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IMPACTS OF CLIMATE CHANGE ON LAND AND LITTORAL OPERATIONS: CHALLENGES AND PROSPECTS FOR PAPUA NEW GUINEA DEFENCE FORCE

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Key Points

- Climate change is regarded globally as a major security challenge in the coming decades.
- Increase in the frequency and intensity of natural disasters will require military interventions.
- Evolving policy framework on climate change and security presents opportunities to expand on the national, regional and global interventions.
- Papua New Guinea Defence Force (PNGDF) core functions in national security are impeded by the geographic and structural challenges.
- Addressing climate change provides the opportunity for PNGDF to improve its readiness to provide assistance to other civil emergencies.

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IMPACTS OF CLIMATE CHANGE ON LAND AND LITTORAL OPERATIONS: CHALLENGES AND PROSPECTS FOR PAPUA NEW GUINEA DEFENCE FORCE

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Climate change is regarded globally as one of the greatest security challenges in the coming decades. Reports of rising temperatures and sea level, melting ice, ocean acidification, intensifying cyclones, extreme rainfall patterns, floods, droughts and heatwaves have become prevalent in the social and mainstream media. It is estimated that between 2030 and 2052, should the increasing trend of high energy consumption persist, global warming is expected to reach over 2 degrees Celsius. This will have adverse effect on security and the resilience of the communities and nations within the Antarctic and the Equator regions of which the effects of global warming will be sever. Over the years, Papua New Guinea (PNG) have experienced the impacts of climate change most noticeably in the dislocation of its people of the Carteret Islands due to rising sea levels. As the impacts of climate change increase and intensify, more military interventions for humanitarian assistances, disaster reliefs, stability operations, and search and rescue missions will be needed. As opposed to the traditional security threats, these non-traditional security challenges will test the preparedness of countries to respond and address these challenges.

PNG Defence Force (PNGDF) has recently been invited by the United States (US) Army Pacific Command to co-host the Indo-Pacific Army Chiefs Conference (IPACC) in Hawaii, USA, on the 13-15 September 2021. These biennial conferences are used as platforms for military chiefs of member countries to discuss and share ideas to address pertinent security challenges in the region. The topic of IPACC 2021 was “Environmental impacts on land and littoral operations”. In this regard, this paper delineates the impacts of climate change in PNG on the land and the littoral operations of the PNGDF. It highlights PNGDF’s role within the security policy frameworks on the national, regional and global level. In particular, the article focuses on the challenges that have emerged and the opportunities to improve the PNGDF’s readiness to address the impacts of climate change.

Landscape of PNGDF littoral operations

In military perspective, land and littoral operations simply mean the conduct of warfare or service support that involves

land and maritime elements of the Defence Force. According to Department of Navy USA (2017), littoral environment consists of a seaward and landward operational area. The former includes the extent of the open ocean to the shore which must be controlled to support operations inland. The landward operation includes inland areas from the shore that can be supported and defended directly from the sea. However, in a relatively peaceful region where traditional foreign threats are not imminent, PNG currently faces external security challenges that are predominantly non-traditional and development oriented. These include the effects of climate change and natural disasters, transnational crimes, the cyber threat, and health pandemics like COVID-19.

Geographically, defending PNG from non-traditional security threats is a major challenge. PNG has an expanded land border to Indonesia of 760km long, consisted of rugged terrains and swampy lowlands. Furthermore, it has a vast maritime exclusive economic zone (EEZ) of 3.1 million square kilometer of numerous scattering atolls and islands. The core tasks of PNGDF are to defend PNG sovereign territories, provide assistance in civil emergencies, nation-building and adherence to its international obligations. These become a challenging feat given the geographical expanse and requires a strong collaborative effort from national and regional partners (Firth, 2014).

Evolving policy framework on climate change and security

Climate change has the potential to have impact on security on the national, regional and global scale. These are evident in human security challenges, health-related crisis, resource competition, violence from mismanaged migration and adaptation and land disputes. Furthermore, studies have indicated that the impact of climate change for developing countries, particularly in the Pacific region, will be more severe as it overlaps development needs and are compounded with weak governance institutions (New Zealand Government, 2018).

Security policies on the national level

Climate change as a security challenge in PNG are acknowledged in the various national development and sectoral plans. Particularly in the Defence White Paper

(Papua New Guinea Defence Organisation, 2013) and the National Security Policy (Papua New Guinea Office of PM & NEC, 2013). The latter indicates that among two levels of prioritisation of security threats in PNG, climate change is recognised as a level one threat. This requires immediate and urgent attention as the threat is likely to occur and when it does, the impacts are widespread and devastating. On the other hand, DWP recognises climate change as a global security agenda and distinguishes the role of the PNGDF to support the civil authorities as ‘first responders’ in the event of natural disasters.

International obligations

On the regional and global level, PNG has extensive economic, trade and diplomatic relations with various countries. For instance, in support of the regional stability, PNG is a partner to various forums and agreements in the Pacific. These includes the Pacific Islands Forum, Melanesian Spearhead Group, South Pacific Defence Ministers Meeting and Association of Southeast Asian Nations. On the global level, PNG as a member to the Paris Agreement, was recognised as the first country to submit its national climate action plan called “National Determined Contribution” which intends to transit to 100 percent renewable energy by 2030.

In a nutshell, the PNG Government has acknowledged the impact of climate change to security on the national, regional and global levels. However, the effect of climate change also overlaps with complex range of political, economic, environmental and social issues. These have to be considered in the overarching policy framework that encapsulates climate change security and development which needs further research.

Challenges

The inherent challenges affecting the operations of PNGDF in light of climate change are the following:

- PNGDF has approximately 3,000 personnel in the land, air and maritime elements. This is considered very minimal for a small island nation in the region. The increase in frequency of natural disasters has required PNGDF to be engaged in multiple and concurrent land and littoral operations. This has stretched resources and readiness for other requirements.
- Vast maritime and land border control. Impacts of ocean warming and increase in acidity particularly in the Pacific Ocean will see changes in the fish migration patterns to new unmonitored areas in the PNG’s EEZ. This exacerbates plundering of fish stocks from illegal fishing vessels and encourage

transnational crimes. Furthermore, instances in the pillage of timbers and the supply of illegal arms across the expanded land borders adds on to the security threats.

- Capabilities of the PNGDF as ‘first responders’ is seriously undermined from inadequate funding, training and manpower capacity. Old and limited military assets for land, air and maritime operations, specialised training and lack of military personnel physically limits the effectiveness of the PNGDF to respond to natural disaster emergencies.
- Inadequate capacity and technical personnel. Training and exposure are needed to upskill and modernise the PNGDF operations. The overlapping nature of the impact climate change to economic, environmental and social dynamics of the livelihood of the people at home and abroad require specialised skills.
- Gaps in the legislations and policies regarding inter-agencies mandates on security, humanitarian assistance and disaster relief operations. This fosters uncertainty, delay and duplication of the roles in responding to natural disasters.
- The PNGDF engineering battalion does not have adequate support and resources to respond to natural disasters. Natural disasters will result in the displacement of population, disruption of development progress and damaging infrastructure. This will require humanitarian assistance from the PNGDF land elements that is well-equipped and fully trained to rebuild lives and infrastructure.
- Lack of international engagements through peace-keeping operations. This limits the exposure of our PNGDF in various military and humanitarian engagements particularly from collaboration with experienced international defence personnel.

Improving PNGDF’s climate change readiness to achieve its core functions

In light of the challenges aforementioned, PNGDF’s response to climate change will depend on enhancing its administration and management capacity. This will require its ability and readiness to respond on short notice to multiple and concurrent operations at home and abroad as the frequency and intensity of natural disasters increase. In addition, PNGDF will need to modernise and revitalise its operational capabilities and methods to adapt to various challenging physical environment impacted by climate change. Furthermore, mitigation strategies to climate change

need to be considered in all development and operational planning processes of PNGDF. This will require an open-door policy on sharing of information, expertise and experience to partners in the public, private and non-governmental sector. More importantly, PNGDF's engagements with regional partners must be strengthened to augment the existing structural deficiencies and ensure core functions of PNGDF are achieved.

Pragmatically, these will require the following:

- PNGDF must build its capability particularly across the air, land, and the maritime elements either for combat or for support services in order to effectively accomplish its mandated roles. The DWP envisaged that the PNGDF personnel ought to increase from 2,000 in 2013 to 5,000 in 2017 and 10,000 in 2030. Though these projections have not been fully implemented, it remains valid as the intensity of security threats from non-traditional sources, particularly natural disasters, will require more humanitarian assistance and search and rescue missions.
- PNGDF response to the threat of natural disasters must be proactive and regionalist in foresight. Many of the challenges in PNG are common among the small developing countries in the region. Adopting and strengthening a regional approach is often the most appropriate way to address these shared security challenges, especially to protect the maritime and land borders more effectively.
- PNGDF capability development must be focused towards effecting joint service and combined operations. These include revamping PNGDF 'first responder' capability and contributing to joint-agency operations in fostering a whole of government approach concerning climate change and security issues.
- The PNG Government established a Climate Change Development Authority in 2015. This authority is mandated to regulate the climate change policy arena in collaboration with other State agencies including the PNGDF. Assistance in training capacities are needed to ensure that such policies are supported with implementation plans.

Conclusion

Climate change has been recognised globally as a major security threat. The melting of the polar ice cap, rising sea levels, and

the increase in frequency and intensity of natural disasters are changing the landscape of the physical environment of littoral nations. This will require more military interventions to assist in humanitarian needs, disaster relief and search and rescue missions. The Government of PNG has acknowledged the impact of climate change to security in various national, regional and global climate change and security policies. However, the existing geographic and structural challenges experienced by the PNGDF indicates the deficiencies and the inability to be the 'first responders' to natural disasters. Therefore, it is imperative to improve the readiness of the PNGDF in its response to climate change.

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