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**Toward Sustainable Economic Development in Pohnpei State:
A Tourism-Centred Industrial Strategy and Infrastructure Investment Framework**

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Highlights

This policy brief outlines strategic pathways for achieving autonomous and sustainable economic development in Pohnpei State, Federated States of Micronesia (FSM), with a focus on tourism-led industrial growth. Based on field observations, stakeholder consultations and relevant literature, the author identifies tourism as the sector with the greatest potential for economic revitalization, surpassing fisheries, agriculture and light industry. A SWOT analysis reveals that while Pohnpei possesses rich marine and agricultural resources, these sectors face structural constraints such as limited processing capacity, unclear land tenure and small market size. In contrast, tourism benefits from unique assets, including the World Heritage site of Nan Madol, cultural heritage and natural beauty, positioning it as a viable growth driver. However, challenges such as limited transport connectivity, inadequate accommodation and environmental degradation must be addressed. The brief emphasizes the need for comprehensive infrastructure development, including air and port facilities, road networks, electricity supply, water and sanitation systems and waste management. It also highlights the importance of strengthening public services, healthcare, education, telecommunications and public safety, to enhance the visitor experience and ensure community-wide benefits. Integrating small-scale handicrafts and food processing industries with tourism can further promote economic diversification and local employment. The author calls for strategic public investment and policy support to build a tourism-centred development model that fosters economic self-reliance and resilience.

¹ Masato Abe serves as the Economist at the United Nations Multi-Country Office for Micronesia. The author gratefully acknowledges the valuable contributions of Gemma Marie Ilagan Carnacete, Maryann Eperiam and Gibson Susumu. The views expressed in this paper are those of the author alone and do not necessarily reflect the official position or endorsement of the United Nations. The author assumes full responsibility for any errors or omissions. This manuscript was partially edited with the assistance of Microsoft Copilot, in accordance with the *Principles for the Ethical Use of Artificial Intelligence in the United Nations System* (United Nations System, 2022). References to specific companies or commercial products are made solely for illustrative purposes and do not imply endorsement by the United Nations.

Introduction

This policy brief aims to explore strategies for achieving autonomous and sustainable development in Pohnpei State, Federated States of Micronesia (FSM), where the author is currently stationed, to ensure continuity for future generations. While national and local development involves a wide range of factors, this study first focuses on the potential for income generation within Pohnpei Island, followed by an examination of the expansion of social and private capital that supports such efforts.

The discussion presented herein is based on the author's direct observations in the field, dialogues with relevant stakeholders and insights drawn from related literature, with key references listed at the end of the paper. To support reader understanding, a general map of Pohnpei Island is provided as supplementary material (photo 1).

Photo 1: Pohnpei Island



Source: Google Maps (2025).

Industrial Development Strategy Centred on Tourism in Pohnpei Island

In considering the potential for income generation in Pohnpei State, it is important to first acknowledge the current fiscal structure, wherein expenditures by the government account for approximately 60 per cent of gross national product, with more than half of this amount reliant on Compact assistance from the United States. As the seat of the national capital, Palikir, Pohnpei Island hosts a disproportionately large public sector within the FSM. While fishing license fees provide a substantial source of revenue, the island's share in the global seafood market remains extremely limited.

Agriculturally, Pohnpei benefits from relatively flat and fertile land formed by volcanic uplift. However, large-scale agricultural activities such as pre-war sugarcane cultivation by the South Seas Development Company or *Nanko* and copra plantations under the South Seas Trade Company or *Nabo* have declined significantly. At present, only small-scale farms operated by local entrepreneurs and experimental farms supported by China and the United States are sporadically observed.

The light industry, once active in the production of dried bonito and coconut-based products, has nearly disappeared. Structural challenges, including a limited domestic market, scarce natural resources and geographic remoteness from export destinations, continue to constrain industrial development.

On the other hand, the tourism sector presents considerable untapped potential. Pohnpei Island is endowed with a range of niche yet compelling attractions, including the World Heritage site of Nan Madol, the Ant Atoll and other outer islands, culturally distinctive communities and historical remnants from the Second World War. Despite persistent challenges, such as limited flight availability and high airfares, tourism remains a promising pillar for future economic revitalization.

This paper employs a strategic assessment using SWOT analysis (strengths, weaknesses, opportunities and threats) to evaluate the potential for industrial development in Pohnpei State. SWOT analysis is a useful tool for systematically organizing internal factors (strengths and weaknesses) and external factors (opportunities and threats), thereby clarifying directions for policy formulation and resource allocation.

As shown in table 1, the fisheries sector benefits from abundant marine resources such as tuna and skipjack; however, it faces challenges including a lack of processing facilities and shortages in skilled labour. Moreover, competition with existing international value chains presents significant barriers to market entry. Agriculture is supported by favourable geographic conditions, yet issues such as unclear land ownership and difficulties in securing labour remain obstacles. At the same time, the growing presence of tourists and foreign residents is expected to increase demand for commercial crops. Light industry, while capable of producing import-substituting goods rooted in the island’s unique cultural context and natural environment, is constrained by the small market size and high transportation costs. Tourism, endowed with rich resources, is positioned as a sector with strong growth potential though it also faces challenges such as limited transport connectivity, insufficient facilities and intensifying competition with neighbouring countries. These analytical findings contribute to the prioritization of industrial policy in Pohnpei State and inform the development of strategies aimed at achieving sustainable economic growth.

Table 1: SWOT analysis of key Industries in Pohnpei State

Industries	Strengths	Weaknesses	Opportunities	Threats
Fisheries	Rich marine resources, including globally valued tuna and skipjack.	Lack of processing facilities; labour shortages; high costs due to imported machinery, components and materials	Transition to high-value-added manufacturing.	Established global value chains (e.g. Thai canned tuna industry); high barriers to entry.
Agriculture	Availability of large and	Unclear land ownership rooted in	Growing domestic demand for crops	Changing dietary preferences among

	medium-scale arable land; abundant water resources.	traditional systems; difficulty in securing labour.	due to increasing numbers of tourists and foreign residents; potential contribution to reducing lifestyle-related diseases.	island residents; increasing pests and weed proliferation.
Light industry	Unique island culture.	Small market size; geographic remoteness from export markets.	Production of import-substituting goods (e.g. food products); expanding market targeting tourists.	Influx of low-cost imported goods.
Tourism	Unique tourism assets including a World Heritage site.	Isolation from major tourist markets; high transportation costs; limited accommodations and inadequate infrastructure.	Growth in tourist arrivals.	Intensifying competition with neighbouring island countries.

Source: The Author.

Based on the results of the SWOT analysis, tourism is considered to be the industry with the highest growth potential in Pohnpei Island. In addition to its direct linkages with sectors such as accommodation, travel services and maritime and air transport, tourism also generates spillover effects across related industries, including food and beverage services, telecommunications and souvenir production. These intersectoral linkages suggest that tourism can make a significant contribution to increasing domestic income.

Accordingly, a development model centred on tourism, supported by complementary sectors such as fisheries, agriculture and light industry, is believed to be a viable strategy. In particular, the effective utilization of tourism resources is expected to stimulate external demand, promote economic diversification and create employment opportunities within the region.

Looking ahead, advancing infrastructure development in the tourism sector, alongside targeted support for complementary industries, will be essential to building a resilient and sustainable local economy. The following section examines the institutional framework underpinning tourism, with a focus on the role of public and private capital and service provision.

Support Systems for Tourism Development

Sustainable development of the tourism sector requires the establishment and enhancement of public and private service infrastructure. In Pohnpei Island, foundational public services, including transportation infrastructure, water and sanitation systems, electricity supply, telecommunications, healthcare, education and public safety, are critical determinants of the island's capacity to accommodate tourists. In particular, the development of airport and port facilities directly contributes to improved external accessibility and promotes tourism growth. Furthermore, ensuring hygienic conditions around accommodations and tourist sites, securing emergency medical response systems and providing

multilingual information services through visitor centres are essential for safeguarding the comfort and safety of tourists. In addition, collaboration with local communities to protect and utilize cultural resources, as well as the training of tourism personnel, is vital for enabling the broader society to benefit from tourism. Enhancing the quality of hotels, restaurants and souvenir products is also important. These public and private service improvements serve as the foundation for a tourism-centred industrial development model and contribute to Pohnpei State’s economic self-reliance and sustainable growth.

Air transport services

Air transport services constitute a critical component of infrastructure for tourism development in Pohnpei Island. At present, the majority of tourists arrive via the “island hopper” route, which connects major islands across Micronesia. This route is operated under a duopoly by United Airlines of the United States and Nauru Airlines, which receives capital, operational and technical support from Australia (see figure 1). Given the island’s limited population and modest passenger demand, the current operational framework is considered reasonably efficient. However, with only five weekly round-trip flights operated by Boeing 737 aircraft, annual passenger volume remains at approximately 80,000. Assuming that one-third of these passengers are tourists, the direct annual economic impact is estimated at USD 26 million. This figure represents roughly six per cent of the FSM’s gross national product (estimated at USD 430 million in 2022 by the IMF), underscoring the substantial economic contribution of the tourism sector.

Figure 1: United Airlines Island Hopper Route



Source: United Airlines (2025).

Based on the author's observations, the island hopper service typically operates at near full capacity, primarily serving residents and business travellers. As tourism demand increases, additional flights and larger aircraft will likely be required to accommodate the growing number of visitors. However, the high cost of air travel remains a significant constraint on tourism growth. For instance, a round-trip journey from Japan to Pohnpei via Guam generally costs from US\$ 1,400 to US\$ 2,000, subject to oil price fluctuations. This elevated price range poses a substantial barrier to attracting tourists. Given the current market structure, which is dominated by a limited number of carriers, promoting competition through the entry of new airlines is essential to improving affordability and stimulating tourism demand.

Port infrastructure

The development of port infrastructure in Pohnpei State is a critical component of regional economic advancement, including the growth of the tourism sector. The existing port facilities serve as the primary hub for importing essential goods, vehicles and construction materials. A major port modernization project, supported by the Government of Japan and the Japan International Cooperation Agency (JICA), is currently underway with completion targeted for early 2028. A groundbreaking ceremony was recently held between the Pohnpei State Government and Japanese stakeholders to mark the launch of this initiative (photo 2). Representing one of the largest official development assistance (ODA) projects from Japan to the FSM, the initiative entails an estimated contribution of USD 30 million. The modernization effort is expected to significantly enhance the efficiency of transporting equipment and supplies necessary for tourism-related infrastructure, including hotel construction materials, consumables for the food service sector and components for transport development. Additionally, the rehabilitation of the historic ports in Kitti Municipality, located in the southern part of the island, is anticipated to improve regional logistics and serve as a foundational support for implementing a tourism-centred industrial development model.

Photo 2: Planned Site for Port Expansion and Modernization on Dekehtik Island, Pohnpei



Source: The author.

Road infrastructure development

The sustainable development of tourism in Pohnpei requires not only improvements to air and port infrastructure but also the upgrading of intra-island road networks. Tourism assets are widely dispersed across the island, making accessibility a key determinant of the visitor experience. Currently, sections of the primary ring road and major arterial routes show signs of pavement deterioration and inadequate drainage, leading to mobility challenges during the rainy season. In addition, traffic congestion has become increasingly common in Kolonia, Pohnpei's commercial centre, during weekday peak hours, with sporadic delays also observed along the ring road connecting Kolonia to the capital, Palikir.²

² In light of anticipated increases in intra-island mobility and the need to enhance regional connectivity, the construction of a bypass road linking Sokehs and Nett municipalities is likely to become necessary in the near future. This infrastructure would serve to alleviate congestion along existing routes and facilitate more efficient movement of both residents and tourists.

The underdevelopment of transport infrastructure not only impedes the efficient movement of tourists but also adversely affects logistics for associated industries, including hospitality, food services and souvenir production. In particular, enhancing road connectivity between the five municipalities on the island, Sokehs, Kitti, Madolenihmw, U and Nett, is essential to ensure the equitable utilization of tourism resources across regions. Road infrastructure development constitutes a foundational element for the spatial expansion of tourism and the balanced growth of local economies. As such, it should be prioritized in future public investment strategies.

Accommodation facilities

Accommodation infrastructure is a foundational element in the development of a resilient and inclusive tourism sector. According to the Pohnpei Tourism Office, Pohnpei Island currently hosts ten tourist-oriented hotels, with an estimated total capacity of fewer than 200 guest rooms.³ Assuming an average occupancy of 1.5 persons per room, the existing accommodation supply is already insufficient relative to current air transport capacity, underscoring a structural mismatch between demand and available lodging. Based on the author's professional experience in evaluating accommodation standards across Asia and the Pacific, the majority of existing facilities are assessed to be equivalent to two-star establishments. This level of service is inadequate to meet the evolving expectations of higher-income tourists, whose numbers are projected to increase over the medium term. Although a luxury hotel development is underway in Palikir, its location and intended clientele, primarily government officials and official visitors, suggest limited relevance for broader tourism markets.

In addition to capacity and quality constraints, institutional challenges, particularly those related to land tenure, pose significant barriers to accommodation development. The coexistence of customary and private land ownership systems necessitates careful and context-sensitive site selection, even for relatively small-scale developments such as hotels, which typically require less land than agricultural enterprises. Within this framework, the strategic distribution of accommodation facilities across the island's five municipalities, Sokehs, Kitti, Madolenihmw, U and Nett, offers a viable pathway to promoting spatial equity and fostering local community support.

Accordingly, the expansion of accommodation infrastructure must go beyond quantitative and qualitative improvements. It requires a strategic, multi-dimensional approach that integrates institutional, spatial and socioeconomic considerations. Such an approach positions accommodation development as a key policy priority for the sustainable and inclusive growth of the tourism sector.

Solid waste management

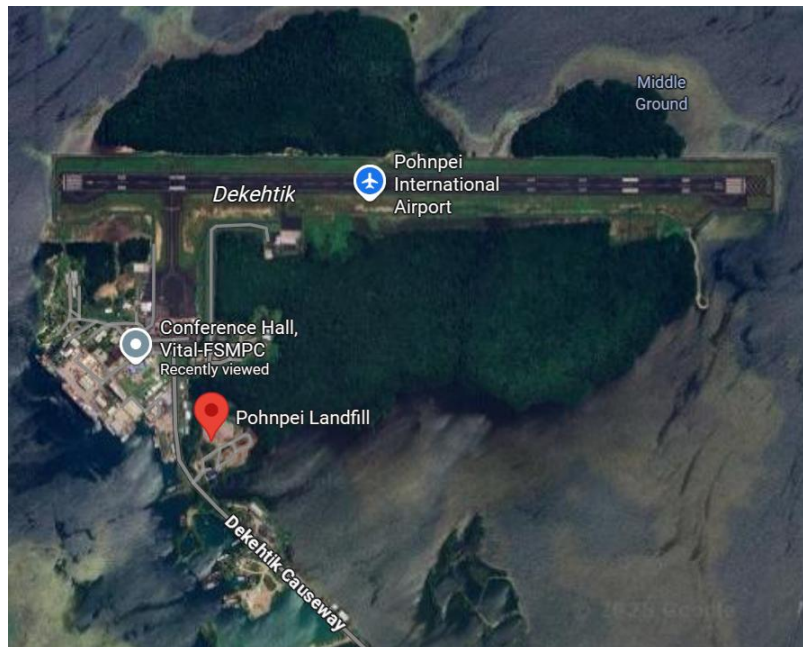
Although not directly associated with tourism, solid waste management represents a critical issue that significantly affects the attractiveness of Pohnpei Island as a tourist destination. At present, numerous derelict vehicles are abandoned along roadways while plastic bottles, bags and aluminium cans are visibly accumulating at the base of mangrove forests along the coastline. Such environmental degradation not only detracts from the island's natural appeal but also risks alienating environmentally conscious visitors and undermining efforts to attract repeat tourists and enhance the island's reputation.

The island's sole landfill site is located on Dekehtik Island, which also hosts the airport and seaport (photo 3). In early 2024, the facility experienced an explosion and fire incident. Given the proximity of petroleum

³ Refer to: <https://visitpohnpei.travel/>.

storage tanks operated by the state-owned energy utility, urgent relocation of the landfill is warranted from a public safety perspective. The government is currently undertaking site selection, facility design and cost estimation for a new waste management facility. Ideally, a new landfill should be established near Kolonia, the island’s largest consumption hub, alongside an additional facility in the southern region of the island to ensure long-term operational resilience. In this context, the adoption of the “Fukuoka method” for semi-aerobic landfill management presents a technically and environmentally sound solution.⁴

Photo 3: Dekehtik Island landfill site



Source: Google Maps (2025).

Furthermore, expanding or relocating the existing recycling centres for plastics and aluminium cans in Kolonia, coupled with the development and dissemination of public guidelines for waste separation, collection and transport, will be essential. These measures are critical not only for improving environmental outcomes but also for aligning waste management practices with the broader goals of sustainable tourism development.

Electricity supply

Electricity generation on Pohnpei Island is currently reliant on a diesel-fired power plant located at the base of the mountains south of Kolonia. Frequent power outages, particularly during the rainy season, have emerged as a significant challenge. These disruptions are attributed to ageing infrastructure, inadequate maintenance systems, design limitations and increasing demand that has placed considerable strain on existing capacity.

⁴ The “Fukuoka method” of waste management, which combines environmental sustainability with cost-effectiveness, is increasingly being adopted in developing countries. Notably, it has been implemented at the landfill site on Babeldaob Island in Palau, demonstrating its applicability in small island contexts.

While the global shift toward renewable energy is widely encouraged, the applicability of such technologies in Pohnpei requires careful consideration. The island's per capita carbon emissions remain extremely low, and the limited availability of land resources raises concerns regarding the feasibility and efficiency of solar power installations, which typically operate at low-capacity factors in tropical island settings. Wind energy is similarly constrained by the lack of consistent wind conditions, and technologies such as ocean thermal energy conversion face substantial technical and financial barriers, rendering them impractical at this stage.

Given these constraints, priority should be placed on upgrading, expanding and improving the efficiency of existing diesel-based generation systems. At the same time, realistic pathways toward energy diversification should be explored. In this regard, the development of small-scale hydropower systems, leveraging the island's abundant freshwater resources and incorporating water storage functions, presents a promising option for enhancing energy security and sustainability.

Handicrafts and food processing industries

Environmentally conscious tourists often seek locally produced goods as souvenirs or mementoes of their travels. In this context, handicrafts, cultural replicas and speciality food and beverage products such as chocolate, dried fruits, coffee, tea and alcoholic beverages are particularly popular. Pohnpei Island has a history of attempting to commercialize local products such as pepper, coffee and tea; however, these items are now rarely seen in the market.

Small-scale handicraft and food processing industries hold significant potential to contribute to economic diversification and job creation, particularly when integrated with the tourism sector. Moving forward, government support will be essential in fostering sustainable industry development. This includes promoting product development aligned with tourist preferences, enhancing local processing technologies and establishing reliable marketing and distribution channels. Such efforts can strengthen the island's value-added production capacity while reinforcing the linkages between tourism and local enterprise development.

Other public services

While not always directly associated with tourism, the provision of public services, particularly water supply and wastewater management, plays an important indirect role in supporting the sector's sustainable development. Pohnpei Island receives one of the highest levels of annual rainfall globally, and aside from the dry season (notably in January and February), water scarcity is rarely a concern. Water is sourced from the Nampil Reservoir, which is fed by tributaries of the Lemesi River in the central mountainous region and distributed to coastal communities, including Kolonia, as well as to tourism facilities. However, challenges persist in the form of ageing water infrastructure, insufficient maintenance systems and limited water treatment capacity.

Regarding wastewater, Kolonia is equipped with a small-scale treatment facility, and natural drainage supported by abundant rainfall currently provides partial relief. Nevertheless, as tourism expands, the establishment of scientifically sound and hygienically managed wastewater treatment systems will become increasingly essential to safeguard public health and environmental quality.

Beyond water and sanitation, the sustainable development of tourism also depends on the adequacy of other public services, including telecommunications, healthcare, education and public safety. In terms of

connectivity, improving Internet speed and reliability is critical, not only for enhancing the visitor experience but also for facilitating coordination among accommodation providers, transport operators and other service sectors. In healthcare, strengthening emergency response systems, upgrading medical facilities and investing in the training of health professionals are key priorities. In education, vocational training and language education tailored to tourism-related occupations can expand employment opportunities for local communities. With respect to public safety, ensuring the security of tourists and maintaining social stability requires enhanced policing capacity, improved surveillance in tourist areas and community-based crime prevention initiatives. Collectively, these public service improvements form the institutional foundation for a tourism-led development model and are essential to advancing Pohnpei Island's long-term sustainable economic growth.

Conclusion

Drawing on the preceding analysis, the author strongly affirms that tourism should be positioned as a central pillar of economic development in the FSM, and particularly in Pohnpei State. The successful case of tourism-led growth in neighbouring island nations in the Pacific demonstrates that while tourism may not fully replace existing economic dependencies, such as financial assistance from the United States and revenues from fisheries licensing, it can serve as a viable strategy to reduce such reliance and promote greater economic resilience.

Pohnpei State possesses rich tourism assets, including the World Heritage site of Nan Madol, which, if strategically leveraged, could enable the island to pursue sustainable economic growth even amid global uncertainties. Despite this potential, tourism has yet to fully emerge as a leading driver of the state's economy, underscoring the need for concerted efforts and targeted policy support. In conclusion, the development of a tourism-centred economic model, underpinned by robust infrastructure and public and private services, is essential for advancing Pohnpei's economic self-reliance and long-term sustainable development.

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