.Resilience from Within: Community-led EbA Approach

Contributions:
Concept and writing: Dinah Awino
Writing and Data Curation: Nancy Nyambura

Climate change is a pressing global challenge that requires innovative and community-driven solutions. According to Singh et al. (2021), Community-based Adaptation (a bottom-up approach that focuses on increasing the participation and agency of vulnerable communities in adaptation prioritization and implementation) explicitly focuses on mainstreaming community priorities, needs, knowledge, and capacities into adaptation, thereby aiming to empower people to adapt more effectively. Ecosystem-based Adaptation (EbA) offers a promising approach to building resilience by harnessing the power of nature. However, the success of EbA initiatives hinges on effective collaboration between local authorities and communities. Strong council-community relationships are crucial for addressing climate change impacts and ensuring that adaptation actions are equitable and sustainable. By working together, communities and local authorities can develop and implement tailored solutions that meet local needs and priorities (Barth et al., 2023).

The Kathita River Conservation Initiative is **o**ne of Kenya's most inspiring EbA success stories that comes from the Tharaka region. It is located in Tharaka-Nithi County in the Central region of Kenya. In this community, residents have implemented traditional water conservation techniques along with modern sustainable land management practices to restore degraded river banks and enhance water security, revolutionizing River Basin Management through the Kathita River Conservation Initiative (Malmer et al., 2020). This project has had a profound impact on the community. It has restored vital riverbank vegetation and riparian zones, established indigenous tree nurseries managed by women's groups, and implemented traditional terracing methods to reduce soil erosion. These efforts have led to improved access to clean water for all community members. Moreover, the project has empowered women by providing them with opportunities to manage indigenous tree nurseries. This has not only strengthened gender equality but has also fostered a sense of community and resilience in the face of climate change. By working together to enhance ecosystem services, the community is benefiting itself and contributing to global environmental sustainability.

Mount Kenya Forest Restoration Project is another success story in the Mount Kenya region, located in the former Eastern and Central provinces of Kenya; its peak is now the intersection of Meru, Embu, Kirinyaga, Nyeri, and Tharaka Nithi counties, about 16.5 kilometers (10.3 miles) south of the equator, around 150 km (90 mi) north-northeast of the capital Nairobi. In this region, Indigenous communities in partnership with stakeholders like Nature Kenya, and KFS have

come together to spearhead a forest restoration project that combines modern conservation techniques with traditional forest management practices. The community has demonstrated how community-led approaches can restore degraded forest ecosystems effectively while improving livelihoods (Collaboration for Mount Kenya Forest Restoration, 2023). The Mount Kenya Forest Restoration Project has achieved significant progress in revitalizing degraded forest lands. Over seven years, the project has restored roughly 4.15% of the area, particularly through the strategic planting of exotic trees within the existing forest stands (Kibetu et al., 2020). This restoration effort goes beyond simply increasing tree cover. The project champions the integration of indigenous knowledge into planting techniques and species selection, fostering a sense of cultural preservation and respect for traditional practices. This not only honors the heritage of the local communities but also leverages their valuable knowledge for a more sustainable future. Furthermore, the project promotes the creation of sustainable forest-based enterprises and enhances vital ecosystem services, ultimately benefiting the entire community.

Finally, there is the Coastal Mangrove Rehabilitation Program. Through this initiative, local fishing communities have initiated a comprehensive mangrove rehabilitation program that has showcased the power of community-led EbA along Kenya's coast. The traditional fishing communities Kwale and Mombasa (Vanga, Gazi, Mikindai) have restored critical mangrove systems while adapting to the impacts of climate change (Kiprono, 2021). This initiative has restored 93.5 hectares of mangrove forests, revitalizing their ecological functions. It has also established community-managed fishing grounds, promoted sustainable traditional fishing practices, and encouraged ecotourism to diversify livelihoods. These efforts have yielded significant social co-benefits for coastal fishing communities in Kenya, including improved food security, enhanced nutrition, and expanded economic opportunities through ecotourism.

There are numerous benefits to involving local communities in climate adaptation strategies. Local institutions and community-led stewardship initiatives have been shown to effectively conserve biodiversity through various means, as outlined by Dawson et al. (2021). These include sustainable self-regulation of resource use, collective habitat restoration efforts, asserting territorial rights to prevent encroachment and resist external pressures, and the ability to adapt conservation practices to changing environmental, economic, and political conditions.

A recent study by Bedelian et al. (2024) revealed that locally-led adaptation approaches prioritize fairness and justice while also being more cost-effective than externally managed initiatives. Consequently, local engagement enhances the long-term sustainability of projects. By involving local communities, adaptation strategies become more culturally appropriate and socially acceptable. They are rooted in both traditional and modern knowledge and practices, managed and monitored by the community itself, and integrated into local governance structures, fostering a sense of ownership and responsibility.

For example, in Taiwan, an Indigenous Tsou village successfully restored a degraded state-run national forest through collective self-regulation of resource use and resistance to external commercial pressures. This collective effort earned them secure tenure as legitimate forest stewards.

Several sources point to the importance of engaging local government bodies in successful EbA, as this is where context-specific planning can be undertaken. As an extension of this principle, communities and local CSOs should have a key role in the governance of EbA. This includes the initial development of EbA activities and the weighing of the costs and benefits, as well as the actual management and regulation of ecosystem use and the monitoring of EbA outcomes. The residents are at the forefront of evaluating the success of the EbA. Local communities contribute by; offering traditional knowledge and practices that are culturally and regionally appropriate, exploiting existing social networks and institutions, use of local materials, in-kind resources, labor, and technologies. (Gravesen et al., 2021)

Research indicates that communities involved in Ecosystem-based Adaptation (EbA) initiatives exhibit significantly higher levels of adaptive capacity compared to those who are not (Reid et al., 2019). This is attributed to the fact that local engagement fosters leadership skills, builds local knowledge and skills, strengthens social networks and institutions, and empowers communities to take ownership of adaptation processes.

A comprehensive literature review by Dawson et al. (2021) revealed that 29.0% of the studies examined demonstrated concurrent positive social and ecological outcomes. Notably, over two-thirds of these cases (33 out of 49) were associated with local control and stewardship. These findings emphasize that the most crucial social factors driving positive conservation outcomes are not necessarily the material benefits that Indigenous Peoples and Local Communities (IPLCs) receive. Rather, it is the recognition of their social and cultural practices, as well as their ability to participate in decision-making processes. Local institutions that govern land, sea, and natural resources are deeply intertwined with social relationships, cultural expression, and spiritual beliefs.

In conclusion, community-led EbA initiatives offer a powerful approach to building resilience to climate change. By empowering communities to take ownership of their adaptation strategies, we can ensure that solutions are culturally appropriate, socially just, and environmentally sustainable. As Barth et al. (2023) highlight, effective engagement is key to the success of these initiatives. By fostering strong relationships between local authorities and communities, we can create a more resilient future for all. There isn't a one-size-fits-all approach to engagement, but by understanding the unique characteristics and needs of each community, we can develop tailored strategies that address the complex challenges posed by climate change.

References

Barth, J., Bond, S., & Stephenson, J. (2023). Community engagement for climate change adaptation. ResearchGate. https://www.researchgate.net/publication/374976004_Community_engagement_for_climate_change_adaptation

Bedelian, C., Mulwa, J., Sumari, B., Rogers, P., Gravesen, M. L., & Funder, M. (2024). Locally-led Adaptation: Moving from Principles to Practice in the Water Sector. Danish Institute for International Studies. https://www.researchgate.net/profile/Mikkel-

Collaboration for Mount Kenya Forest Restoration. (2023, March 17). BirdLife International. https://www.birdlife.org/news/2023/03/17/collaboration-for-mount-kenya-forest-restoration/

Dawson, N. M., Coolsaet, B., Sterling, E. J., Loveridge, R., Gross-Camp, N. D., Wongbusarakum, S., Sangha, K. K., Scherl, L. M., Phan, H. P., Zafra-Calvo, N., Lavey, W. G., Byakagaba, P., Idrobo, C. J., Chenet, A., Bennett, N. J., Mansourian, S., & Rosado-May, F. J. (2021). The role of Indigenous peoples and local communities in effective and equitable conservation. Ecology and Society, 26(3). https://doi.org/10.5751/es-12625-260319

Gravesen, L., & Funder, M. (n.d.). Nature-based solutions to development and climate change challenges: Understanding ecosystem-based adaptation approaches. Retrieved November 26, 2024, from https://www.econstor.eu/bitstream/10419/238146/1/176767595X.pdf

Kibetu, D. K., & Mwangi, J. M. (2020). Assessment Of Forest Rehabilitation And Restocking Along Mt. Kenya East Forest Reserve Using Remote Sensing Data. African Journal Of

Science, Technology And Engineering (Ajste), 1(1), 113-126. Http://Journal.Kyu.Ac.Ke/Index.Php/Library1/Article/View/65/35

Kiprono, A. (2021). An Assessment of the Effectiveness of Mangrove Restoration Projects along the Kenyan Coast (Doctoral dissertation, University of Nairobi). Link

Malmer, P., Masterson, V., Austin, B., & Tengo, M. (2020). Mobilization Of Indigenous And Local Knowledge As A Source Of Useable Evidence For Conservation Partnerships. Conservation Research, Policy And Practice, 82. Https://Www.Cambridge.Org/Core/Services/Aop-Cambridge-Core/Content/View/22ab241c45f182e40fc7f13637485d7e/9781108714587ar.Pdf/Conservation_research__policy_and_practice.Pdf?Event-Type=Ftla

Reid, H., & Orindi, V. (n.d.). Ecosystem-based approaches to adaptation: strengthening the evidence and informing policy Research results from the Supporting Counties in Kenya to Mainstream Climate Change in Development and Access Climate Finance project, Kenya. Retrieved November 26, 2024, from https://www.iied.org/sites/default/files/pdfs/migrate/17620IIED.pdf

Reid, H., Jones, X. H., Porras, I., Hicks, C., Wicander, S., Seddon, N., ... & Roe, D. (2019). Is ecosystem-based adaptation effective? Perceptions and lessons learned from, 13. https://andesfiles.s3.sa-east-1.amazonaws.com/Publications/78+Ecosystem-based+adaptation.pdf

Singh, C., Iyer, S., New, M. G., Few, R., Kuchimanchi, B., Segnon, A. C., & Morchain, D. (2021). Interrogating ‘effectiveness’ in climate change adaptation: 11 guiding principles for adaptation research and practice. Climate and Development, 14(7), 650–664. https://doi.org/10.1080/17565529.2021.1964937