices of the local communities. They recognize the close and relevant link that their culture has with biodiversity conservation. Owing to the great ethnic and cultural diversities in Kenya as well as the significant roles of their indigenous knowledge systems, the policy developers emphasized the revitalization of the roles of the local communities and their cultural practices.

One of the guiding principles in Kenya's national strategy is their assertion that 'conservation goals are best achieved through ecosystem approaches, particularly as managed by the local communities who have used traditional methods to sustainably manage ecosystems for generations' [36]. This clearly shows that the Kenyans believe that the traditional conservation strategies enshrined



in the cultural practices are playing quintessential roles in the conservation of the country's biodiversity.

In addition, the policy designers ensured the full involvement of the local people and their traditional cultural practices. As expressed in the vision of the strategy [36], it was agreed by the team to adopt participatory management practices. They were convinced that this could boost the integration of the local people and their cultural practices. Moreover, the team placed in measures in assisting the environmentally friendly income generating projects in local communities. Also, to ensure fair representation of the local people and their cultural practices in the biodiversity policy, the Kenyans supported the consultative processes of all stakeholders including the traditional authorities.

Again, the team designed a legal structure that gives the local communities the right to implement their cultural practices in conservation programs for the biodiversity in their jurisdiction.

## 2.6. National Biodiversity Strategy of Tanzania

The biodiversity conservation strategy of Tanzania also emphasizes the full involvement and factorization of traditional cultural practices. The ninth guiding principle of the strategy states that *'the knowledge, innovations, and practices of indigenous and local communities should be respected, preserved, maintained and used with the approval and involvement of those who possess the knowledge'* [39]. This was not just paper documentation as some countries have done just to fulfill the requirement of the signed International Convention on Biological Diversity. A critical look at one of the cross-sectoral objectives of the policy buttresses this assertion. It was the adoption of community participation approaches at all levels of the planning, development, management and decision-making processes of biological diversity conservation programs. The document also hinted at the encouragement, revival and preservation of the indigenous knowledge that assisted in biodiversity conservation like taboos, myths, religious beliefs and folklores. The high impacts of taboos and other cultural practices have been the backbone in ensuring the sustainable utilization of the biodiversity resources in Tanzania, especially in the East *Usambara* district of the country [31]. Steps were also taken by the Tanzanians to implement traditional conservation practices that were verified through a deep survey as sound and practicable for contemporary conditions.

The existing natural resources legislation in Tanzania was amended to empower the rural communities to devise means of conserving their biodiversity. This resulted in an empowerment of the local governments, thus, the chiefs and their cabinet of elders. They were given the authority to inspect, prosecute and punish those who wantonly destroyed the biodiversity resources in their jurisdiction. To do this, the local governmental authorities introduced management by-laws which were culled from the traditional cultural practices such as taboos, cosmological beliefs, myths, etc. Environmental tribunals and environmental committees have been established in every region or district in Tanzania to carry out the prosecution and punishments to defaulters of biodiversity depletion.

Awareness campaigns were also launched through the mass media, folklores, seminars and extension services to stress the merits of the indigenous knowledge and practices in conservation. In addition, workshops and forums are organized by the environmental agencies to encourage the exchange of experiences among districts and regions in Tanzania.

## 2.7. National Biodiversity Strategy of Angola

The Angolan team that developed their national biodiversity conservation strategy conducted a massive analytical procedure into the cultural practices of local communities in Angola to ascertain their contributions to the sustainable utilization of the nation's biodiversity [37]. This extensive and rigorous analysis of the existing cultural practices helped the team in knowing those that still have conservation worth for the contemporary biodiversity situation in Angola. These positive cultural practices were incorporated into the national biodiversity strategy and action plan.

Moreover, after the strategies were formulated from them in addition to the scientific models of conservation, the document was presented and debated at workshops and seminars in a public consultation process at rural communities and urban communities in Angola. This was to solicit for the views of the rural folks, traditional authorities, governmental institutions, educational institutions and the press [37]. This campaign and sensitization procedures enabled the team to improve on the drawn biodiversity conservation strategy before it was passed.

In the Biodiversity strategy document, one of the strategic areas focused on the biodiversity management of the Protected Areas in Tanzania. The heinous challenge in the management of Protected Areas has always been when and how to incorporate the views and practices of the local communities [27]. Usually, the personnel from the environmental protection agency are appointed to oversee the Protected Areas in local communities [22]. This situation is worrying because the local people are those who are the custodians of the land mass. Thus, when the local people are neglected in the managerial process, when the Protected Area is abused, they act unconcerned. To prevent this situation from happening, the Angolan biodiversity conservation team established a national integrated management system consisting of project managers and representatives from the local communities. This has promoted the interests of the local communities in conservation issues as well as in ecotourism in the country.

Another strategic area in their biodiversity conservation is the sustainable use of biodiversity components. In this area, the team encouraged the involvement and full participation and sharing of benefits to local communities. The team was convinced that this could serve as an incentive for the co-management, conservation and sustainable use of biodiversity. They recognized that the local people are custodians of the biodiversity resources of the environment and thus involved them in all decisions at all levels in the usage of land and natural resources [37].

As part of their action plans for accentuating and maximizing the role of local communities in biodiversity management, the team suggested the implementation of

awareness programs using the media, workshops, and seminars. Existing environmental framework laws were expanded to include consultation and approval of local communities before conservation projects were carried out by project managers.

The team was also determined to bridge the gap and misunderstanding between the traditional knowledge of the cultural practices and scientific knowledge. Training sessions were organized to educate, sensitize and enlighten the traditional authorities about the conventional scientific conservation methods. On the other hand, conservationists like forest guards, forest rangers and project managers were equally instructed on the potentials of the cultural practices for the management of biodiversity in the local communities. This resulted in mutual understanding and respect of both forms of knowledge which were complemented with each other to combat the biodiversity decline.

### 3. Materials and Methods

The research which is basically a review paper was carried out using the document analysis approach under the qualitative research study. Document analysis is a form of qualitative research in which documents are rigorously analyzed with interpretations gleaned from them by a researcher to give meaning and explain events and happenings [21]. The researcher reads a lot of electronic and printed documents related to the phenomena under study so as to understand and give informed judgment [12]. After thorough and systematic reading, the documents are analyzed and interpreted. Existing documents such as journal articles, publications and policy statements are critically evaluated with the view of unearthing meanings.

The analytical process starts with the finding of the document, selecting, appraising or making meaning and synthesizing the data in the document [29,46]. The researcher using this research method has to seek for authenticity, credibility, representation and meaning of the documents to be analyzed [10]. These thorough activities produce quality data in the form of excerpts, quotations, paraphrases and others that are further organized into major themes and categories to make it easy for meanings to be deduced from the reviewed documents.

The researcher adopted this approach because various documents relating to biodiversity conservation and sustainability, such as national biodiversity strategy and action plans of some countries and reports on biodiversity conservation were critically reviewed. This was to analyze the great impacts of the innovations and traditional knowledge of the cultural practices of the local societies. Scholarly publications on the significance of the traditional cultural practices in biodiversity conservation discourses, programs and initiatives were reviewed. The main focus of document analysis is to help in revising policies, devising efficient strategies in remedying challenging situations confronting humans [25]. The researcher engaged in this rigorous review of the extensive literature to show how developing countries like Ghana can learn good lessons on how to incorporate the best aspects of the traditional cultural practices into national

biodiversity strategy. The researcher believes that this singular action can arrest the menace of the biodiversity degradation. Thus, the research method under the qualitative approach was seen as appropriate for this study because it aided the researcher in gaining rich description and data on how the cultural practices of local communities have conserved the rich biodiversity of some countries.

Finally, the interpretative phenomenological analysis was used for analyzing the reviewed documents. This analytical process is a dual interpretation process [45]. The first is the interpretation obtained from the documents revealed as told by the authors, in this case, the policy documents on biodiversity, referred to as the emic perspective. The second interpretation is the researcher who makes meaning through the careful, systematic and rigorous examination of the documents, referred to as the etic perspective. The researcher first engages in multiple reading and makes notes on essential points from the documents [43]. This is done severally to aid the researcher to better put himself in the shoes of the authors. The notes are then transformed into emergent themes. Similar patterns and clusters in the themes are traced and generated. A consistent, persuasive narrative essay rich with extracts from the documents is written with extensive discussions that relate the identified themes with existing literature. This is exactly what the researcher did. The numerous national biodiversity strategy and action plans of different countries were thoroughly perused severally. This assisted the researcher to understand the inner thoughts of the biodiversity conservation strategy planners to obtain the emic perspective.

Extensive notes on the incorporation of the cultural practices and knowledge of the local communities as well as initial interpretative comments were made from the documents. Emergent themes were created from the comprehensive notes that were produced. Finally, a narrative essay which gives a detailed account, thick descriptions, interpretation and rich enlightenment on the reviewed biodiversity-related documents was written. This was carried out with a linkage of views from existing literature on the general theme of the study. Recommendations on how countries can effectively factor and promote the traditional cultural practices into biodiversity conservation strategies were made by the researcher.

**Table 1. National Biodiversity Strategy and Action Plans Reviewed and Analyzed**

<b>National Biodiversity Strategy and Action Plans Stressing On The Incorporation of The Views and Traditional Cultural Practices of Local Communities</b>
China National Biodiversity Conservation Strategy and Action Plan (2011-2030)
India National Biodiversity Action Plan, Addendum 2014 to NBSAP 2008
Brazil Fifth Report to the Convention on Biological Diversity, 2015
Angola National Biodiversity Strategy and Action Plan (2007-2012)
National Biodiversity Strategy of Japan (2012-2020)
Kenya National Biodiversity Strategy and Action Plan (2000)
Tanzania National Biodiversity Strategy and Action Plan (2001)

## 4. Results and Discussions on the National Biodiversity Strategies

This section presents a thorough analysis of the National biodiversity strategies of the successful nations that show the incorporation of the cultural practices of local communities. The analytical technique called interpretive phenomenological analysis (IPA) [45] was implemented for the analysis. The emergent themes that were identified were Planning, management and decision making, incorporation of cultural practices in biodiversity conservation strategy, Legal Framework, Implementation Mechanism and Inclusion of children in Biodiversity Conservation Initiatives.

### 4.1. Planning, Management and Decision Making

A critical examination of the various national biodiversity strategy and action plan of the successful nations shows a strong impact of the involvement of local communities in the planning, management, and decision-making processes of the national biodiversity strategies that are formulated.

The national target 18 in the Brazil biodiversity strategy stressed on '*granting the local communities full participation in the decision-making and managerial processes regarding biodiversity conservation and sustainability* [34].' Brazil believes that if the local people are made part of the stakeholders that plans all the schemes related to biodiversity, they would ensure the smooth implementation of it in their communities. Their involvement should go beyond the consultation stages of policy development [47]. Also, it would ensure that project managers will not have the ultimate power to engage in any project that is not culturally acceptable to the local communities. This would aid in achieving peace amongst the project officers and the local people. Failure to do this results in a lot of disagreements between conservation planners and community members. The local people, when excluded in conservation initiatives, feel ignored and even disenfranchised and as such desist from helping realize the objectives of the project [23].

The same view of local peoples' inclusion in conservation programs is held by China and Japan. They established and enhanced the local level management team so that the managerial processes of the distinctive biodiversity situation in their local communities could be properly addressed [33]. This dissemination of power to the grass-root level is believed to lay a strong foundation for permanent structures of conservation, social and ecological sustainability [44]. In addition, the conservation strategy is argued and debated at the national level in China and Japan. The views are shared amongst local representatives and the biodiversity development experts until a consensus is reached and implemented. This made the final biodiversity conservation strategy all inclusive and as such accepted by all stakeholders and the different factions of the citizenry.

Kenya and India even start the involvement of the views of the local people and their communities' right from the consultation stages of the biodiversity strategy development. Kenya even asserts that the best approach to biodiversity conservation is '*the adoption of community participation approaches at all levels of the planning,*

*development, management and decision-making processes of biological diversity conservation programs and initiatives*' [36]. In the case of India, '*... capacity building and participation of local communities at the grass root levels*' [38] was encouraged. This was to ensure that the decisions made concerning the usage of the country's biodiversity would be participatory. In the same train of thought, the Angolans adopted a national integrated management system made up of all stakeholders, including project managers and representatives from the local communities. Thus, local people should be active partners in the planning, decision-making and governance of conservation projects on biodiversity [16].

This clearly shows that developing countries like Ghana must pick lessons from the successful nations in fully engaging the local communities in all the decision making and management processes of biodiversity conservation initiatives. This is seen as the best antidote for the successful implementation of the biodiversity strategy as asserted by [22] as well as [27] who emphasized co-management approach of all stakeholders including local communities as the best management approach in biodiversity management and planning.

### 4.2. Inclusion of Cultural Practices in Biodiversity Conservation Strategy

Cultural practices that are embedded with traditional conservation practices have been implemented by the successful nations in conserving their biodiversity. Their examples illustrate in the truism that cultural practices are pivotal to the management and conservation of biological diversity [44].

For instance, numerous sacred forests in Kenya among the *Mijikenda* local people have been conserved by means of taboos and other cultural institutions [23]. Defaulters of biodiversity depletion in local communities in Kenya face the sanctions imposed by the elders. The national legislation and other agencies aid in the implementation of the powers of the elders.

The situation is similar in China. The sacred forests, mountains, and water bodies are regulated with the traditional cultural practices. These practices include traditional festivals, rituals, sacrificial offerings, religious beliefs, taboos and totemic system [50]. An example of these sacred forests that have been protected from resource exploitative practices like deforestation is the *Madhkeshwar* sacred forest in the state of Uttarakhand in China [18]. Strict norms and taboos govern the sacred forest. Also, the local people's religious beliefs regarding the vengeful spirit of the forest deity against any form of abuse of the forest resources have been the force behind the forest conservation. Moreover, annual ceremonies and festivals are organized to honor the deity believed to be inherent in the forest.

The majority of biodiversity rich areas in India are also regulated by cultural practices. The *Hya-Roshe* pastures near the village of *Napualchhu* in India have been protected using taboos. Aside from the sacred *yak*, *jhuppu* and *jomos* that are allowed to graze, all other animals are tabooed to graze there [40]. Owing to the huge impact of religious beliefs associated with the deity in the pastures, shepherds would not even dare to breach the taboo.





**Figure 1.** Madhakeshwar Sacred Forest (Source: [18])

Belief in ancestors has also prevented the Tanzanians from exploiting the numerous sacred forests such as the *Mungi*, *Mazimbo* and others. This is due to the religious belief that those forests are housing the skeletal remains of their great ancestors and as such must not be abused [31].

It is because of the quintessential roles that cultural practices play in the conservation of the biodiversity resources in these successful nations that explains why they have been given strong voices in national biodiversity strategies. Almost every country, especially developing countries in Africa has a rich heritage of cultural practices that have equally played significant roles in biodiversity conservation. For instance, proverbial sayings among the Asantes of Ghana have regulated the moral behaviors of the people against biodiversity exploitation [3]. Also, cultural practices like taboos, totemic systems, and festivals have aided greatly in saving the biodiversity resources in most local communities in Ghana [2,4]. Thus, cultural practices must be strongly highlighted in the national biodiversity strategy because of their great services to biodiversity as has been done by the successful nations under discussion.

### 4.3. Legal Framework

No matter how promising a biodiversity conservation strategy may be in its design, if it is not backed by the laws of the land it becomes a mere paperwork. That is why a very good biodiversity conservation strategy must have a feasible legal framework backing its implementation. China sets the precedence in this.

The essence of heightening the legal structures is aimed at ensuring the full implementation of every conservation strategy for biodiversity. The National biodiversity strategy of China mentioned '*the need to improve biodiversity-related laws and regulations by strengthening the law enforcing systems, both at the local and national levels* [33].' Backing the powers of the local government in implementing the strategy in every jurisdiction of the country enhances the implementation process because culprits receive their punishment instantly. It also increases the vigilance and supervision of the biodiversity resources at the local levels, culminating in the achievement of the national vision for biodiversity conservation and sustainability.

Brazil also endorsed a law that allowed the implementation of the viable traditional cultural practices for regulating the usage of their biodiversity resources. This law formalized

the implementation of these practices that have conservation values for protecting the bio-resources in the country. The National System of Conservation Units (NSCU) Federal Law No. 9985 in Brazil pledges the respect for the local people and their cultural practices as well as their effective participation in management councils in charge of the management of the bio-resources in the country [5]. Likewise, in Kenya, a similar law has been reinforced to mandate the local societies to administer their cultural practices in programs for biodiversity sustainability and conservation. The cultural institutions such as taboos and religious beliefs have great sanctioning powers. For instance, they have spiritual as well as physical implications [11]. Also, they are more readily accepted by local communities and are less expensive to implement [14]. This national legislative action would strengthen and enforce the traditional laws and restrictions [47]. That is why it is worthwhile to legitimize them as have been done by the successful nations. Notwithstanding the merits of the sanctions of the local government, the powers they wield have been weakened in some developing countries. This underscores the essence of revamping their powers through formal national legislation and the assistance of other external law enforcing agencies [23].

To achieve this, Tanzania has taken steps in amending the existing law that governed the usage of their nature's resources to heighten the powers of the local governments especially the traditional authorities. In their biodiversity strategy, this was clearly stated, '*amendment of natural resources legislation to empower rural communities to conserve the biodiversity resources*', '*Improvement and integration of current traditional conservation practices*' as well as the '*enactment of laws to empower local government to protect biodiversity*' while '*establishing community-based environmental tribunals at district and local levels* [34].' All these legal structures initiated by the Tanzanians show their resolve to localize biodiversity conservation management and initiatives in local communities.

This legal backing of traditional cultural practices in biodiversity conservation is what has been a keen problem of Ghana's biodiversity strategy. The current and past policies do not mention any legal backing for exercising the powers of the local governments in sanctioning culprits of biodiversity depletion.

### 4.4. Implementation Mechanism

One major weakness of biodiversity conservation strategy that makes it end up as mere paper documents is got to do with its implementation [13]. The implementation processes of the national biodiversity strategies of the successful countries are on the shoulders of the local authorities or local governments. This makes the implementation very successful and efficient. However, there are some scholars who feel that some members of the local government are corrupt and as such abuse the powers gave them [11]. Thus, their work must be occasionally supervised and reviewed by a supervisory team. China has taken steps to inspect the work done by the local governments by empowering the Ministry of Environmental Protection to inspect, supervise and review



their duties [33]. The agency is required by law to forward the results regularly to the state council. This is to curtail any abuse of power that may arise on the part of the local government. Developing countries like Ghana that wishes to utilize the powers of the local governments in implementing the biodiversity strategy in local communities must adopt the same plan. This would ensure that the duties of the local governments are monitored effectively to achieve optimum results.

#### **4.5. Recruitment of Local People for Ensuring Implementation**

The majority of forest reserves and other Protected Areas stepped in the territories of local communities are usually managed by personnel from the cities [22]. As a result, the local people do not favorably cooperate with the project managers and foresters from the cities. Also, the territories and keystone areas of the forest tracts are known very well by the local people since they are the custodians of the land. Owing to the disparity amongst them and the personnel from the city, they fail to give vital information that would aid the conservationists to work efficiently. Employment of only city dwellers as forest guards to work in the forest tracts in local regions increases the unemployment rate in the local communities. Thus, to arrest this problem, the Japanese government in their national biodiversity strategy expressed their resolve to employ local people to supervise forest and wildlife conservation management activities in the local regions.

Recruiting local people motivates them to conserve the biodiversity resources in their communities. This would also ensure that the employment objectives of the Indigenous Advancement scheme, 2014 are met. The scheme, calls for employing local people so as to assist them to generate social and economic benefits from their lands [16].

Developing countries must also recruit members from local communities in conservation projects. This would strongly assist in minimizing their poor economic situation which is mostly the driving force behind resource exploitation by local people [23].

#### **4.6. Dissemination of Biodiversity Conservation Initiatives**

Biodiversity conservation initiatives must be properly understood by all stakeholders as well as members of the local communities. Therefore, the dissemination of the national biodiversity strategy must be carried out efficiently. Indeed, effective communication is keen to achieving the success of every biodiversity conservation initiative [16]. The top management team of the local people must have copies of the national biodiversity strategy. In Brazil, the government used the education medium to forward the content of the national biodiversity strategy to young ones in educational institutions. The Ministry of Culture and the Ministry of Education teamed up to teach the students about traditional knowledge systems in conservation [34]. A similar strategy is used by China. To mobilize and encourage the circulation of the biodiversity strategy to the local people in their communities, the Chinese government utilized education as well as the communication systems in the country.

In the case of Japan and India, traditional and modern communication avenues were both employed in the dissemination of the biodiversity strategy. For instance, Japan employed the internet and other online media in addition to the folklore, storytelling, print, audio, and visual media [35]. This wide spectrum of dissemination outlets increased the availability of the biodiversity strategy to every citizen in the country despite their geographical confines. Tanzania and Angola devised other forms of dissemination to increase the awareness of the content of the strategy to the illiterate local people in the numerous local communities in the country. They resorted to the use of seminars and workshops where the national biodiversity strategy was publicly discussed with the local people in their native language.

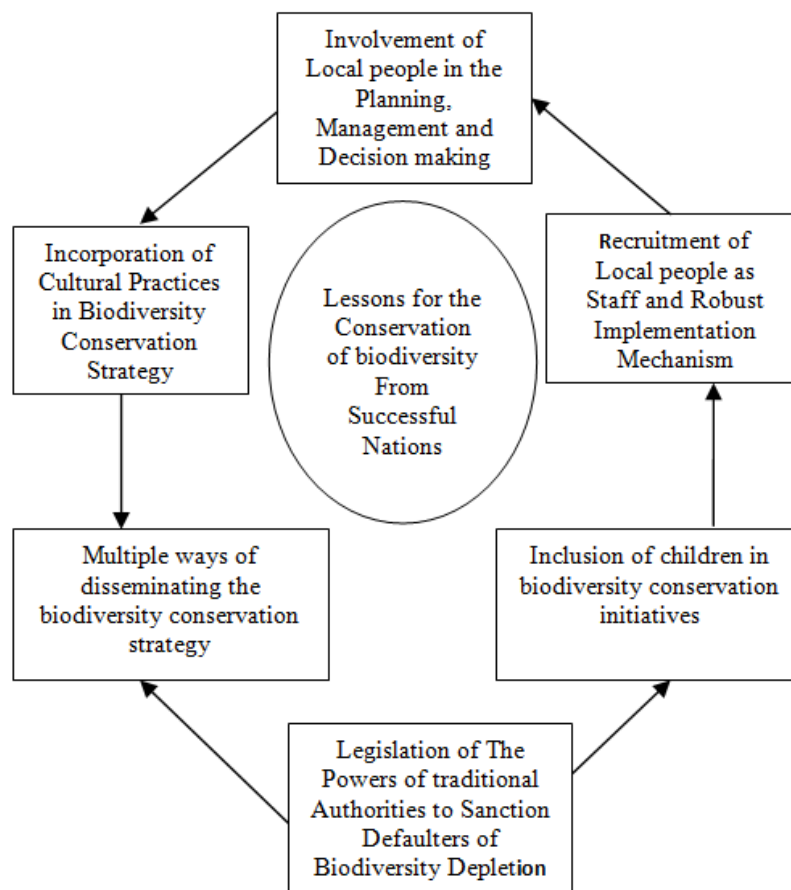
The ongoing discussions imply that the circulation and information sharing of the national biodiversity strategy must be broad so that both the learned and illiterate classes in the community can easily have access to the policy document. This would aid in the full implementation process since every citizen of the country knows of the government approved decisions backed by legislation on how to utilize the nation's biodiversity resources.

#### **4.7. Inclusion of Children in Biodiversity Conservation Initiative**

Children form part of the society and as such must be included in the biodiversity conservation strategy. This is because they are the future leaders whom we should inculcate the values of conservation and sustainability. They would, in turn, offer these same ideas of conservation to the future generations. Moreover, some children of today are recalcitrant and wantonly destroy the bio-resources in the environment just for recreation. In the Berekum Traditional Area in the Brong Ahafo Region of Ghana, it was noticed that children destroy the lizards in the area for recreation [7]. Thus, the chief set a taboo to prohibit this bad attitude of the children. These children need to be educated on the importance of the biodiversity resources in nature. This is exactly what Japan has done to mobilize children in conservation schemes, even assigning projects to them in conservation.

The children waterfront rediscovery project was set up so that children can partake of nature and environmental education as well as conservation initiatives [35]. This is important because the primary loss of traditional indigenous knowledge towards contemporary Western culture is noticed greatly among children [26]. Thus, to ensure and support the inter-generational transfer of traditional conservation practices, children in local communities must be engaged in conservation projects. Recent conservation projects in Australia have included local children who work closely with the elderly ones so as to learn the traditional conservation practices [16].

Similar action must be taken by developing countries. Conservation projects for children must be initiated with prizes to award the best cohort group whose biodiversity conservation project is found to be the most enterprising. This would sensitize the children to recognize the essence of conservation while gaining their support for the initiatives already endorsed by the government in the national biodiversity strategy.



**Figure 2.** Structure of the Thematic Networks for the inclusion of the Views and cultural Practices of Local People from the Successful Nations (Source: Created by the Researcher)

## 5. Conclusions

The main thrust of the research was to veer into the inclusion of local people and their cultural practices in biodiversity conservation by picking lessons from successful nations that have been able to do so. This was carried out by a thorough review of the countries' national biodiversity strategy and action plans. The successful countries that have incorporated local people and their cultural practices in their biodiversity strategy have experienced high biodiversity numbers. They include Brazil, China, Japan, India, Tanzania, Angola, and Kenya. The inclusion of the local people was seen in them being part of the management council so that their experiential views on conservation could be utilized. They were also recruited to work on conservation projects together with conservationists so that they could be part of the conservation initiative while earning a living from the employment avenues.

Also, the traditional cultural practices in the light of taboos, religious beliefs, totems, and festivals were seen as the driving force behind the traditional conservation practices. These were seen as very effective in the conservation of biodiversity. Moreover, their effectiveness was as a result of the immense cooperation of society members, especially the traditional leaders and elders in the local communities. In addition, the traditional cultural practices were legalized by the national law that is why they were very effective. The study shows that the traditional cultural practices of local people must not be abolished and labeled as outdated. They must be carefully

analyzed so that the good and valid elements that can be used in the face of the contemporary challenges of biodiversity factored into national biodiversity strategies of countries.

Moreover, in ensuring inter-generational transfer of traditional conservation knowledge to the younger generation, the elders who were recruited for conservation projects worked closely with the young children. Furthermore, biodiversity conservation knowledge and agreed national biodiversity strategy were widely disseminated using traditional and modern means of communication such as folklores, myths, storytelling, the internet, print and visual media. This made the national strategy for conservation, known by every member of the country.

Conservation planners and developers of biodiversity conservation programs, strategies and initiatives must learn from the wonderful incorporation of local people and their cultural practices as have been illustrated with the examples of these successful nations. Cultural practices have great conservation ethos and they must be reckoned as such even in this modern era. A truncated approach to conventional science while frowning on the insightful roles of local people and their cultural practices to conservation will spell doom for global biodiversity conservation. This is the ripe time for developing nations, especially to fully embrace the time-tested conservation practices of local communities which are latent in their splendid cultural practices. It is the imperative antidote to salvage the widespread wanton depletion of the biodiversity resources that hinges life.

## Statement of Competing Interests

The author has no competing interests.

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