



Poverty in a Richly Endowed Basin : A Case Study of Papua New Guinea

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Abstract:

Papua New Guinea (PNG) stands as a nation abounding in natural resources, yet paradoxically contends with pervasive poverty, notably in locales such as the Highlands, replete with abundant natural endowments. This abstract presents an intricate case study delving into the conundrum of destitution amidst opulence within the Highlands realm of PNG. Employing a multifaceted methodology encompassing qualitative interviews, secondary data scrutiny from various sources, and comprehensive literature synthesis, this inquiry scrutinizes the socio-economic determinants underpinning the enduring poverty prevalent in the area. It delves into the historical, political, and environmental milieus that mould the fabric of poverty dynamics, encapsulating facets of land tenure, resource exploitation, governance paradigms, and socio-economic disparities. Additionally, this research probes into the ramifications of developmental interventions and policies on the initiatives aimed at assuaging poverty within the region. Unveiling intricate interplays between Indigenous traditions, national governance frameworks, and global economic imperatives, the findings underscore the perpetuation of poverty notwithstanding the plenitude of natural assets. The abstract culminates by accentuating the ramifications for policy formulation and developmental strategies intended to confront poverty in regions endowed with resources, accentuating the imperatives of inclusive governance, sustainable resource stewardship, and grassroots-driven endeavours to engender equitable progress in Papua New Guinea.

Keywords: participatory democracy, citizen participation, CapDel, “new generation” Municipal Development Plan, social inclusion.

Jel classification codes : R280, R290, R590, R580, I380.

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1. Introduction:

Papua New Guinea (PNG) presents a compelling paradox: despite its bounteous natural resources, poverty persists alarmingly, particularly in regions such as the Highlands, endowed with substantial wealth. This incongruity underscores a nuanced interplay of socio-economic, political, and environmental factors shaping the region's developmental trajectory. Understanding the intricacies of poverty within such contexts is imperative for crafting effective policy frameworks and implementing targeted interventions to alleviate deprivation and cultivate sustainable growth. The Highlands region of Papua New Guinea, characterized by its rugged terrain, fertile valleys, and abundant mineral deposits, epitomizes this paradox. On one hand, it boasts vast reserves of gold, copper, oil, and gas, which have catalyzed economic expansion and enticed international investment. Conversely, it contends with pervasive poverty, characterized by insufficient access to fundamental services, elevated unemployment rates, and social stratification. The PNG economy has languished for over two years, exacerbated by the ravages of the COVID-19 pandemic, which exacerbated existing woes, particularly the misallocation of funds into projects that failed to translate into tangible benefits or employment opportunities for the populace. Alarmingly, a substantial portion—potentially exceeding 70%—of PNG's population struggles to meet daily/weekly/fortnight/monthly survival needs. Financial institutions can likely attest to the scantiness of grassroots individuals' bank accounts, with balances often dwindling below K100 for extended periods.

1.1 Socioeconomic Challenges in Papua New Guinea: An Analysis of the 2018-24 Demographic and Health Survey :

The National Statistical Report on Papua New Guinea's (PNG) Demographic and Health Survey (DHS) for the years 2018-24 offers a comprehensive overview of the critical socioeconomic challenges faced by the nation. The report elucidates the stark disparities in essential services and infrastructure that underscore the pressing need for targeted interventions. This essay delves into key aspects of the report, including drinking water, sanitation facilities, electricity access, household possessions, handwashing facilities, population composition, children's living arrangements, and education.

- *Drinking Water:* Access to safe drinking water remains a significant issue in Papua New Guinea. According to the DHS report, less than half of households have access to an improved source of drinking water. The most common source of water is unprotected springs, which are utilized by 29% of households. This reliance on unprotected springs poses severe health risks, including waterborne diseases, which

can have a detrimental impact on public health, particularly among vulnerable populations such as children and the elderly.

- *Toilet Facilities:* The situation regarding sanitation is equally concerning. Merely 29% of households have access to improved sanitation facilities. Alarming, approximately one in five households lacks any sanitation facility and resorts to open defecation. This practice not only degrades environmental quality but also contributes to the spread of infectious diseases, undermining efforts to improve public health and sanitation standards.
- *Electricity:* The DHS report highlights a significant deficiency in access to electricity, with only 15% of households connected to the national grid. This lack of electricity hampers economic development, educational opportunities, and access to modern healthcare. It also exacerbates disparities between urban and rural areas, where electricity access is even more limited.
- *Household Possessions:* Despite these challenges, the report notes a high prevalence of mobile phone ownership, with 56% of households owning at least one mobile phone. This indicates a potential avenue for improving communication and access to information, which could be leveraged for development initiatives. Additionally, one-quarter of households possess radios, suggesting that traditional media still plays a crucial role in disseminating information.
- *Hand Washing:* Hygiene practices, as reflected in the report, show that only one-third of the population lives in households with handwashing facilities that include both soap and water. This shortfall in basic hygiene infrastructure is a barrier to reducing the spread of diseases and underscores the need for more comprehensive public health campaigns and infrastructure investments.
- *Household Population and Composition:* The demographic profile of Papua New Guinea reveals a youthful population, with over 40% under the age of 15 and only 3% aged 65 and older. This demographic trend implies a significant dependency ratio, with a large segment of the population reliant on a relatively small working-age group. It also suggests future challenges in providing adequate education and employment opportunities for a growing youth population.
- *Children's Living Arrangements:* The DHS report highlights vulnerabilities among children, with 6% having lost at least one biological parent and 14% not living with either biological parent. These statistics point to potential social and economic

challenges, including the need for supportive services for orphaned and vulnerable children.

- *Education*: Education remains a critical area of concern, with nearly one-third of women and one-quarter of men aged six and older having never attended school. This educational gap poses significant barriers to individual and national development, limiting economic opportunities and perpetuating cycles of poverty.
- *The 2018-24 Demographic and Health Survey* of Papua New Guinea paints a sobering picture of the nation's socioeconomic landscape. The findings highlight substantial deficiencies in essential services such as drinking water, sanitation, and electricity, alongside challenges in education and children's welfare. Addressing these issues requires coordinated efforts from the government, non-governmental organizations, and international partners to develop and implement effective policies and programs that can drive sustainable development and improve the quality of life for all Papua New Guineans.

1.2 The Burden of Taxation:

The burden of taxation weighs heavily upon all workers, while politicians appear exempt from such fiscal obligations. The manufacturing sector in PNG languishes in a state of disarray, having been neglected by governmental support and intervention. This neglect has precipitated a dearth of employment opportunities, exacerbating the prevailing socioeconomic malaise. Compounding these issues are systemic deficiencies in education, healthcare, housing, water, power, and infrastructure, leaving citizens bereft of fundamental necessities despite the nation's wealth of natural resources, including gold.

Against this backdrop, this study embarks on a comprehensive exploration of poverty in the Highlands region of Papua New Guinea, endeavouring to unravel the intricacies inherent in the coexistence of affluence and impoverishment. By employing a multidisciplinary approach integrating qualitative insights, quantitative analysis, and literature review, this research seeks to elucidate the underlying causes and perpetuating factors of poverty in the region. Drawing upon insights gleaned from historical trajectories, contemporary dynamics, and theoretical paradigms, this study will delve into the socioeconomic dynamics underpinning poverty in the Highlands. It will scrutinize issues such as land tenure systems, resource extraction methodologies, governance frameworks, and socio-cultural norms, all of which contribute to shaping the experiences of individuals and communities.

Furthermore, this research will evaluate the efficacy of prior and ongoing development interventions and policies in addressing poverty in the Highlands. Through assessing their impact on livelihoods, access to services, and overall well-being, this study aims to discern lessons gleaned and best practices that can inform future strategies for poverty alleviation. In so doing, this study not only aspires to enrich the academic discourse surrounding poverty dynamics but also aims to furnish practical insights for policymakers, development practitioners, and stakeholders committed to fostering inclusive and sustainable development in Papua New Guinea and beyond. By illuminating the challenges and opportunities inherent in resource-endowed regions, it endeavours to catalyze substantive change and advance equitable prosperity for all.

2. Aims and Objectives

This study aims to comprehensively investigate the complexities surrounding poverty within the context of abundant natural resources in Papua New Guinea's Highlands region. By delving into the intricate interplay of socio-economic, political, and environmental factors, this research seeks to elucidate the root causes and perpetuation of poverty despite the region's wealth.

- To analyze the socio-economic factors contributing to persistent poverty in the Highlands region of Papua New Guinea.
- To explore the historical, political, and environmental contexts shaping the dynamics of poverty, including issues of land ownership, resource exploitation, governance, and social inequality.
- To investigate the impact of development interventions and policies on poverty alleviation efforts within the region.
- To examine the role of indigenous customs, national policies, and global economic forces in perpetuating poverty amidst abundant natural resources.
- To identify implications for policy formulation and development strategies aimed at addressing poverty in resource-rich regions, emphasizing the need for inclusive governance, sustainable resource management, and community-driven initiatives.

2.1 Scope :

- This study will focus specifically on the Highlands region of Papua New Guinea due to its significant natural resource endowments and persistent poverty levels.
- The research will utilize a multidisciplinary approach, incorporating qualitative interviews, quantitative data analysis, and literature review to provide a comprehensive understanding of poverty dynamics.

- Analysis will encompass a range of socio-economic indicators, including income levels, access to basic services, education, healthcare, and employment opportunities.
- The study will examine historical trends and contemporary developments to contextualize the current state of poverty in the region.
- Findings and recommendations will be relevant not only to policymakers and development practitioners in Papua New Guinea but also to researchers and organizations working on poverty alleviation and sustainable development in resource-rich areas globally.

3. Methodology

This study employs a rigorous and multifaceted methodology to delve into the intricacies of poverty in the Highlands region of Papua New Guinea, aiming to furnish comprehensive insights into the complex dynamics at play. The methodology encompasses qualitative interviews, quantitative data analysis, and an exhaustive literature review, facilitating a nuanced comprehension of the socio-economic factors perpetuating persistent poverty despite the region's abundant natural endowments.

- **Qualitative Interviews:** Qualitative interviews serve as the cornerstone for eliciting profound insights into the lived experiences, perspectives, and challenges encountered by individuals and communities grappling with poverty in the Highlands. Semi-structured interviews will be meticulously conducted with a diverse array of stakeholders, encompassing community members, local dignitaries, government functionaries, and development practitioners. These interviews will meticulously explore themes such as livelihood strategies, resource accessibility, social networks, and perceptions regarding development interventions.
- **Quantitative Data Analysis:** Quantitative data analysis complements qualitative insights by furnishing empirical evidence and statistical trends pertaining to poverty indicators in the Highlands region. Leveraging extant datasets from national surveys, census reports, and other pertinent sources, this study will meticulously scrutinize variables encompassing income levels, educational attainment, healthcare access, employment metrics, and household assets. Statistical methodologies such as regression analysis and descriptive statistics will be adroitly employed to discern correlations and patterns within the dataset.
- **Literature Review:** An exhaustive literature review will be meticulously undertaken to contextualize the findings within the extant scholarly discourse on poverty, development, and resource governance in Papua New Guinea and akin contexts

globally. This review will encompass scholarly articles, reports disseminated by international organizations, policy documents, and grey literature. Through synthesizing diverse perspectives and theoretical frameworks, the literature review will aptly inform the analysis and interpretation of empirical findings.

- **Integration and Triangulation:** The qualitative interviews, quantitative data analysis, and literature review will be seamlessly integrated through a process of triangulation, facilitating a holistic and nuanced comprehension of poverty in the Highlands region. Triangulation entails cross-validating findings from disparate sources and methodologies to augment the reliability and validity of the research findings. This iterative process will facilitate the identification of converging and diverging patterns, thereby enriching the analysis and interpretation of results.
- **Ethical Considerations:** Ethical considerations assume paramount importance throughout the research endeavour, particularly in engaging with vulnerable populations afflicted by poverty. Informed consent will be meticulously obtained from all participants, with measures enacted to ensure confidentiality, anonymity, and cultural sensitivity. Ethical clearance will be diligently sought from pertinent institutional review boards prior to data collection, with researchers steadfastly adhering to established ethical guidelines and protocols.

3.1. Limitations :

Despite the exhaustive approach embraced in this study, it is imperative to acknowledge certain limitations. These encompass constraints pertinent to data availability, sample representativeness, and the inherent subjectivity intrinsic to qualitative research. Furthermore, the multifaceted and dynamic nature of poverty necessitates an acknowledgement of its myriad dimensions and the potential for evolving socio-economic dynamics over time. By deploying a robust methodology spanning qualitative interviews, quantitative data analysis, and literature review, this study endeavours to furnish invaluable insights into poverty in the Highlands region of Papua New Guinea. Through the prism of triangulation and integration, it aspires to augment the academic understanding of poverty dynamics and elucidate evidence-based policy and development interventions aimed at nurturing inclusive and sustainable growth in resource-rich regions.

4. Review of Literature

The literature surrounding poverty in resource-rich regions, particularly within the context of Papua New Guinea's Highlands, provides valuable insights into the multifaceted dynamics at play. This review synthesizes diverse perspectives and theoretical frameworks to contextualize the study's findings within the broader scholarly discourse.

- **Historical Context:** The historical legacy of colonialism and post-colonial governance structures has significantly shaped the socio-economic landscape of Papua New Guinea. As highlighted by Fitzpatrick (2016), extractive industries, introduced during the colonial era, have perpetuated a pattern of resource exploitation and marginalization of Indigenous communities. This historical trajectory continues to influence contemporary patterns of poverty and inequality in the Highlands region.
- **Resource Governance and Land Tenure:** Resource governance and land tenure systems are central to understanding the dynamics of poverty in resource-rich regions. Studies by Filer (2014) and Gibson (2017) underscore the importance of customary land tenure systems in shaping access to resources and opportunities for local communities. However, challenges such as land disputes, inadequate legal frameworks, and external pressures from extractive industries complicate efforts to secure land rights and promote sustainable resource management.
- **Impact of Resource Extraction:** The impact of resource extraction on local economies and livelihoods is a recurrent theme in the literature. Research by Banks (2018) highlights the paradox of resource abundance and poverty in Papua New Guinea, attributing this phenomenon to limited local participation in extractive activities and the concentration of benefits in the hands of foreign corporations. Moreover, studies by Howes et al. (2019) emphasize the need for greater transparency and accountability in resource revenue management to ensure equitable distribution of benefits and mitigate negative social and environmental impacts.
- **Governance and Development Interventions:** The role of governance structures and development interventions in addressing poverty in resource-rich regions is a subject of ongoing debate. Analysis by Dinnen and Filer (2016) suggests that top-down development approaches often fail to adequately address the needs of marginalized communities, perpetuating cycles of poverty and dependency. Conversely, community-driven initiatives, as advocated by Filer and Varitimos (2020), hold promise for promoting inclusive development and empowering local actors to actively participate in decision-making processes.
- **Environmental Sustainability and Livelihood Diversification:** Environmental sustainability and livelihood diversification emerge as critical strategies for poverty alleviation in resource-rich regions. Research by McWilliam et al. (2018) underscores the importance of balancing economic development with environmental conservation to safeguard the long-term well-being of communities dependent on natural resources. Moreover, studies by Banks and Hambly (2017) highlight the potential of diversifying livelihoods through agriculture, tourism, and

small-scale enterprises to reduce dependency on extractive industries and enhance resilience to external shocks.

The literature review highlights the complex interplay of historical, socio-economic, and environmental factors shaping poverty in Papua New Guinea's Highlands region. By synthesizing diverse perspectives and empirical findings, this review provides a comprehensive foundation for understanding the challenges and opportunities inherent in addressing poverty amidst abundant natural resources. Building upon these insights, the subsequent analysis will offer nuanced interpretations and policy recommendations to inform evidence-based interventions for promoting inclusive and sustainable development in resource-rich regions.

5. Historical Background: An Overview

Papua New Guinea (PNG) emerged as an independent nation-state in 1975 (as previously it was occupied by the Portuguese colonial master in the sixteenth century, and this Pacific Island had suffered from any kind of industrialization and urbanization for 250 years (Agarwal, 2010). However, natural raw materials, minerals, gold, and other resources were exploited by the British colonial master since the first half of the twentieth century in the southern Papua region; and the northern (New Guinea) region was occupied by the German colonial master (Banks, 2018). Australia and Japan have also occupied this region. Since post-World War II, the World Bank and the UN-sponsored team led by Michael Faber set the PNG's developmental objectives, what it called: The eight Point Improvement Plan of self-reliance, social and regional equality, rural development, increased economic opportunities for citizens, decentralization, and an increase in the participation of women in economic and social activities. These themes underpinned the five National Goals and Directive Principles (NGDP) incorporated in the Constitution. The National Goals also called for commitments to environmental conservation and to ensure that development strategies reflected cultural values (Banks G. &, 2017).

Since the post-war period, the Australian government has been playing a leading role, and influencing the PNG's economic, bureaucratic/administrative, and judicial systems, and through providing its budgetary support, aid, trade and educational tie-ups. The PNG's key economic sectors (like mining, minerals, gold, copper, oil and gas), and administrative set-ups themselves reflected Australia's investment, operations, and consumption patterns, and acted as a wage setter for the formal/organized sector of the economy (Berkes, 2018). The nature of the PNG's bureaucracy has been continued reliance on Australian personnel in skilled professional positions within the public sector. The PNG's

physical infrastructures (particularly) in gold, mining, and other minerals, have been controlled and exploited directly by the Australian companies, and the Australian administration's influences can be seen in political, economic and social affairs in the urban areas (Kauzi, 2007). With a dual economic structure such as a small industrialized modern sector (including mining development and markedly monetary institution), the majority 87% of the population in rural areas has been maintaining traditional institutions, and dominant traditional (subsistence level) agricultural methods and value systems still exist.

Therefore, with a dual character of (modern and traditional economic and social arrangements), an integrated development strategy can be made to transform into a modern agricultural-based industrialized society. Papua New Guinea comprises the eastern half of the island of New Guinea, the second largest island in the world, which constitutes 85.0% of the land area, and approximately 600 islands, the largest of which are New Britain, New Ireland, Bougainville and Manus, accounting for the remaining 15.0%. The total land area is 462, 840 square kilometers with 8,300 kilometers of coastlines. An estimated 97.0% of the total land area is under customary tenure systems with absolute ownership vested in an indigenous community/group (what is called: land underpins the kinship ties social institutions), which controls its use and transfer. Most of the remaining 3.0% is alienated land acquired by Australians for public purposes or plantation development (Dinnen, 2016). These customary land tenure systems provide security for the 85.0% of the rural 87.0% population who directly depend on the land for their livelihood and well-being (Ellis, 2000).

6. The contradiction between the modern capitalist world practices and the Customary Tenure Land Relationships (CTLR) production system in Papua New Guinea

The contradiction between the modern capitalist world practices and the Customary Tenure Land Relationships (CTLR) production system in Papua New Guinea (PNG) is a salient feature of the nation's socio-economic landscape. In the context of global capitalism, characterized by market-driven economies and private ownership of resources, PNG's traditional CTLR system presents a distinct divergence. Within the capitalist paradigm, land is often commodified, and treated as a tradable asset subject to market forces and private ownership. This aligns with principles of economic efficiency and individual rights to property. In contrast, PNG's CTLR system is deeply rooted in customary practices and communal ownership, where land is considered not merely as a commodity but as a vital element of cultural identity, social cohesion, and spiritual significance. This incongruity manifests in various ways. For instance, multinational corporations seeking to exploit

PNG's abundant natural resources encounter resistance and complex negotiations when dealing with customary landowners. The CTLR system complicates processes such as land acquisition, resource extraction, and investment, as it requires navigating intricate networks of kinship, tribal affiliations, and traditional authority structures (Filer, 2020).

Moreover, the capitalist model often prioritizes profit maximization and short-term gains, leading to concerns about environmental degradation, social disruption, and unequal distribution of benefits. In contrast, the CTLR system emphasizes sustainability, intergenerational equity, and community well-being, reflecting a holistic approach to land stewardship deeply ingrained in Indigenous worldviews. This contradiction underscores broader tensions between globalization and cultural preservation, economic development and social justice. While proponents of capitalist practices advocate for modernization, efficiency, and economic growth, critics argue that such approaches risk marginalizing indigenous communities, eroding traditional values, and exacerbating inequality. Addressing this contradiction requires nuanced strategies that recognize the legitimacy of customary land rights while promoting sustainable development and equitable participation in the global economy. This may involve legal reforms to protect Indigenous land rights, mechanisms for meaningful consultation and consent in resource projects, and initiatives to empower local communities in decision-making processes. Ultimately, reconciling the tension between modern capitalism and traditional land tenure systems in PNG necessitates a balanced approach that respects cultural diversity, fosters inclusive development, and upholds principles of social and environmental justice.

7. Customary Land System & Limited Access for Rural People's Finance

The customary allocation of land for private business endeavours and developmental initiatives is perceived as a significant impediment to private investment in rural regions. The necessity of securing agreements with multiple proprietors exacerbates transactional expenses, while the uncertainty surrounding land tenure may act as a deterrent to investment (Gibson, 2017). Group tenure arrangements also serve to restrict the utilization of land as collateral, thereby constricting rural populations' avenues to financial resources. The framework of customary land tenure and compensation assertions continues to wield significant influence, profoundly impacting the private structuring of agriculturally oriented industrial entities and presenting impediments to land acquisition for commercial endeavours (Fitzpatrick, 2016). The Papua New Guinean Government is contemplating the establishment of an Economic Fishing Zone spanning 2.3 million square kilometres (Kauzi, 2007).

Papua New Guinea, endowed abundantly with petroleum, oil, and gas, as well as gold and various other natural resources, boasts a diverse array of environmental habitats, rendering its vegetation among the most opulent and varied globally. However, owing to climatic constraints, only approximately 13.0% of its total land expanse proves suitable for agricultural endeavours. The central highlands emerge as the most favourable region, characterized by conducive climates and soil compositions conducive to a myriad of crop cultivations. Additionally, certain island and north coast locales, enriched by the fertility of volcanic ash deposits, facilitate the cultivation of food and tree crops.

Forestation encompasses roughly 87.0% of the total land mass, equating to approximately 40 million hectares, thereby endowing the nation with notable diversity in organic agricultural production, commercial tree crops, and seafood resources. Noteworthy commercial assets include mineral reserves, gold, copper, and oil and gas deposits, prominently exemplified by the Panguna region on the island of Bougainville within the north Solomons province. Significant mines dot the landscape, particularly within the Western, Enga, New Ireland, Milne Bay, and Central provinces, while major petroleum projects and gold and copper industries are predominantly overseen by Australian and American entities within the Southern province.

Geographically, Papua New Guinea spans the eastern half of the West Pacific Island of New Guinea, encompassing the primary islands of New Britain, New Ireland, and the Autonomous Region of Bougainville, alongside approximately 600 smaller islands and atolls. Population densities tend to be elevated in the highland provinces, contrasting with the lower densities observed in the coastal provinces of Western, Gulf, Central, Oro, East, Sepik, West Sepik, and West New Britain.

With a population hovering around eight million, literacy rates remain modest, with only 20% of the populace literate, while approximately 87% of Papua New Guineans reside in rural settings. The nation pulsates with youthful energy. Its political, economic, trade and cultural ties intricately intertwine with Australia, Japan, New Zealand, Fiji (inclusive of 10 ASEAN nations), China, and India.

Papua New Guinea's economic trajectory and developmental prospects hold immense promise, contingent upon the maintenance of security and the establishment of modern infrastructural frameworks, encompassing railways, highways, seaports, and direct air connectivity both domestically and internationally, particularly with neighbouring nations such as Indonesia, Malaysia, Thailand, Vietnam, and other ASEAN countries, alongside China and India, to allure tourists. Leveraging its copious natural resources for economic expansion and advancement necessitates the provision of free education to all,

positioning the nation as a potential educational hub and enticing international tourist destinations. Such endeavours would undoubtedly serve as robust platforms for heightened economic engagement not solely with Asia but also with Australia, Europe, Latin America, Africa, and America.

The economy of Papua New Guinea stands as a realm dominated by two principal sectors: the agricultural, forestry, and fishing domains, which absorb the majority of the nation's labour force, albeit predominantly within informal realms; and the minerals and energy extraction sector, which serves as the primary contributor to export revenues and gross domestic product (GDP).

Papua New Guinea finds itself compelled to diversify its economic and commercial spheres, concurrently fostering tourism while establishing itself as a nucleus of educational and healthcare institutions and erecting international trade hubs. Undertaking such initiatives demands an integrated approach aimed at augmenting economic growth and development. Paramount among these endeavours is the imperative to bolster the ranks of skilled and well-educated professionals by instituting widespread access to free education, thereby generating fresh avenues of employment. Simultaneously, substantial investments in education and healthcare are requisite, complemented by robust initiatives in physical and modern infrastructural development.

Critical to this multifaceted approach is the enhancement of institutional capacity, human capital, and physical infrastructures, encompassing electricity, telecommunications, and transportation networks, all of which play pivotal roles in nurturing the growth of both public and private sectors.

Papua New Guinea's intricate cultural tapestry, deeply interwoven with tribal and ethnic identities, traditional social frameworks, and land-based relationships, engenders a landscape marked by distinctive challenges alongside noteworthy resilience. Amidst this milieu, formal employment opportunities for the burgeoning, predominantly youthful population remain scant, while environmental stewardship, urbanization, political fragmentation, social marginalization, and disparities in a resource-centric economy all pose significant risks (Howes, 2019). Owing to pandemic-induced restrictions and the international exposure of Papua New Guinea's economy, market demand has markedly diminished. Notably, Australia and New Zealand exert significant dominance over PNG's market landscape. The World Bank's estimations reveal a stark reality: PNG's real GDP endured a contraction of 3.8 per cent in 2020. Looking forward, the outlook remains somewhat promising, as the World Bank projects a rebound in economic growth to approximately 3.5 per cent in 2021–22. However, the sobering forecast indicates that by

2023, the economy is poised to shrink by nine per cent compared to the World Bank's pre-pandemic prognostications.

8. Poverty Ratio in PNG

With 37% of its populace subsisting below the international poverty threshold, denoted as US \$1.25 per diem, numerous progeny in Papua New Guinea are bereft of potable water sources and requisite sustenance. Approximately 28% of juveniles suffer from moderate to severe malnourishment, while 43% grapple with underweight stature, impeding their holistic physical development. Poverty stands as a primary catalyst for the proliferation of trafficking, exploitation, child labour, and educational dearth within the nation.

Each passing day witnesses the demise of over 30,000 children due to poverty-induced afflictions, translating to the grim reality of one child succumbing every 3 seconds. Children bear the brunt of destitution, with its pernicious ramifications entailing the abrogation of their rights.

The vanquishment of poverty within any societal framework mandates an unswerving dedication to robust and enduring initiatives, ensuring equitable access for all constituents to indispensable provisions encompassing rudimentary healthcare, nutritive sustenance, and premium education.

Since attaining independence, the populace of Papua New Guinea has contended with a myriad of socio-economic challenges including poverty, malnutrition, and unemployment. These adversities stem from a confluence of factors such as deficient resource governance, scant political resolve, ineffective governmental interventions at grassroots levels, lax law enforcement, pervasive corruption spanning hierarchical echelons, dearth of entrepreneurial acumen and knowledge, inadequate marketing infrastructure, societal indolence, and entrenched traditional tribal feudal attitudes and cultural norms, among others.

The prospect of Papua New Guinea harnessing its natural resources efficiently and optimizing its workforce effectively lies in the adoption of an "export-driven" agriculturally based industrialization strategy. This paradigm emphasizes a "people-centric" approach, spanning from local to regional to global spheres.

Agriculture and its allied sectors, including Floriculture and Horticulture, as well as commodities such as milk, honey, coconut, peanuts, palm oil, mushrooms, fisheries, forestry, mining, petroleum, gas, and services, are focal points of this strategy. The

emphasis is on value-added production and exports to bolster economic growth. As an alternative solution to address poverty in this resource-rich basin, promoting community-based resource management and sustainable livelihood initiatives merits exploration. This approach aims to empower local communities to leverage their natural resources for economic prosperity while preserving environmental integrity and enhancing social cohesion.

Key components of this alternative solution include:

- **Community-Based Resource Management:** Devolving resource management responsibilities to local communities strengthens customary land tenure systems, enabling informed decision-making about resource use, conservation, and development.
- **Capacity Building and Empowerment:** Equipping communities with knowledge, skills, and organizational capacity through training in sustainable practices and promoting women's participation fosters inclusivity and gender equity.
- **Diversification of Livelihoods:** Encouraging alternative income sources such as eco-tourism, agroforestry, and handicraft production reduces dependency on extractive industries, contributing to economic resilience, environmental conservation, and cultural preservation.
- **Partnerships and Collaborative Governance:** Forming partnerships among stakeholders facilitates dialogue, coordination, and shared decision-making, amplifying the impact of poverty alleviation efforts and promoting sustainable development outcomes.
- **Monitoring and Adaptive Management:** Continuous assessment, identification of challenges, and adjustment of strategies ensure accountability, transparency, and inclusivity, enhancing resilience in changing socio-economic and environmental conditions.

9. The Action Plan

The action plan revolves around the NBMS (Networks of Big-Medium-Small Size Villages) model, an area-based organization of rural poor aimed at strengthening interlinks and advancing the local economy through local value addition and technological up-gradation. Key sectors for focus include agriculture, manufacturing, health, education, renewable energy, micro-finance, transportation, textiles, housing, forestry, and mining.

Implementation requires avoiding mutual competition among small producers, transferring intermediate-range technology, organizing landless labour, artisans, and poor peasants, and establishing area-based multi-sectoral large-scale production networks/systems. This comprehensive approach underscores the imperative of community empowerment, collaboration, and innovation to realize sustainable development and alleviate poverty effectively.

10. Conclusion

Papua New Guinea (PNG) encompasses vast rural expanses, where approximately 40% of its population has largely remained detached from the modern world since the colonial epoch. These remote and often inaccessible regions serve as bastions of indigenous cultures, traditions, and modes of existence that have persevered amidst the currents of globalization and urbanization.

The legacy of colonialism has left enduring marks on PNG's socio-economic terrain, with rural locales bearing the weight of historical disregard and marginalization. Despite decades of independence, endeavours in infrastructure development, and initiatives toward modernization, substantial segments of the rural populace persist in a state of relative seclusion, disconnected from mainstream economic activities and technological advancements.

The reasons underpinning this persistent detachment are manifold. Geographical factors such as rugged terrain, dense forests, and scattered island communities pose formidable challenges to transportation, communication, and access to fundamental services. Additionally, historical patterns of land ownership and resource allocation, moulded by colonial policies and ensuing socio-political dynamics, have solidified disparities and impeded progress in rural areas.

In these remote hinterlands, traditional subsistence livelihoods endure, revolving around agriculture, fishing, and hunting, with minimal involvement in cash-based economies. Many communities adhere to customary land tenure systems, wherein land is communally owned and administered in accordance with ancestral customs and kinship bonds. This communal approach to land ownership sharply contrasts with Western concepts of private property rights, contributing to the preservation of Indigenous cultures and social cohesion (McWilliam, 2018). The disassociation of rural populations from the modern world reverberates across governance, service provision, and socio-economic outcomes. Governmental institutions and infrastructure are frequently sparse or inadequately equipped in remote regions, exacerbating challenges related to healthcare,

education, and livelihood opportunities. Limited access to markets and economic avenues perpetuates cycles of impoverishment and marginalization, constraining prospects for inclusive development.

Despite these adversities, resilience and ingenuity shine through within rural PNG communities. Local initiatives, community-led development endeavours, and traditional knowledge systems play pivotal roles in sustaining livelihoods and fostering resilience amidst adversity. Furthermore, endeavours to bridge the rural-urban gap through enhanced infrastructure, decentralization initiatives, and inclusive development strategies are underway, albeit with varying degrees of success.

Papua New Guinea's expansive rural landscapes harbour a substantial portion of the populace detached from the modern world, reflecting a complex interplay of historical legacies, geographical constraints, and socio-economic dynamics. Addressing the challenges confronting rural communities necessitates holistic approaches that acknowledge and honour indigenous cultures, empower local governance structures, and advance equitable and sustainable development pathways.

By addressing the aims outlined above and adhering to the defined scope, this study aims to contribute valuable insights into the complex phenomenon of poverty amidst plenty in Papua New Guinea's Highlands region (Network, 2017). Through rigorous analysis and thoughtful recommendations, it endeavours to inform evidence-based policy and development interventions that promote inclusive growth and equitable prosperity in resource-rich regions worldwide.

Recommendations

- Focus Efforts, Manpower, and Resources Strategically: Channel resources and manpower towards endeavours where the projected returns are optimized, ensuring efficient allocation of efforts and resources.
- Adapt Public Service Standards to Local Contexts: Embrace benchmarks for public services and amenities tailored to the specific needs and conditions of the region, eschewing rigid adherence to European or Australian norms in favour of contextually relevant standards.
- Empower Indigenous Communities: Enact policies that grant Indigenous peoples greater participation and responsibilities, recognizing their inherent knowledge and fostering ownership of development initiatives within their communities.
- Establish Special Economic and Business Zones: Designate specific zones to incentivize economic activities, attract investment, and ignite local

entrepreneurship, thereby catalyzing economic growth and generating employment opportunities.

- Ensure 24-hour Power Supply: Prioritize the provision of uninterrupted electricity supply to rural areas, enabling businesses to operate efficiently and elevating living standards for residents.
- Uphold Security, Law, and Order: Safeguard a secure and stable environment conducive to economic endeavours, social harmony, and community well-being through robust security measures and effective law enforcement mechanisms.
- Provide Tax Holidays and Relief for Rural Entrepreneurs: Extend tax incentives, such as holidays or relief, to bolster and sustain rural entrepreneurship, fostering economic dynamism and nurturing local enterprise development.
- Enhance Rural Infrastructure: Introduce targeted initiatives aimed at enhancing rural infrastructure, including transportation networks, water supply systems, and telecommunications, to enhance connectivity, accessibility, and overall quality of life for rural dwellers.

The alternative solution of promoting community-based resource management and sustainable livelihood initiatives offers a holistic and empowering approach to addressing poverty in Papua New Guinea's richly endowed basin. By empowering local communities, diversifying livelihoods, fostering partnerships, and embracing adaptive management practices, this solution has the potential to catalyze transformative change, promoting inclusive and sustainable development that benefits present and future generations.

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