

MENTAL REENGINEERING THOUGH COMMUNITY DEVELOPMENT PRACTICE FOR FLOOD MITIGATION IN BAYELSA STATE NIGERIA

¹Kosioma E Owede

Email: owedeke@fuotuoike.edu.ng

Article Info

Keywords: Flooding, Community Development, Mental-Re-engineering, Resilience, Capacity Building.

DOI

10.5281/zenodo.14800817

Abstract

Flooding is a recurring natural disaster in Nigeria, resulting in significant human, material, and economic losses. Although infrastructural measures are essential, they are often insufficient to mitigate the psychological trauma and distress caused by flooding. This article explores the potential of community development initiatives to promote mental engineering as a resilience strategy against flooding in Nigeria. This article examines the nexus between community development projects/programmes and psychosocial wellbeing, coping mechanisms and flood risk perception. This highlights the critical role of community development in fostering mental resilience, promoting collective efficacy, and enhancing flood risk management. The paper concludes by emphasising the need for a holistic approach to flood risk management, integrating community leadership into community development practice, mental engineering, and infrastructural measures to promote sustainable resilience in flood-prone communities.

Introduction:

In recent years, Nigeria has experienced an alarming increase in flooding incidents, causing widespread devastation to communities, infrastructure, and livelihoods. Beyond physical damage, flooding has a profound impact on the mental well-being of individuals and communities. Floods represent a recurring nightmare for Nigeria, causing widespread devastation, loss of life, and economic hardship. The country's susceptibility to flooding stems from various factors, including its geographical location, climate variability, and inadequate infrastructure. (Wiley. Kania, & Kramer, 2011). Flooding events in Nigeria often result in trauma, anxiety, and depression among affected populations. The loss of homes, possessions, and even loved ones can lead to a profound sense of helplessness and despair. Moreover, the uncertainty of future flooding intensifies these feelings, creating a cycle of chronic stress and mental health challenges. UNESCO;(2004).

While physical measures such as dams and drainage systems are essential for flood control, there is another critical aspect that is often overlooked: the human factor. Mental reengineering, which focuses on altering behaviours, attitudes, transformational learning and perceptions related to floods, is an indispensable component of the holistic approach to mitigating this natural disaster. Addressing this issue requires more than physical engineering

¹ Foundations, Arts, and Social Science Education, Faculty of Education, Federal University, Otuoke, Bayelsa State, Nigeria

solutions; a holistic approach that incorporates mental reengineering through community development initiatives. By empowering communities to take an active role in flood resilience, Nigeria can mitigate the psychological toll of these disasters while fostering a sense of ownership and resilience among its citizens.

Community Development.

The United Nations defines community development as a process where community members come together to take collective action and generate solutions to common problems., while the International Association for Community Development (IACD) views community development as both a practice-based profession and an academic discipline. Therefore community development is defined as a practice-based profession and academic discipline that promotes participative democracy, sustainable development, rights, economic opportunity, equality and social justice, through the organisation, education and empowerment of people within their communities, whether of locality, identity or interest, in urban and rural settings. (Gilchrist & Taylor 2011).

Community development is a process intended to improve individuals' quality of life and well-being within a particular geographic area or community. This involves collaboration among community members, local organisations, governments, and other stakeholders to identify and address the needs, challenges, and aspirations of the community. Community development is about fostering inclusive, participatory, and sustainable development that enhances the quality of life of all community members. This dynamic and ongoing process requires ongoing commitment, collaboration, and adaptation to effectively address communities' evolving needs and challenges. Community development aims to empower individuals and groups of people with the skills they should change within their communities. These skills are often created through the formation of social groups working towards a common goal.

Community development practices according to Owede, (2021) is centred on some values and goals which are

- i. Self-determination. Communities have the right to make their own decisions.
- ii. Empowerment. People should be able to control their own assets and use their own means to influence.
- iii. Collective action. Communities in groups or organisations strengthens peoples' voices.
- iv. Inclusion. People should be able to participate in and benefit from the development process regardless of their identity or background.
- v. Social justice. Community members should have fair access to resources, opportunities, and rights.

Community development involves changing relationships between people and creating room for everyone to take part in issues affecting their lives. It begins with the principle that a community is a repository of wealth of knowledge and experience that can be harnessed in creative ways and channelled into collective action to achieve the community's desired goals.

Principles of Community Development.

Community development is a complex process involving various principles aimed at empowering communities and promoting sustainable change. This involves changing and enhancing relationships between people and creating room, for everyone to take part in issues affecting their lives. It begins with the principle that a community is a repository of wealth of knowledge and experience that can be harnessed in creative ways and channelled into collective action to achieve the community's desired goals.

The practice of community development is anchored on some commonly recognised principles as identified by Parada, Barnoff, Moffatt, & Homan, (2011):

- i. *Empowerment.* Community development aims to empower community members to identify their needs, set priorities and take collective action to address them. Empowerment involves fostering a sense of ownership and control over decisions and resources within the community.

- ii. *Participation*: Effective community development requires active participation by community members at all stages of the process, from planning, decision-making to implementation and evaluation. This involves engaging a diverse range of stakeholders, including marginalised groups, in meaningful ways promoting inclusivity.
- iii. *Sustainability*: Sustainable community development focuses on long-term solutions that meet the needs of the present without compromising the ability of future generations to meet their needs. This involves building local capacity, leveraging local resources, and promoting environmentally sound practices.
- iv. *Collaboration*: Community development often involves collaboration among various stakeholders, including government agencies, non-profit organisations, businesses, and community members. Collaborative approaches help to leverage resources, expertise, and networks to achieve common goals.
- v. *Asset-Based Approach*: This approach identifies and builds upon the strengths, assets, and resources existing within the community, rather than focusing solely on deficits and needs. It involves recognising and valuing the skills, knowledge, and cultural assets of community members.
- vi. *Cultural Competence*. Effective community development considers the cultural context, values, and norms of the community. This involves respecting diversity, promoting inclusivity and ensuring that interventions are culturally appropriate and sensitive.
- vii. *Holistic Approach*: Community development recognises that communities are complex systems with interconnected social, economic, environmental, and cultural dimensions. This involves addressing multiple aspects of community life simultaneously and considering the interplay between different factors.
- viii. *Capacity Building*. Community development strengthens the capacities of individuals, groups, and organisations within the community to identify and address their individual needs effectively. This involves providing training, resources, and support to develop skills, leadership, and organisational structures.
- ix. *Advocacy and Social Justice*: Community development often involves advocating for policies and practices that promote social justice, equity, and human rights. This includes challenging power imbalances, addressing systemic inequalities, and working towards inclusive and equitable outcomes.
- x. *Evaluation and Learning*. Continuous evaluation, learning, and adaptation are essential aspects of effective community development. This involves monitoring progress, collecting feedback, reflecting on outcomes and making adjustments based on lessons learned.

These principles guide practitioners and communities in designing, implementing, and evaluating community development initiatives that are responsive to local needs, strengths, and contexts.

Concept of Mental Re-Engineering.

The term mental reengineering refers to the process of intentionally changing individual thought patterns and beliefs to achieve specific goals or improve overall well-being. It is essentially reprogramming the mind for a different way of thinking and acting. (Paton 2006a). Mental reengineering also refers to the process of restructuring or reshaping one's thoughts, beliefs, attitudes, and perceptions to bring about positive changes in behaviour, emotions, and overall mental well-being. It involves deliberately modifying cognitive patterns and psychological frameworks to achieve personal growth, improved functioning, and enhanced quality of life. (Cafer, Green, & Goreham, (2019). Mental reengineering often draws from various therapeutic approaches, including Cognitive-Behavioural Therapy (CBT), mindfulness-based interventions, positive psychology, and Neuro-Linguistic Programming (NLP). The goal of this program is to empower individuals to take control of their mental processes, foster resilience, and cultivate a more fulfilling and satisfying life.

The key components of mental reengineering are as follows:

- i. Self-awareness: Recognising one's existing thought patterns, emotional responses, and behavioural tendencies.
- ii. Identification of negatives that hinder personal development and well-being.
- iii. Cognitive restructuring: This step transforms negative or irrational thoughts and beliefs into constructive and realistic ones.
- iv. Behavioural modification: Implementing changes in behaviours and habits that align with desired outcomes to promote mental health and happiness.
- v. Emotional regulation: Learning techniques to manage and regulate emotions effectively, such as mindfulness, relaxation exercises, and stress management strategies.
- vi. Goal setting and self-reflection: Setting achievable goals for personal growth and regularly reflecting on progress and setbacks to adjust strategies as needed.

Process of Mental Reengineering.

The process of mental reengineering involves several steps aimed at restructuring cognitive patterns, emotional responses, and behavioural tendencies to promote personal growth and well-being. Webber & Dufty, (2008) identified the following mental reengineering process:

- i. Self-assessment and goal setting: Begin by reflecting on your current mental state, identifying areas of dissatisfaction, and setting specific goals for improvement. These goals should be realistic, measurable, and relevant to your overall well-being.
- ii. Identify negative patterns: Take time to recognise and acknowledge any negative thought patterns, limiting beliefs, and maladaptive behaviours that may be contributing to distress or hindering progress.
- iii. Challenge negative thoughts: Cognitive restructuring techniques are used to challenge and reframe negative or irrational thoughts into more balanced and constructive ones. Ask yourself questions like "Is there evidence to support this thought?" and "Are there alternative explanations or perspectives?"
- iv. Replace with positive affirmations: Negative thoughts should be replaced with positive affirmations or statements that promote self-compassion, resilience, and optimism. Repeat these affirmations regularly to reinforce positive thinking patterns.
- v. Develop coping strategies: Learn and practice coping strategies to effectively manage stress, anxiety, and other negative emotions. This include relaxation techniques, mindfulness meditation, deep breathing exercises, and progressive muscle relaxation.
- vi. Behavioural modification: Implement changes in behaviours and habits that align with your goals and values. Break down larger goals into smaller, manageable steps and commit to taking consistent action towards their achievement.
- vii. Seek support: Do not hesitate to seek support from friends, family members, or mental health professionals. Surround yourself with a supportive network of individuals who offered encouragement, guidance, and perspective.
- viii. Monitor progress and adjust as needed: Regularly monitor your progress towards your goals and be willing to adjust your strategies or approaches as needed. Celebrate your successes, no matter how small, and learn from yours challenges.
- ix. Practice self-care: Prioritise self-care activities that nurture physical emotional, and mental well-being. This may include exercise, healthy eating, adequate sleep, leisure activities, and hobbies that bring you joy and fulfilment.
- x. Maintain consistency and perseverance: Mental reengineering requires patience, persistence, and self-discipline. Stay committed to your goals and be kind to yourself during times of difficulty or setbacks.

By following these steps and remaining committed to the process, you can gradually reengineer your mental outlook, cultivate resilience, and improve your overall quality of life. In this case to mitigate against flooding.

Mental Re-Engineering and flooding in Nigeria.

Nigeria's diverse population harbours a spectrum of attitudes and behaviours towards floods, influenced by cultural, educational and socioeconomic factors. Despite the recurrent nature of flooding, there exists a significant gap in public awareness, preparedness, and response. Many individuals continue to underestimate the risks or lack the knowledge to adequately protect themselves and their communities. (Somek, 2010). The numerous challenges that impede effective mental reengineering for flood mitigation in Nigeria include the following:

- i. *Cultural Beliefs*: Some communities perceive floods as acts of God or natural phenomena beyond human control, thus hindering proactive measures.
- ii. *Socioeconomic Factors*: Poverty and inadequate infrastructure force many Nigerians to settle in flood-prone areas, increasing their vulnerability.
- iii. *Education and Awareness*: Limited education and awareness campaigns contribute to a lack of understanding of flood risks and mitigation strategies.
- iv. *Institutional Capacity*: Government agencies often face constraints when implementing comprehensive flood risk management programs due to resource limitations and bureaucratic inefficiencies.

Strategies for Mental Reengineering:

To address these challenges and foster a culture of flood resilience, concerted efforts are needed at various levels throughout the country. Dufty, (2008 b) advocated for the following strategies, exploiting the components of community development. They include

- i. *Education and Awareness Campaigns*: Widespread campaigns to educate citizens about flood risks, preparedness, and response strategies should be implemented. Utilise diverse channels, including traditional media, community meetings, and social media platforms.
- ii. *Community Engagement*: This step fosters community participation in flood risk management through grassroots initiatives, community-led projects, and involvement in decision-making processes.
- iii. *Behavioural Change Interventions*: Targeted interventions to promote adaptive behaviours, such as early warning systems, evacuation drills and sustainable land-use practices.
- iv. *Strengthening Governance*: Enhancing institutional capacity for flood risk management through improved coordination, resource allocation, and policy frameworks.

Mental Reengineering Through Community Development:

Community development can significantly enhance mental reengineering in Nigeria, particularly in addressing the challenges posed by flooding. Mental reengineering involves changing attitudes, beliefs, and behaviours to foster resilience and proactive problem-solving. Community development in practice is centred on change as an important component, which is the transformation of the physical, economic, social and psychological state of the programme beneficiaries. The components of community development that enhance mental reengineering focus on empowering individuals and groups to adopt new attitudes, behaviours, and skills, fostering resilience, and proactive engagement in addressing challenges like flooding, which is the focus of this paper. These components work together to create a holistic approach in which community development catalyses the mental reengineering necessary for resilience and sustainable progress.

Community development plays a pivotal role in mental reengineering by fostering environments that promote mental well-being and resilience. This can be achieved by fostering resilience, social cohesion, and proactive planning that empower communities to cope with and recover from disasters more effectively. (Harwood 2015). Components of community development that can contribute to mental reengineering include.

- i. *Education and Awareness.* This focuses on promoting an understanding of flood risks and resilience strategies that can empower individuals to take proactive measures to protect themselves and their communities by reshaping perceptions and encouraging informed decision-making. Flood Education programs include workshops, seminars, and community outreach campaigns to educate residents about the causes and consequences of flooding and effective mitigation measures. They also disseminate information about flood preparedness, early warning systems, and evacuation procedures and create information-sharing platforms by creating forums for sharing knowledge about climate change, sustainable practices, and disaster preparedness to foster a culture of awareness. It culminates in providing technical assistance, mentorship, and resources to strengthen their ability to plan, manage, and monitor floods and mitigation efforts.(Dufty, 2008)a.
- ii. *Capacity Building.* The capacity of local leaders and community members to respond to flooding is essential for effective flood disaster management. Training individuals in disaster preparedness, sustainable practices, and adaptive techniques (e.g., flood-resistant construction) builds confidence and competence. Training programs on first aid, search and rescue techniques, and disaster response coordination can equip communities with the skills and knowledge required to mitigate the impact of flooding and save lives. Capacity building is empowering community members with knowledge, skills, and resources to take proactive measures against floods. Training in disaster preparedness, early warning systems, first aid, and emergency response. (Elsworth., Gilbert, Robinson, Rowe, and Stevens, 2009). Encourage community members to take ownership of mitigation efforts and become active agents in building resilience. Leadership training should also be provided to support local leaders with the knowledge and skills to advocate for policies that mitigate flooding. This process promotes is community participation in decision-making by involving residents in planning and implementing flood management strategies that increase ownership and commitment.
- iii. *Social Support Networks.* Strong social support networks promote mental well-being in the aftermath of a disaster. Facilitate social cohesion and solidarity within communities to enhance flood resilience. Encourage collaboration, mutual support, and information sharing among residents. Strengthen social networks and community organisations to facilitate collective action and response during emergencies. Community based organisations, religious institutions, and local leaders can play pivotal roles, provide emotional support, counselling services, and practical assistance to those affected by flooding. Establish flood resilience clubs to promote community-led initiatives, share knowledge, and provide support.
- iv. *Participatory Approach/Inclusivity.* Engage community members in all stages of flood mitigation planning and implementation. Involve them in decision-making processes, from identifying vulnerabilities to designing and implementing mitigation measures. This ensures that solutions are culturally appropriate, relevant, and accepted by the community. Ensure that all segments of the community, including vulnerable populations such as women, children, the elderly, and persons with disabilities, are included in flood mitigation initiatives. Consider their specific needs and capacities when designing interventions to ensure that no one is left behind.
- v. *Infrastructure Development.* Investing in resilient infrastructure is key to reducing communities' vulnerability to flooding. This includes measures such as flood barriers, drainage systems, and sustainable land-use planning to minimise the risk of inundation and protect lives and property.
- vi. *Psychosocial Support Services.* Access to psychosocial support services is essential for addressing the mental health needs of flood-affected populations. This can include counselling, therapy, and support groups to help individuals cope with trauma, anxiety, and depression in the aftermath of a disaster.

- vii. *Risk Communication and Education*: Conduct risk communication campaigns to raise awareness of flood risk factors, warning signs, and preparedness measures. Use culturally appropriate and accessible communication channels to reach all community members. Provide educational materials, workshops, and community forums to empower residents with knowledge and skills to mitigate flood impacts.
- viii. *Adaptive Management and Learning*: An adaptive management approach that allows for continuous learning, innovation, and improvement in flood mitigation strategies. Monitor the effectiveness of interventions, collect feedback from community members, and adjust plans accordingly. Encourage a culture of reflection, evaluation, and knowledge exchange to enhance resilience over time.
- ix. *Community-Based Early Warning Systems*: Community based early warning systems that are owned and operated by local residents. Training community members to monitor weather patterns, river levels, and other indicators of flood risk. Develop clear protocols for disseminating warnings and activating response plans in a timely manner. Conduct risk communication campaigns to raise awareness of flood risk factors, warning signs, and preparedness measures. Use culturally appropriate and accessible communication channels to reach all community members. Provide educational materials, workshops, and community forums to empower residents with knowledge and skills to mitigate flood impacts. (Gissing, Keys., & Oppen 2010,)
- x. *Ecosystem-Based Approaches*: Promote ecosystem-based approaches to flood mitigation, such as reforestation, wetland restoration, and natural floodplain management. Recognise the value of natural ecosystems in reducing flood risk, enhancing water retention, and improving overall resilience.

In essence, community development's role in mental reengineering is about creating supportive environments that empower individuals and communities to realise their potentials, cope with life's stresses, and contribute positively to their community. This holistic approach is essential for building a mentally resilient society.

Recommendations

Community development can play a crucial role in changing people's minds about flooding in Nigeria. This can be achieved through

- i. **Cultural and Traditional Integration**. Leveraging indigenous knowledge by recognising and integrating traditional wisdom about land use and flood management into modern strategies can align efforts with local values and practices. This should involve using cultural events to communicate messages about resilience and preparedness so as to help shift mind-sets in an engaging and relatable way.
- ii. **Resilience Building**. This involve mental health support, which should include psychosocial counselling and support groups to address trauma from flooding to help individuals rebuild confidence and develop a forward-looking mind set. It will also incorporate adaptive practices by encouraging long-term adaptation strategies, such as climate-resilient agriculture and sustainable housing designs, to ensure that communities can better cope with recurring challenges.
- iii. **Youth and Women Empowerment**. Youth engagement requires mobilising young people as agents of change and custodians of the future to foster innovation and build resilience within the community. Women involvement and recognition of them as key stakeholders ensure inclusive solutions and leverage their unique perspectives and roles in community resilience. They constitute a reliable and, readily available source of human resources for sustainable change, if properly harnessed.
- iv. **Behavioural Change**. Shifting mind-sets toward proactive action by promoting behavioural change through Initiatives like tree planting, waste management, and drainage clearing can instil habits that reduce flooding risks. Encouraging Innovation through Community-based programs to nurture creative solutions to flooding, such as rainwater harvesting or floating farm. Communities should also be encouraged to shift

from reactive to proactive flood management practices with increased confidence training and participation to reduce fear and uncertainty, thus promoting a problem-solving mind set.

- v. **Community Leadership Development.** This is to empowering local leaders by providing them with tools to drive change and ensure that, they can inspire others and advocate effectively for sustainable solutions. This requires supporting local leaders with the knowledge and skills to advocate for policies that mitigate flooding. Involving residents in the planning and implementation of flood management strategies increases residents' ownership and commitment.

By leveraging community development, mental reengineering can be embedded in daily practices, enabling residents to be more resilient, adaptable, and proactive when tackling flooding challenges.

Conclusion:

Confronting the perennial threat and impact of flooding in Nigeria requires recognising and exploring the role of mental reengineering alongside physical infrastructure. By fostering a shift in attitudes, behaviours, and perceptions towards floods, the nation can build a more resilient society that can effectively mitigate the impacts of this natural disaster. Through community education, community engagement, and targeted interventions as integral components of community development, Nigeria can pave the way towards a safer and more sustainable future for all its citizens. Addressing the impact of flooding in Nigeria requires a multifaceted approach that integrates community development, education, capacity building, and psychosocial support services. By empowering communities to take an active role in flood resilience, Nigeria can mitigate the psychological toll of disasters while fostering a culture of preparedness, resilience, and solidarity. Through collective action and collaboration, we can build a more resilient future for all Nigerians, where no one is left behind despite adversity.

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