
Charting paths to Pacific integration: A comparative study of FIPIC and CPIDF strategies for sustainable, inclusive, and self-reliant development in Papua New Guinea

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Abstract

This study presents a comprehensive comparative analysis of the integration methodologies utilized by the Forum for India-Pacific Islands Cooperation (FIPIC) and the China-Pacific Island Countries Economic Development and Cooperation Forum (CPIDF), focusing specifically on Papua New Guinea (PNG). The primary objective is to meticulously examine how these initiatives have influenced and shaped PNG's development trajectory. The analysis is structured around four core dimensions: integration approaches, objectives, achievements, and challenges. The methodology involves an exhaustive review of existing literature on FIPIC, CPIDF, and PNG's interactions with India and China, encompassing scholarly articles, reports, and official documents from government entities and international organizations. Additionally, insights from various mediums such as academic journals, newspapers, magazines, PhD theses, news agencies, YouTube, and webinars are incorporated to broaden the research scope. The paper advocates for a judicious and balanced approach to economic development, emphasizing the importance of preserving natural resources for future generations. It underscores the significance of adopting sustainable practices and policies that strike an equitable balance between present and future societal needs. Through its comprehensive analysis and recommendations, this paper aims to contribute to the ongoing discourse on sustainable development and economic cooperation in the Pacific region. PNG serves as a crucial case study, allowing for an assessment of the integration strategies, investments, and partnerships facilitated by FIPIC and CPIDF toward achieving sustainability, inclusiveness, and self-reliance goals.

1. Introduction

The term "Pacific Ocean" finds its origin in the Latin phrase *Mare Pacificum*, denoting a "peaceful sea," attributed to the Portuguese explorer Ferdinand Magellan. Geographically, this vast expanse is flanked by the Arctic to the north and the Antarctic to the south, bordered by Asia and Australia to the west, and the Americas to the east. The Pacific Ocean hosts eighteen sovereign nations, including Australia, Fiji, Japan, Kiribati, Marshall Islands, Micronesia, Nauru, New Zealand, Palau, Solomon Islands, and Papua New Guinea.

Furthermore, twenty-three nations hold membership in the Indian Ocean Rim Association, encompassing Australia, Bangladesh, Comoros, France, India, Indonesia, Iran, Kenya, Madagascar, Malaysia, Maldives, Mauritius, Mozambique, Oman, Seychelles, Singapore, Somalia, South Africa, Sri Lanka, Tanzania, Thailand, the United Arab Emirates (UAE), and Yemen. The Indo-Pacific region spans the Pacific Rim, Southeast Asia, South Asia, West Asia, and Eastern and Southern Africa, hosting approximately 2.5 billion individuals, and constituting 64 per cent of the global populace.

The Pacific and Indian Oceans harbour extensive natural resources, particularly oil and gas reserves. Additionally, they serve as primary conduits for 70-80 per cent of global trade routes, facilitating seamless commerce flow between hemispheres. Nonetheless, their Blue Economy faces formidable challenges, notably climate change, widespread ocean pollution, unsustainable marine resource exploitation, and alarming biodiversity loss.

Historically, the South Pacific, with its cluster of island nations, has attracted global powers' attention due to its geopolitical significance and abundant natural resources. This expansive and diverse region, comprising numerous island nations and territories, relies predominantly on agriculture, tourism, and fisheries. However, it is increasingly becoming a focal point for geopolitical initiatives.

India and China have been intricately involved in economic integration endeavours within the Pacific region, albeit with nuanced disparities in their approaches and focal points. Both nations have sought to foster economic integration through mechanisms such as the Forum for India-Pacific Islands Cooperation (FIPIC) and the China-Pacific Island Countries Economic Development and Cooperation Forum (CPIDF), alongside engaging in bilateral trade and investment ventures.

India's approach is notably underscored by its emphasis on capacity building, sustainable development, and the cultivation of strategic partnerships. Through initiatives like FIPIC, India prioritizes empowering Pacific nations with the necessary skills and resources for long-term prosperity. Moreover, India leverages bilateral trade agreements and investment engagements to foster mutually beneficial economic ties and regional stability.

Conversely, China's engagement strategy is marked by substantial infrastructure investments, economic aid, and expansive connectivity projects, prominently epitomized by the Belt and Road Initiatives (BRI). By spearheading large-scale infrastructural developments, China aims to bolster connectivity and economic growth across the Pacific region, thus exerting considerable influence on regional dynamics.

These differing approaches wield significant implications for the economic development, geopolitics, and broader regional landscape of the Pacific region. While India's focus on capacity building and sustainable development aligns with the Pacific nations' aspirations for self-reliance and inclusivity, China's infrastructure-centric approach has the potential to reshape regional dynamics and foster closer economic ties with Pacific nations. The interplay between these contrasting strategies underscores the evolving dynamics of economic integration and geopolitical competition within the Pacific region.

2. Aims & Scops

The overarching aim of both the Forum for India-Pacific Islands Cooperation (FIPIC) and the China-Pacific Islands Economic Development and Cooperation Forum (CPIDF) within the framework of Papua New Guinea (PNG) is to cultivate a conducive environment conducive to achieving self-reliance objectives intertwined with sustainable and inclusive economic progress. These initiatives aspire to enhance PNG's capability to independently steer its development trajectory while simultaneously safeguarding ecological integrity and fostering the inclusion of marginalized communities.

2.1. Comprehending Integration Approaches:

A nuanced examination of the integration methodologies employed by FIPIC and CPIDF in their engagement with PNG encompasses diplomatic dialogues, developmental aid, and trade affiliations. The overarching goal of this comparative scrutiny is to meticulously analyze and juxtapose the strategies utilized by both forums in integrating with PNG, involving detailed scrutiny of their fundamental principles, tactics, and methodologies in PNG's context.

2.2. Assessing the Impact of FIPIC and CPIDF on PNG's Development:

A comprehensive assessment of the ramifications of FIPIC and CPIDF initiatives on PNG's socio-economic terrain demands a thorough examination of their contributions to sustainability, inclusivity, and self-reliance. This entails a meticulous exploration of the degree to which these initiatives have stimulated PNG's economic growth, facilitated infrastructure advancement, and augmented societal well-being at large.

2.3. Discerning Strengths and Weaknesses:

The analysis endeavours to identify the inherent strengths and vulnerabilities of both FIPIC and CPIDF in their dealings with Papua New Guinea. It encompasses a comprehensive evaluation of their accomplishments and encountered challenges, coupled with an assessment of their efficacy in realizing their respective objectives.

2.4. Spotlighting Areas of Synergy and Collaboration:

The comparative analysis seeks to pinpoint areas of synergy and collaborative potential between FIPIC and CPIDF in their interactions with Papua New Guinea. This involves exploring avenues for joint initiatives, leveraging shared resources, and initiating collaborative ventures aimed at fostering a positive impact on PNG's socio-economic landscape.

3. Methodology:

This study employs a qualitative comparative analysis approach to meticulously scrutinize and contrast the integration strategies of both the Forum for India-Pacific Islands Cooperation (FIPIC) and the China-Pacific Island Countries Economic Development and Cooperation Forum (CPIDF) within the specific milieu of Papua New Guinea (PNG).

Data Collection procedures entail acquiring primary data and insights through interviews conducted with a spectrum of stakeholders, including government officials, policymakers, representatives of business entities, diplomatic missions, and civil society organizations engaged in FIPIC and CPIDF affairs within PNG. Additionally, data is sourced from official documents, reports, and statements issued by FIPIC, CPIDF, and other pertinent stakeholders. Secondary data supplements these primary sources, drawn from academic literature, media outlets, and official documents, enriching the analysis.

For Data Analysis, qualitative methodologies are employed, utilizing thematic coding and content analysis techniques to distill patterns, trends, and discrepancies within the approaches of FIPIC and CPIDF. The study meticulously compares and contrasts the outcomes of their initiatives concerning PNG's development objectives, with particular emphasis on sustainability, inclusiveness, and self-reliance.

Further examination involves an in-depth analysis of policy frameworks, agreements, and integration endeavors instigated by both FIPIC and CPIDF in alignment with PNG's developmental priorities. The selection of qualitative methodologies is deliberate, owing to their capability to unveil nuanced insights into the intricacies of integration processes and their implications for PNG's developmental trajectory.

Data sourcing encompasses a diverse array of materials, including scholarly literature, official documents, reports, and primary interviews with key stakeholders. Scholarly literature is rigorously examined to garner a comprehensive understanding of pertinent theories and concepts concerning regional integration and the roles of FIPIC and CPIDF. Meanwhile, official documents and reports from the governments of India, China, and PNG, in conjunction with inputs from international organizations, are meticulously analyzed to grasp the policies, strategies, and initiatives of FIPIC and CPIDF in PNG.

Primary interviews are conducted with representatives from the governments of India and China, including the Indian High Commissioner to PNG and the Chinese Ambassador to PNG, alongside experts and scholars in international relations, regional integration, and development studies. These interviews aim to extract nuanced perspectives on the motivations, objectives, and impacts of FIPIC and CPIDF in PNG, while also addressing the challenges and prospects for future engagements.

The amassed data undergoes thematic analysis, a qualitative methodology involving the identification, analysis, and elucidation of patterns or themes within the dataset. These emergent themes serve as the basis for juxtaposing the approaches of FIPIC and CPIDF to integration in PNG, while also assessing their repercussions on PNG's developmental trajectory.

4. Literature Review:

A comprehensive survey of existing literature on the Forum for India-Pacific Islands Cooperation (FIPIC) and the China-Pacific Island Countries Economic Development and Cooperation Forum (CPIDF) reveals a diverse array of research, comprising scholarly analyses, policy assessments, and empirical studies. These studies offer valuable insights into various facets of FIPIC and CPIDF engagements, providing nuanced perspectives on diplomatic, economic, environmental, and socio-cultural dimensions of India and China's relations with Pacific Island countries. The literature not only enriches our understanding of the complexities, opportunities, and challenges inherent in fostering cooperation and partnership in the region but also serves as a guide for future research endeavours and policy interventions.

4.1. Objectives and Mandates:

Researchers have delved into the origins and evolution of FIPIC and CPIDF, shedding light on their objectives and mandates as platforms for diplomatic engagement and economic cooperation between India/China and Pacific Island countries (Dowling, 2017; Naidu & Prasad, 2019). These studies elucidate the stated goals of FIPIC and CPIDF, which include promoting sustainable development, enhancing connectivity, addressing climate change, and fostering people-to-people exchanges (Naidu, 2020; Zhang & Li, 2021).

4.2. Regional Dynamics and Geopolitical Implications:

Scholars have scrutinized the geopolitical implications of India and China's engagements with Pacific Island nations through FIPIC and CPIDF, analyzing how these interactions intersect with broader geopolitical rivalries and strategic interests in the Indo-Pacific region (De, 2018; Fravel, 2019). These studies discuss the implications of India's "Act East" policy and China's Belt and Road Initiative (BRI) for their respective engagements in the Pacific, considering reactions from regional actors and stakeholders (Sahni & Laskar, 2020; Wang & Zhang, 2020).

4.3. Development Assistance and Investment:

Research assesses the nature and impact of development assistance and investment projects initiated by India and China through FIPIC and CPIDF, examining sectors targeted for investment and socio-economic impacts on recipient countries (Lin, 2018; Nayyar & Ahmad, 2020). Comparative analyses explore differences in approaches, modalities, and motivations behind India and China's development assistance to Pacific Island nations, as well as implications for local economies and debt sustainability (Kumar & Lal, 2019; Zhang & Chand, 2021).

4.4. Sustainability and Environmental Concerns:

Scholars investigate environmental dimensions of FIPIC and CPIDF engagements, focusing on climate change mitigation, renewable energy development, marine conservation, and sustainable resource management (Cheng & Xie, 2019; Rao & Sharma, 2020). Studies assess contributions of India and China's initiatives under FIPIC and CPIDF to sustainable development goals, environmental protection, and resilience-building in the face of climate change impacts (Dai & Li, 2018; Singh & Soni, 2021).

4.5. Soft Power and Cultural Diplomacy:

Research explores the role of cultural diplomacy and soft power initiatives within FIPIC and CPIDF frameworks, analyzing cultural events, educational scholarships, and heritage preservation efforts (Kaur & Dhillon, 2018; Xie & Huang, 2020). Comparative studies assess effectiveness of India and China's cultural diplomacy strategies in the Pacific region and implications for regional influence and soft power projection (Chang, 2017; Huang & Zhao, 2021).

4.6. Challenges and Future Directions:

Scholars identify challenges and opportunities in India and China's engagements with Pacific Island nations through FIPIC and CPIDF, discussing issues such as governance capacity, project sustainability, debt burdens, and geopolitical tensions (Roy & Kumar, 2019; Tan & Chan, 2020). Policy recommendations are proposed to enhance the effectiveness, inclusivity, and sustainability of FIPIC and CPIDF initiatives, addressing emerging challenges and promoting regional cooperation (Gupta & Dey, 2021; Sharma & Patel, 2022).

The existing literature on FIPIC, CPIDF, and PNG's engagement with India and China offers valuable insights into the economic, political, and social dynamics within the region. While these initiatives have made significant strides in fostering cooperation, they have also faced numerous challenges. Further research is warranted to explore the repercussions of these initiatives on PNG's developmental trajectory, considering the roles played by other key actors within the region.

5. An Overview of Respective Efforts of India and China in the Pacific Islands

India and China have both markedly increased their engagement with the Pacific Islands in recent years, albeit with contrasting approaches and objectives.

5.1. India's Endeavors in the Pacific Islands

India spearheaded the Forum for India-Pacific Islands Cooperation (FIPIC) in 2014, establishing a platform for dialogue and collaboration with 14 Pacific Island nations. FIPIC is geared towards augmenting cooperation across diverse domains such as climate change mitigation, sustainable development, trade facilitation, investment promotion, and capacity enhancement. India has unveiled a myriad of initiatives under FIPIC, encompassing lines of credit for infrastructure development, scholarships for educational pursuits, and multifaceted capacity-building programs.

5.2. Maritime Collaboration

India has been actively engaged in fostering maritime security cooperation with Pacific Island nations, endeavouring to safeguard vital sea routes, combat piracy, and ensure maritime safety. Initiatives such as coordinated patrols, maritime surveillance initiatives, and capacity-building endeavours in maritime domain awareness have been initiated to bolster maritime security in the region.

5.3. Humanitarian Assistance and Disaster Relief (HADR)

India has extended humanitarian assistance and disaster relief to Pacific Island countries grappling with natural calamities, including cyclones and earthquakes. India's HADR endeavours encompass the provision of relief supplies, medical aid, and support for disaster response and recovery undertakings. India has consistently provided substantial humanitarian aid and disaster relief to PNG. Notably, India dispatched a consignment of 7.2 million doses of anti-retroviral drugs, valued at US\$3 million, in addition to supplying computers and peripherals worth approximately US\$760,000 under India's Regional Assistance to Pacific Island Countries. Moreover, financial assistance totaling US\$1 million was extended to PNG for earthquake relief and restoration efforts following the Ulawun volcano eruption. Additionally, a donation of 132,000 doses of the AstraZeneca Vaccine, valued at USD 450,000, was facilitated by M/s. Mysore Paints and Varnish Ltd.

5.4. Trade and Investment

India has been actively involved in fostering trade and investment ties in the South Pacific region. As a member of the South Pacific Community (SPC), India benefits from access to the Pacific Agreement on Closer Economic Relations (PACER) Plus, which facilitates economic integration among Pacific Island Countries (PICs). India has been exploring avenues for trade and investment in Papua New Guinea (PNG) and other South Pacific nations, particularly focusing on sectors such as agriculture, mining, renewable energy, infrastructure development, healthcare, education, and information technology. Bilateral trade agreements and preferential trade arrangements have been deliberated to foster economic cooperation and integration between India and the Pacific Islands.

Table-1. Bilateral trade figures between India & PNG for the last few years are as follows:

Year	Export from India to PNG (USD Million)	Import into India from PNG (USD Million)	Total Bilateral Trade in USD Million
2018-19	14.72	88.97	138.69
2019-20	56.02	55.70	111.72
2020-21	56.17	125.85	182.02
2021-22	69.95	357.58	427.53
2022-23	85.84	643.36	729.20

Source: Department of Commerce, Government of India (2023)

5.5. India's Export Items to Papua New Guinea (PNG):

5.5.1. Textiles

India boasts a significant export share in textiles, comprising garments, fabrics, and yarn to cater to PNG's textile requirements. Renowned for its quality and diverse offerings, the Indian textile industry stands as a preferred choice for PNG's apparel and textile demands.

5.5.2. Merchandise

Diverse consumer goods, including electronics, household essentials, and personal care products, constitute India's merchandise exports to PNG. Leveraging its robust manufacturing capabilities and competitive pricing, India emerges as an attractive sourcing destination for such commodities within the PNG market.

5.5.3. Machinery & Equipment

India's proficiency in manufacturing machinery and equipment spans across various sectors, encompassing agriculture, construction, and industrial machinery. These products find resonance in PNG's infrastructural and developmental endeavours, driving demand for India's machinery exports.

5.5.4. Food Items

Indian culinary delights, ranging from spices, tea, rice to processed foods, enjoy popularity in PNG, owing to their superior quality and distinct flavors. The Indian food industry's diversity caters to PNG's varied culinary preferences, further solidifying India's foothold in PNG's food imports.

5.5.5. Pharma & Surgical Items

India emerges as a leading exporter of pharmaceutical products and surgical instruments to PNG, propelled by its hallmark attributes of quality and affordability. India's pharmaceutical prowess positions it as a preferred source for healthcare products in PNG.

5.5.6. Rubber

India's exports encompass rubber and rubber-based products, including tires, hoses, and allied items, to meet PNG's demands. Renowned for its premium quality and competitive pricing, India's rubber industry serves as a key contributor to PNG's import portfolio.

5.6. India's Import Items from Papua New Guinea (PNG):

5.6.1. Nickel

PNG, as a prominent nickel producer, supplies India with this valuable metal, essential for various industries such as electronics, aerospace, and automotive. India imports nickel from PNG to meet its industrial requisites.

5.6.2. Copper

India imports copper from PNG, recognizing its significance across diverse industries including construction, electronics, and telecommunications. Copper imports from PNG contribute significantly to India's industrial and infrastructural landscape.

5.6.3. Pearls

PNG's reputation for high-quality pearls resonates with Indian consumers, driving imports for jewelry and luxury items production. Indian markets value the superior quality and allure of PNG pearls, facilitating their importation.

5.6.4. Copper Ores

In addition to refined copper, India imports copper ores from PNG, critical for various industrial applications including electronics, construction, and manufacturing processes.

5.6.5. Wood & its Articles

India sources wood and wood-based products, such as furniture and handicrafts, from PNG, capitalizing on the latter's rich timber resources. PNG's wood products, renowned for their quality and craftsmanship, find resonance in India's import market.

5.6.6. Cocoa

PNG's cocoa bean production serves as a vital source for India's cocoa-based products, particularly chocolate and confectionery items. India imports cocoa beans from PNG to meet domestic demand for cocoa-derived products.

5.7. India's Investment Cooperation in PNG

India's investment endeavours in Papua New Guinea (PNG) have reached a substantial scale, amounting to US\$100 million, primarily directed towards infrastructural development projects. A noteworthy allocation of US\$60 million has been earmarked for the Bayer-Madang Road project, with the remaining US\$40 million dedicated to the Hoskins-Kimbe Road project.

During Prime Minister Narendra Modi's visit to PNG from May 21st to 23rd, 2023, in conjunction with the 3rd Forum for India-Pacific Islands Cooperation (FIPIC), a comprehensive 12-step action plan was unveiled. This action plan underscores India's commitment to fortifying its partnership with Pacific Island Countries, encompassing initiatives spanning healthcare, renewable energy, information technology, and education.

FIPIC's focal domains, spanning trade, investment, climate change, and capacity building, underscore India's multifaceted support to Pacific Island nations. India's endeavours extend beyond financial assistance, encompassing grants, concessional credit, and technical expertise, epitomizing its commitment to fostering sustainable development and mutual prosperity in the region.

Despite commendable efforts, India's engagement with the South Pacific faces notable challenges, notably the lack of connectivity impeding trade and investment. Moreover, India contends with stiff competition from other global players, including China, the USA, Japan, the UK, Germany, and Australia, who demonstrate heightened activity across various sectors, amplifying the competitive landscape in the region.

5.8. Cultural Collaboration and People-to-People Exchanges

India has conscientiously nurtured cultural ties and facilitated people-to-people exchanges with South Pacific nations. Manifesting its steadfast commitment, India has extended scholarships to students from South Pacific countries, enabling them to pursue education in Indian academic institutions. Moreover, India has orchestrated a plethora of cultural events and exhibitions throughout the region, meticulously curated to showcase the diverse tapestry of Indian culture and heritage.

In addition to these cultural initiatives, India has intricately embedded itself in conservation efforts within the South Pacific. With a discerning eye toward preserving the region's abundant biodiversity and natural splendor, India has taken proactive measures to contribute to conservation initiatives. This unwavering involvement underscores India's dedication to safeguarding the environmental treasures of the South Pacific, ensuring their enduring existence for generations to come.

6. China's Engagement in the Pacific Islands:

China's presence in the South Pacific, particularly in Papua New Guinea (PNG), has been propelled significantly by its extensive economic endeavours, chiefly epitomized by the Belt and Road Initiative (BRI). The BRI serves as a conduit through which China aims to cultivate connectivity and enhance economic collaboration across diverse geographies, including the Pacific region.

Established in 2006, the China-Pacific Island Countries Economic Development and Cooperation Forum (CPIDF) stands as a pivotal mechanism for fostering economic cooperation and developmental initiatives among Pacific Island nations. Central to CPIDF's mandate is the facilitation of infrastructure development, investment facilitation, trade enhancement, and capacity building across various sectors, encompassing agriculture, fisheries, tourism, and telecommunications.

The overarching goal of CPIDF is to cultivate a conducive environment for sustainable economic growth and mutual benefit among participating nations. Through targeted initiatives and collaborative efforts, CPIDF endeavours to bolster the socio-economic fabric of Pacific Island countries, including PNG, by addressing critical developmental needs and promoting inclusive prosperity.

Within the ambit of the Belt and Road Initiative (BRI), Chinese investment in Papua New Guinea has materialized through multifarious channels, prominently embodied by the China-Pacific Island Countries Economic Development and Cooperation Forum (CPIDF). Established in 2006, CPIDF stands as a pivotal conduit for fostering trade and investment, infrastructure development, and cultural exchanges between China and Pacific Island nations, encompassing PNG.

Chinese investment in Papua New Guinea under the auspices of the BRI has predominantly concentrated on infrastructure development. This entails the construction of vital transportation arteries such as roads, bridges, and ports, geared towards amplifying connectivity and expediting trade. Additionally, China's engagement has extended to the energy and telecommunications sectors, thus contributing to the overarching socio-economic advancement of PNG.

Nevertheless, amid the infrastructural strides catalyzed by Chinese investment, challenges have arisen. Paramount among these challenges is the opacity enshrouding China's aid endeavours, giving rise to apprehensions regarding debt sustainability and environmental ramifications. The dearth of transparency has spurred scrutiny from various quarters, including international observers and select Pacific Island nations, prompting an interrogation of the enduring implications of Chinese investment in the region.

Furthermore, China's involvement in Papua New Guinea has intermittently encountered censure, with allegations of leveraging aid as a tool for political influence. Such apprehensions underscore the intricate dynamics inherent in navigating the socio-political landscape of the region, emphasizing the imperative of fostering transparent and mutually beneficial partnerships in engendering sustainable development.

In essence, Chinese investment through the BRI in Papua New Guinea presents a dichotomy of opportunities and challenges. While it possesses the potential to ignite economic growth and infrastructural development, the imperative of ensuring transparency, accountability, and mutual respect looms large in nurturing sustainable and inclusive development in the Pacific region (Liqiang, 2023).

6.1. China's Contribution to Global Environmental Initiatives:

The urgency of the climate crisis has underscored the need for a unified global effort to mitigate carbon emissions. Recognizing this imperative, China has embarked on a significant journey to promote green and low-carbon development across 43 developing nations directly engaged in the Belt and Road Initiative (BRI). These efforts entail a multifaceted approach, encompassing environmental protection measures, legislative enactments, regulations, and standards, as well as comprehensive environmental policies and management protocols. Furthermore, China has actively fostered technical exchanges and industry collaborations, all aimed at forging a cleaner and aesthetically enriched global landscape.

China's steadfast commitment to environmental stewardship is evident in its remarkable economic expansion, which has consistently averaged a commendable 6 per cent annually. Notably, this growth has been achieved while maintaining an average annual energy consumption growth rate of a mere 3 per cent. Particularly impressive is China's substantial reduction of carbon dioxide emissions per unit of GDP by approximately 35 per cent, resulting in a commendable reduction of approximately 3.7 billion metric tons of carbon dioxide emissions. This remarkable achievement is further underscored by China's leadership in renewable energy, with installed capacity surpassing 1.2 billion kilowatts in 2022, marking a significant milestone by surpassing that of coal-fired power for the first time.

Aligned with its resolute emphasis on green energy and finance, China is actively positioning itself to seamlessly integrate into the global green industry and value chains. This endeavour includes enhancing capacities in advancing green investment and financing mechanisms, while sharing its paradigm on green development and innovative solutions for pollution mitigation and carbon dioxide emissions abatement.

Through the Belt and Road Initiative, China has facilitated an augmentation of people-to-people connectivity and heightened integration among more than 140 nations. With investments exceeding USD 200 billion, these efforts aim to foster the development and scalability of clean energy solutions and allocate resources towards carbon sequestration initiatives. This holistic and far-reaching approach to green cooperation not only benefits China but also makes a substantial contribution to global initiatives aimed at combating climate change and realizing sustainable development objectives.

The comparative analysis of the Forum for India-Pacific Islands Cooperation (FIPIC) and the China-Pacific Island Countries Economic Development and Cooperation Forum (CPIDF) reveals stark contrasts in their approaches to integration, objectives, achievements, and challenges.

6.2. FIPIC's Approaches to Integration:

FIPIC distinguishes itself through a comprehensive and inclusive strategy, emphasizing capacity building, people-to-people exchanges, and sustainable development. India's engagement with Papua New Guinea (PNG) focuses on enriching the region's human capital and nurturing enduring partnerships through educational and cultural exchanges, healthcare initiatives, and technical assistance.

In contrast, CPIDF adopts a more infrastructure-centric approach to integration, prioritizing large-scale infrastructure projects such as port development and transportation networks. China's engagement with PNG aims to foster economic development and trade, with a keen focus on enhancing connectivity and catalyzing economic growth through infrastructure expansion.

6.3. FIPIC's Objectives:

FIPIC's primary objectives in PNG revolve around fostering sustainable development, bolstering economic cooperation, and fortifying regional security. India's overarching aim is to foster mutual trust and

comprehension, facilitating the exchange of knowledge and expertise in areas like renewable energy, healthcare, and disaster relief.

Conversely, CPIDF's objectives in PNG predominantly center on economic development and trade enhancement. China's principal objective is to augment connectivity, broaden trade and investment horizons, and stimulate regional economic growth through infrastructural enhancements.

6.4. FIPIC's Achievements:

FIPIC has made considerable strides in strengthening ties between India and Papua New Guinea (PNG). India has provided technical expertise and financial support for a range of ventures, including renewable energy projects, healthcare initiatives, and disaster relief endeavours. India's involvement has also catalyzed capacity building and human resource development in PNG.

Similarly, CPIDF has achieved notable success in advancing China's economic interests in PNG. China has emerged as a significant investor in PNG, funding critical infrastructure projects and extending financial assistance to the nation. China's engagement has further propelled the development of PNG's infrastructure and transportation networks.

6.5. FIPIC's Challenges:

FIPIC's engagement with Papua New Guinea (PNG) encounters a significant obstacle in the form of limited connectivity between India and the Pacific Island nations, hampering trade and investment. India also contends with competition from other nations, notably China and Australia, which have exhibited greater activity in the region.

7. CPIDF's Challenges:

China's involvement with PNG is beset by several challenges. Foremost among them is the lack of transparency and accountability in China's aid initiatives, giving rise to concerns about debt sustainability and environmental impact. Additionally, China has faced criticism from select Pacific Island countries, which have accused China of utilizing aid for political leverage.

While FIPIC and CPIDF share the common goal of fortifying their countries' ties with Papua New Guinea (PNG), they pursue distinct approaches to integration and harbor divergent objectives. FIPIC emphasizes capacity building and sustainable development, whereas CPIDF places greater emphasis on infrastructure development and economic expansion. Each approach has its merits and drawbacks, and their evolution in the years ahead will be intriguing to observe. Nevertheless, it is evident that both India and China are steadfast in their efforts to bolster their relations with PNG, and their involvement with the country will undeniably shape its developmental trajectory in the foreseeable future.

8. An Alternative Model of Economic Development Towards Self-reliance and Sustainability: A Case Study of Papua New Guinea

8.1. Socio-economic Objective Reality/Condition of Papua New Guinea

Papua New Guinea (PNG) stands as the third-largest island country in the South Pacific, characterized by its enduring commitment to environmental preservation, biodiversity conservation, and the preservation of traditional cultural norms entrenched within its rural communities, intricately intertwined with the natural landscape. Despite commendable efforts in these domains, a significant segment of the population, constituting approximately three-quarters, grapples with the harsh realities of poverty, illiteracy, and unemployment. A staggering 85% of the populace remains devoid of access to electricity, while essential educational and healthcare services in remote rural areas stagnate in a state of underdevelopment.

While urban and semi-urban hubs such as Lae, Madang, Goroka, and Port Moresby have witnessed industrial proliferation, PNG's landscape remains conspicuously devoid of notable domestic industrial magnates or multinational conglomerates. Instead, the prevailing commercial ethos is marked by the dominance of "comprador petty bourgeoisie/traders." Both the agricultural and domestic/national industries, spanning manufacturing and services, persistently linger on the periphery of the economic spectrum.

The trajectory of industrialization, extending from metropolitan urban enclaves to grassroots communities, remains largely incomplete in PNG. This deficiency can be attributed to various contributing factors, including a shortage of financial capital, a dearth of technical expertise, a scarcity of skilled labor, inadequacies in marketing networks, deficiencies in infrastructural development, and shortcomings in people-to-people connectivity and inter-linkages at regional, national, and international levels.

Foreign multinational corporations (MNCs) wield a notable presence in PNG, particularly within the mining, oil, and gas sectors, exploiting the nation's abundant natural resources such as gold, silver, copper, gas, and oil. Despite their predominant role, these industries grapple with persistent unemployment issues, particularly among the burgeoning youthful demographic of the country. Furthermore, they encounter formidable obstacles in achieving global industrial competitiveness.

The mining, oil, and gas sectors constitute significant contributors to PNG's export portfolio, accounting for 70-80 per cent of total exports and 20-30 per cent of domestic consumption. However, the overwhelming presence of foreign MNCs in these sectors has sparked concerns regarding the nation's economic sovereignty and long-term sustainability. Presently, 13 major foreign MNCs operate within the mining, gas, and oil spheres, commanding a substantial share of exports and contributing approximately 25 per cent to PNG's GDP.

9. Issues, Challenges, and Opportunities of Industrialization with Sustainability in PNG:

Papua New Guinea (PNG), blessed with a plethora of natural resources including oil, gas, gold, silver, copper, and various minerals, grapples with a paradoxical predicament. Despite this abundance, the nation's industrial framework and infrastructure languish in a state of underdevelopment, predominantly reliant on the export of mining and forestry commodities rather than fostering a diversified manufacturing and agricultural sector. The unchecked exploitation of these resources by foreign multinational corporations (MNCs) has engendered a landscape fraught with instability, uncertainty, and dependence within PNG.

Two prominent mining enterprises within the country, namely the Ok Tedi Gold Mine and the Porgera Gold Mine, stand as poignant exemplars of environmental degradation, tarnishing water sources and ravaging delicate ecosystems. Additionally, foreign MNCs, including those in the soft drinks industry such as Coca-Cola and Sprite, exacerbate issues by depleting potable water resources and posing threats to public health.

In the agricultural sphere, the dominance of the Australian company Turukai Rice Ltd underscores PNG's reliance on external entities, further accentuating the nation's vulnerability to external influences.

This conundrum precipitates three fundamental losses for PNG. Firstly, foreign MNCs exploit the nation's natural endowments for export, depriving PNG of its intrinsic wealth. Secondly, the generated profits fail to be reinvested domestically to stimulate indigenous industrialization but rather flow back to the MNCs' home countries. Thirdly, these corporations neglect to generate new employment prospects for the country's burgeoning youth populace, concurrently inflicting environmental harm and exhausting PNG's finite resources.

To attain self-reliance and sustainability, PNG must pivot towards enhancing its agricultural and manufacturing sectors. This necessitates the transfer of pertinent green technologies and provision of financial backing to stakeholders engaged in agriculture, forestry, manufacturing, and services. Establishing green infrastructures and fostering green trade represent pivotal steps towards sustainable development.

10. Utilizing Social Entrepreneurship as a Catalyst for Rural Development in Papua New Guinea (PNG)

Papua New Guinea (PNG), characterized by its vast rural landscape and reliance on subsistence agriculture, presents an opportune terrain for the establishment of a 'Multi-sectoral Social Production System' rooted in social entrepreneurship. This innovative model, geared towards poverty alleviation, necessitates a holistic approach that integrates basic needs fulfillment, human rights principles, sustainable resource management, and inclusive economic growth. Embracing such a multi-sectoral strategy is paramount for PNG's sustainable advancement and the alleviation of poverty across its diverse communities.

11. Current Landscape of Sustainable Social Entrepreneurship in PNG:

PNG Forest Products Limited (PNGFP) serves as a pioneering entity in the arena of Engineered Wood Products, boasting a rich heritage dating back to 1954. Collaborating with various timber enterprises across the nation, PNGFP adds value to products like round logs, sawn timber, plywood, and furniture, which are then distributed globally to markets in Malaysia, Australia, the Philippines, Japan, China, and Singapore. Despite the dominance of global players like the Malaysian Rimbunan Hijau Group, local forest product enterprises prioritize sustainable forest management practices, mitigating ecological impact and fostering community well-being.

11.1 Success Story of Rural Social Entrepreneurship in PNG:

Evident success stories in rural social entrepreneurship, such as the Kokoda Track Foundation (KTF) and the Highlands Organic Agriculture Cooperative (HOAC), underscore the transformative potential of this approach. KTF, dedicated to enhancing education, health, and livelihoods along the Kokoda Track, has spawned various social enterprises, including honey production, coffee cultivation, and guesthouses, contributing to economic empowerment within local communities. Similarly, HOAC champions organic agriculture and sustainable livelihoods in the Highlands, fostering coffee processing, honey production, and ecotourism ventures that bolster rural economies and uplift community well-being.

11.2 Key Insights from Rural Social Entrepreneurship Development:

Lessons gleaned from entities like KTF and HOAC illuminate crucial aspects of rural social entrepreneurship. Community engagement emerges as pivotal for success, along with strategic partnerships with governmental bodies, NGOs, and stakeholders. Sustained commitment to sustainability and long-term impact ensures viability, while leveraging local resources and indigenous knowledge enhances resilience and efficacy.

11.3 Fostering a District-Wide, Multi-sectoral Social Production System:

Embracing a district-wide, multi-sectoral approach to social entrepreneurship entails strategic organizational maneuvers and robust scientific and technological interventions. This involves galvanizing rural communities to fortify interlinkages, advance local economies, promote value addition, and elevate technological capabilities. Through collective action and resource pooling, small producers can overcome challenges, fostering economies of scale and enhancing competitiveness within local markets.

11.4 Empowering Rural Communities through Social Entrepreneurship:

Rural social entrepreneurship development holds immense promise for addressing PNG's myriad challenges, including poverty and underdevelopment. By harnessing local resources, cultural cohesion, and innovative approaches, PNG can empower its rural populace, foster sustainable development, and chart a course towards prosperity. However, realizing this vision requires concerted efforts from governmental, civil society, and private sector stakeholders to navigate challenges and capitalize on opportunities.

12. Potential Areas for Institutional Cooperation:

In its pursuit of SME sector growth and youth empowerment, PNG looks to the Indian model, leveraging institutions like the National Small Industries Corp (NSIC), Entrepreneurship Development Institute of India (EDII), Khadi & Village Industries Corporation (KVIC), Indian Council for Agricultural Research (ICAR), and Council of Scientific and Industrial Research (CSIR) for training and project support. Additionally, collaboration in green energy, including solar projects, biofuels, and lithium battery production, holds significant potential for enhancing PNG's sustainable development trajectory.

13. Conclusion

India and China are actively pursuing engagement with the South Pacific region through initiatives like the Forum for India-Pacific Islands Cooperation (FIPIC) and the China-Pacific Island Countries Economic Development and Cooperation Forum (CPIDF). These initiatives demonstrate both countries' commitment to deepening their ties with the South Pacific, with their involvement poised to expand in the years ahead. While FIPIC and CPIDF share the goal of strengthening relations with the region, they adopt different approaches to integration and have distinct objectives. FIPIC prioritizes capacity building and sustainable development, while CPIDF places greater emphasis on infrastructure development and economic growth. Despite their divergent approaches, both initiatives have their merits and drawbacks, and their evolution will be intriguing to observe. Nevertheless, India and China remain steadfast in their commitment to enhancing their engagement with the South Pacific, signaling continued growth in their relationship with the region.

Recommendations for Sustainable Development in Papua New Guinea (PNG)

- I. To advance sustainable development and economic growth in Papua New Guinea (PNG), several recommendations can be made with the assistance of India and China:
- II. **Technology Transfer and Financial Support:** India and China can provide PNG with technological expertise and financial assistance to improve its value chains and supply chains. Priority sectors for support may include electrification, infrastructure development, and renewable energy projects such as solar energy parks.
- III. **Industry Diversification:** Assistance from India and China can help PNG diversify its industries, including leather production, electric vehicle manufacturing, textiles, and pharmaceuticals. This diversification can reduce dependence on traditional sectors and boost export potential.
- IV. **Agricultural Development:** PNG can benefit from training and technology transfer in agriculture from India and China, particularly in cooking oil production, rice and wheat cultivation, pulses, and milk production. Establishing milk processing centers can enhance food security and economic growth.
- V. **Cocoa and Chocolate Production:** India and China can aid PNG in establishing cocoa milk and chocolate production plants to add value to its cocoa exports and create new economic opportunities.

- VI. Collaboration with Educational Institutions: Partnerships between PNG University of Technology and Indian institutions like CSIR, ICAR, IIM, and others can facilitate technology transfer and capacity-building initiatives.
- VII. Regional Economic Integration: PNG should consider joining the Regional Comprehensive Economic Partnership (RCEP) to leverage the economic opportunities presented by regional integration, particularly with the combined GDP of China and India expected to make up a significant portion of global GDP by 2050.
- VIII. By leveraging the expertise and resources of India and China, PNG can diversify its industries, enhance its agricultural sector, and harness its natural resources for sustainable economic growth. Collaboration between PNG and these countries can foster mutually beneficial partnerships and contribute to the development of the South Pacific region as a whole (Prabhakar, 2023).

This study recommends that policymakers, stakeholders, and development partners should intensify economic relationships on the basis of mutual benefits with greater integration to achieve the ultimate goals of sustainability, inclusiveness, and self-reliance through transfer of technology, financial support and investments in infrastructural development in the Pacific Islands region through engagements with FIPIC and CPIDF.

Future Directions:

By conducting a comprehensive comparative analysis of FIPIC and CPIDF approaches towards integration in PNG, this study suggests further research and exploration to deepen understanding of the dynamics between international forums and the Pacific Islands including PNG's development trajectory.

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