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Challenges and Opportunities for Japan's Remote Islands

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Nissology and General Characteristics of Small Islands

Nissology (island studies in Greek), which was originated in the first meeting of the International Small Island Studies Association (ISISA) held in Okinawa in 1994, is a new field of scientific investigation. Following the establishment of ISISA, the Japan Society of Island Studies (JSIS) was created in 1998, when I served as its President. Island study is very much about the implications of permeable borders. The nature of smallness, remoteness and insularity also suggest marginality, being on the edge, being out of sight and so out of mind, situations which can expose the weakness of mainstream ideas, orthodoxies and received wisdoms, while fomenting alternatives to the status quo. Any dominant paradigm is supposedly weakest at its periphery.¹ Consequently, an approach to island studies requires what Gunnar Myrdal² called a “multi- or trans-disciplinary approach” which is more complex and comprehensive than the conventional approach to scientific discovery.

An island is “a piece of land completely surrounded by water.”³ It is smaller than the size of continental Australia and larger than a rock. According to this definition, Greenland is the largest island, followed by New Guinea, Borneo, Madagascar, Baffin, Sumatra, Japan's Honshu (mainland), Victoria, Great Britain and Ellesmere if we list only the ten largest islands. Further, the International Convention on the Law of the Sea defines an island as a “naturally formed area of land, surrounded by water, which is above water at high tide.” National Oceanic Atmospheric Administration's (NOAA) satellite-originated Global Shoreline Database shows that there are 180,498 islands (all pieces of land greater than 0.1 km²), with a total island population of 550 million or 10% of the world's total population as of 2006. Of all islands listed in the database, less than 5% are inhabited. Although these islands occupy only 2% of the Earth's land surface area, they account for 22% of the UN seats. In this study, we are concerned with small islands with populations of less than 1.5 million.

The general characteristics of islands are elusive and relative. For instance, the Japanese islands named *Takara Jima* (Treasure Island) and *Akuseki To* (Evil Stone Island) are located side by side. Their names demonstrate the commonly-held, but contradictory, images of islands as both

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¹ Godfrey Baldacchino, “Introducing a World of Islands,” in Godfrey Baldacchino (ed.), *A World of Islands* (Canada Institute of Island Studies: University of Prince Edward Island Press, 2007), pp. 1-29.

² See Gunnar Myrdal's approach in his book on *Asian Drama: An Inquiry into the Poverty of Nations* (New York: Pantheon, 1968).

³ See Hiroshi Kakazu, *Sustainable Development of Small Island Economies* (Boulder, CO: Westview Press, 1994) for detailed definitions and classifications of the world's islands.

paradise and hell, or confinement (prison) and openness (utopia). Unique socio-politico-economic development problems will arise when the "island" is associated with its smallness, isolation and its location at international borders. Given the above caveat, the general characteristics, merits and demerits of small islands from the standpoint of socio-economic development can be summarized in Fig.1.

It is a well-known fact that small island economies with limited resources and markets do not necessarily mean low per capita income economies.⁴ On the contrary, they are richer than most big developing economies. Per capita incomes of Hawaii, Guam and Okinawa are higher than the average per capita income of the OECD countries. Caribbean islands of Bermuda, Cayman and The British Virgin Islands enjoy the highest per capita income in the world with booming offshore

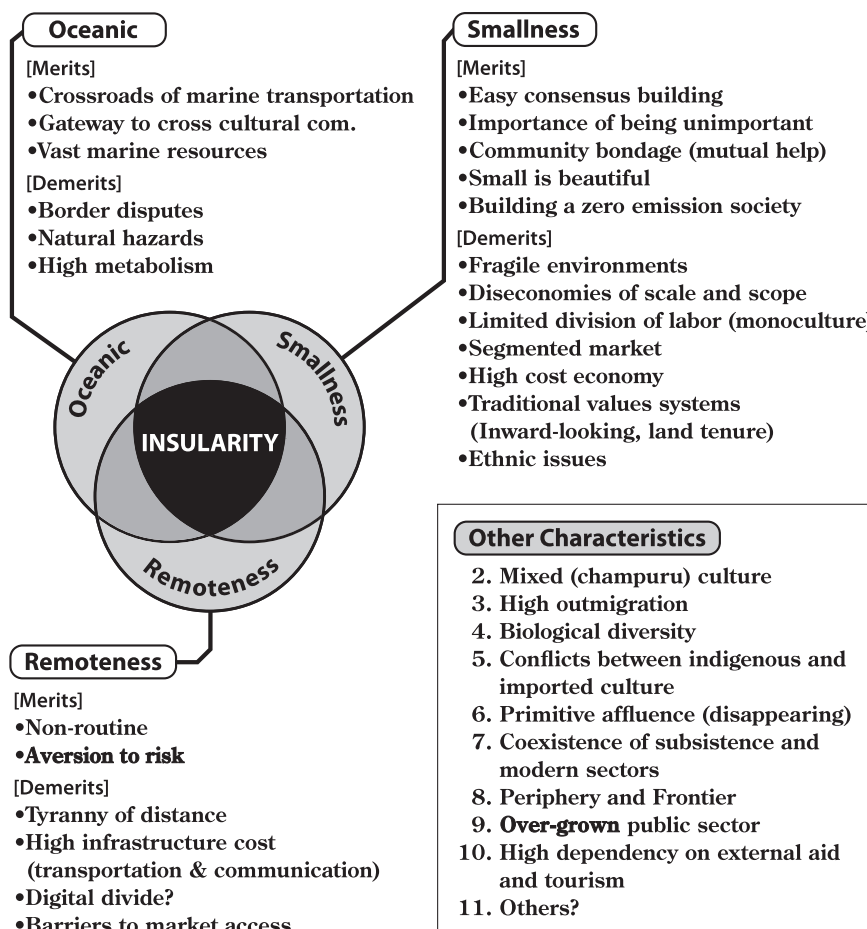


Fig.1 : Main Characteristics of Small Island Societies

⁴ See Hiroshi Kakazu, *Island Sustainability: Challenges and Opportunities for Okinawa and Other Pacific Islands in a Globalized World* (Victoria, Canada: Trafford Publishing, 2007), pp. 15-33.

banking businesses. The size of land area and population are not consistently related to the level of per capita income. For instance, Papua New Guinea (PNG) is the largest island in the South Pacific, but its per capita income is the lowest in the region (Table 1). Guam, one of the small islands in the region, has been enjoying the highest per capita income in the South Pacific.

We should, however, note that most Pacific island economies are hybrids, or dual systems, where the monetary sector co-exists with a substantial subsistence sector. A wide-range of subsistence socio-economic activities is regarded as a semi-permanent feature of Pacific island society, and policy makers should operate within this term of reference.⁵ Because of such diversified subsistence income generating activities which cannot be easily accounted go in formal income statistics, there are wide

Table 1 : Main Indicators of the Pacific Island Countries and Regions, 2008-2009

Countries/Regions	Population (000s persons)	Land Area (km ²)	EEZ (000s km ²)	Per Capita Income (US\$)	Major Sources of Income	Political Status (Date of Independence)
(MELANESIA)						
Papua New Guinea	6,348	462,840	3,120	1,040	Mining/lumber/agri./tourism	Independence (1975)
Fiji	834	18,272	1,290	4,010	Sugar/gourmet/remittances	Independence (1970)
Solomon Islands	539	27,540	1,340	1,010	Agriculture/fish/transfers (aid)	Independence (1978)
Vanuatu	239	240	12	1,940	Tourism/transfers/US bases	Independence (1965)
(POLYNESIA)						
Samoa	183	12,200		2,820	Agriculture/fish/transfers (aid)	Independence (1962)
Tonga	103	2,850	700	2,690	Agri./tourism/transfers (aid)	Independence (1970)
Cook Islands	23	488	629	9,202	Tourism/transfers (aid)	SGFA with New Zealand (1965)
Tuvalu	11	21	900	2,685	Exports of phosphate/agri.	Independence (1978)
Niue	2	26	390	1,100	Agri./transfers (aid)	SGFA with New Zealand (1974)
(MICRONESIA)						
Kiribati	10	718		2,040	Agri./tourism/transfers (aid)	Independence (1970)
FSM	108	717	2,978	2,460	Agri./tourism/transfers (aid)	Independence (1979)
Marshall Islands	54	701	2,131	3,270	Agri./tourism/transfers (aid)	Independence (1986)
Palau	20	181	629	8,630	Agri./tourism/transfers (aid)	Independence (1986)
Nauru	10	101	320	4,341	Agri./tourism/transfers (aid)	Independence (1968)
PFI TOTAL	8,484	526,895	14,439			
(REFERENCES)						
Guam	170	541	218	21,000	Tourism/transfers/US bases	Unincorporated Territory of the US
CNMI	80	471	1,823	12,500	Tourism/transfers (aid)	Commonwealth (US)
Hawaii	1,295	16,757	2,158	30,589	Tourism/US bases	A State of the US
New Caledonia	216	19,103	1,740	15,000	Tourism/transfers aid/nickel	Overseas Territory of France
Okinawa	1,388	2,274	1,160	21,148	Tourism/transfers/US bases	Japan's Prefecture

Notes: CNMI = Commonwealth of Northern Mariana Islands.

EEZ = Exclusive Economic Zone (200 miles from all shorelines).

FSM = Federated States of Micronesia.

SGFA = Self-Governing Free Association.

PFI = PACIFIC ISLANDS FORUM.

Population and per capita incomes are 2009 and 2008 respectively.

Sources: Latest data compiled by H. Kakazu from the Websites of ADB, CIA, State and Prefectural governments of Hawaii and Okinawa.

⁵ Ron Crocombe, *The South Pacific* (Suva: University of the South Pacific, 2001).

discrepancies between market-valued per capita income and purchasing power parity (PPP) estimates. Tonga's per capita income in terms of PPP for instance is more than six times higher than its nominal (foreign exchange) income. It can be said that the wider the gap between market measures and PPP, the relatively larger the subsistence sector.

Another characteristic of island economies is their heavy dependence on government activities as a major source of income, employment, and probably as a symbol of prestige. It is astonishing to know that government expenditures in the Cook Islands, Niue, and Samoa account for more than 80 per cent of their respective gross national products. Government involvement in private commerce has crowded out private enterprise while drawing resources away from the provision of public services which is necessary for the growth of private enterprise. Poor property rights to land, insecurity of debt contracts, unsustainable budget deficits, and political and policy instability have all raised the risk premium on investment, resulting in low grading of investment opportunities.

As is shown in Table 1, most of the Pacific islands were colonies or dependencies of powerful industrial countries up until recently. Colonial heritages and policies have shaped islands' development paths and socio-economic structures. Some island countries are still dependent on the monetary authorities of industrial countries in the sense that they do not have an independent currency and/or do not follow autonomous monetary policies. We should also note that one or more large multinational corporations dominate foreign trade in a number of small island economies. The policies and decisions of these companies have a determining influence on the island's development.

There is a very interesting study titled, "Colonialism and Modern Income: Islands as Natural Experiments" by Feyrer and Sacerdote.⁶ After examining the long run effects of colonial history on islands' economic performances, the paper concludes that longer Western colonial exposure is good for the modern inhabitants of the islands in terms of GDP. However, "there is a discernible pecking order amongst the colonizers, years under US and Dutch colonial rule are significantly better than years under the Spanish and Portuguese."⁷ The authors believe that good performance under and following colonial rule owe largely to the effective transfer of Western institutions or governance which have been pro-growth factors for the colonized.

As a direct result of the narrow range of their resource base and production conditions, small island economies depend upon a few primary products for their export earnings, while importing a wide range of consumer goods as well as capital goods. As a result, most of the small island economies have been suffering from chronic deficits in trade balances which have largely been financed by growing inflows of remittances, Official Development Assistance (ODA), and tourism incomes as is typically shown in the case of Samoa (Fig.2). Remittances by out-migrated workers are the single most important source of national income for many small island economies. Dependency on ODA, which has contributed to enlarge the public sector and bureaucracy, has been gradually replaced in its importance by tourism incomes in recent years.

⁶ James Feyrer and Bruce Sacerdote, "Colonialism and Modern Income: Islands as Natural Experiments," *NBER Working Paper*, No.12546 (October 2006), pp.1-47.

⁷ *Ibid.*, p. 28.

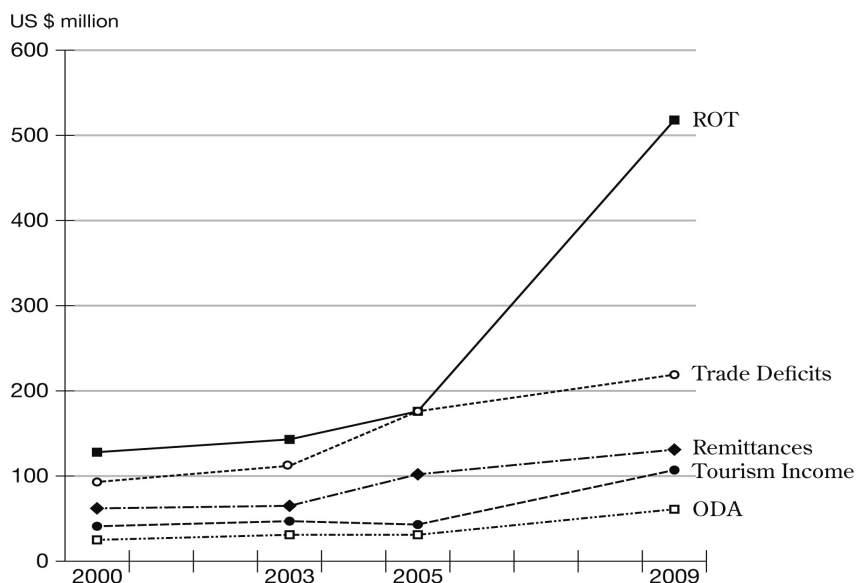


Fig.2 : Samoa's Main Sources of Financing Trade Deficits

Note : ROT = Remittances + ODA + Tourism Income.

Source : ADB, *Key Indicators* (2010).

These trade and finance characteristics are vestiges of colonial heritage and policies. Bertram and Watters characterized these island economies as “MIRAB” economies, where **M**igration, **R**emittance, **A**id and resultant urban **B**ureaucracy become central to the socio-economic system.⁸ In view of the increasing importance of the tourism industry in these islands, MIRAB should be renamed as MIRABT, where T stands for tourism. As we have seen in the case of Samoa, the tourism or visitors' industry has been the fastest growing and most important industry, accounting for 20-70% of Pacific islands' current external receipts. Pacific islands, in particular, transformed rapidly into tourism dependent economies because (a) they lack natural resources to exploit for export earnings; (b) their market sizes are too small to develop a viable manufacturing industry; (c) tourism related industries are usually small-scale and labor-intensive; (d) they are endowed with marine resources, particularly beautiful beaches; (e) these islands are part of or surrounded by richer countries such as the United States, Japan, Australia and New Zealand, and they have historical linkages with their former colonial powers and are covered by their well-organized transportation networks; (f) their tropical or semi-tropical climatic and cultural conditions complement those of the rich countries; and finally (g) these island communities have maintained internal political stability and offer warm hospitality to visitors.

Despite a welcoming attitude toward tourists, however, there are always deep-rooted fears among the island people that their fragile environments and rich culture might be eroded or degraded

⁸ Geoff Bertram and Ray Watters, “The MIRAB Economy in South Pacific Microstates,” *Pacific Viewpoint* No. 26 (1985), pp. 214-229.

by a massive and continuous intrusion of outsiders. There are also constant complaints on the part of island economies that major tourism businesses, including hotel facilities and airline transportation, are dominated by mainlanders and that the majority of tourism-generated revenue is boomeranged back to the mainland. Similarly, the fact that many small islands' tourism industries over-expanded through imported foreign labor, has been creating various socio-economic problems and uncertainties in the lives of the islanders, including water shortages, food insecurity, imported inflation and family problems.

As demand for water and energy resources increase with growing population and increasing number of tourists, the economies' carrying capacity will be exceeded and environmental disruptions will become serious impediments to future development. It is particularly serious for many Pacific islands where tourism, which depends on clean, sunny beaches, is the most important engine of the economy. There is already sufficient evidence to suggest that many world-renowned coral reefs in the region are on the verge of extinction due largely to global warming, overfishing, pollution, and various construction activities. Therefore, it is an urgent task for tourism dependent island economies to determine the "carrying capacity" of tourist absorption for sustainable development.⁹

Because of their smallness, remoteness and openness, island economies have shaped some distinctive industrial configurations. Commodities producing sectors such as agriculture and manufacturing have declined as global competition accelerates, while the service sectors such as tourism, government, labor, offshore banking and information and communication technology industry (ICT) businesses have gained strength (Table 2). Relatively large economies in the South Pacific such as Fiji, Tonga and Vanuatu still maintain large agricultural sectors, largely through protective measures and sizable subsistence sectors. Goods producing sectors of Hawaii and Okinawa have rapidly shrunk because both economies have lost all their subsistence agriculture and labor-intensive manufacturing sectors under the constant pressure of global competition and rising labor costs.

Table 2 : Industrial Structure of Selected Pacific Island Economies
(% of Gross Domestic Products)

	Population (1,000)		Agriculture		Manufacturing		Services	
	1990	2009	1990	2007	1990	2007	1990	2007
Cook Islands	17.0	22.9	21.2	12.8	3.9	3.7	73.8	81.1
Fiji	737.0	833.9	22.2	14.5	12.7	15.0	60.4	65.6
Hawaii	1,108.0	1,295.0	1.2	1.0	2.8	1.6	96.0	97.4
Kiribati	72.3	99.5	18.6	10.1	1.2	0.7	73.8	77.6
Marshall Islands	46.2	54.1	13.9	10.4	1.2	4.5	70.1	69.1
Okinawa	1,222.0	1,388.0	3.0	1.9	5.8	4.7	80.3	89.5
Palau	15.1	20.4	8.1	3.1	0.9	0.4	82.2	76.9
Samoa	160.3	183.4	23.0	13.1	19.6	14.6	48.7	60.9
Tonga	96.4	103.2	34.7	28.5	6.0	4.8	51.7	60.2
Tuvalu	9.0	11.1	25.6	16.6	3.1	3.7	59.9	73.4
Vanuatu	147.3	238.9	20.7	15.0	5.5	3.6	67.0	76.8

Notes: Agriculture includes all primary incomes; Services include all tertiary incomes.

Sources: ADB, *Key Indicators*; *State of Hawaii Data Book*; *Okinawa Statistical Yearbook*, various issues.

⁹ Kakazu, *op.cit.*, (1994).

The 1994 UN Global Conference held in Barbados, in which this author participated, adopted the program of actions for the sustainable development of small islands. It is now a sheer reality that small islands, regardless of their location, are vulnerable to the effects of climate changes, sea level rise and over exploitation of limited resources typically by means of overfishing and tourism development. These environmental disruptions are mostly man-made, arising from increasing populations and rising material expectations which are placing considerable pressure on the extremely limited land resources and coastal marine ecosystems. The report of the Intergovernmental Panel on Climate Change (IPCC) includes the following remarks on small islands:

Small islands, whether located in the Tropics or higher latitudes, have characteristics which make them especially vulnerable to the effects of climate change, sea level rise and extreme events. Deterioration in coastal conditions, for example through erosion of beaches and coral bleaching, is expected to affect local resources, e.g., fisheries, and reduce the value of these destinations for tourism. Sea-level rise is expected to exacerbate inundation, storm surge, erosion and other coastal hazards, thus threatening vital infrastructure, settlements and facilities that support the livelihood of island communities. Climate change is projected by the mid-century to reduce water resources in many small islands, e.g., in the Caribbean and Pacific, to the point where they become insufficient to meet demand during low rainfall periods. With higher temperatures, increased invasion by non-native species is expected to occur, particularly on middle and high-latitude islands.¹⁰

The United Nations Division for Sustainable Development (SD) has developed the Environmental Vulnerability Index (EVI) since the late 1990s for 235 countries and regions, including 36 small island development states (SIDS).¹¹ The EVI uses 50 key indicators of environmental vulnerability including climate change, biodiversity, water, agriculture and fisheries, human health aspects, desertification, exposure to natural disasters, etc. SIDS are estimated to be 34% economically as well as environmentally more vulnerable than the average of other countries and regions, largely because of their fragile environments, high exposure to natural disasters and high level of dependency on exports.

Advantages of Small Islands

A number of characteristics of small islands can be considered to be economically advantageous in comparison with larger economies. Among them are being unimportant in external commercial policy and having more unified national markets, greater flexibility, and perhaps greater

¹⁰ Intergovernmental Panel on Climate Change (IPCC), "Summary for Policymakers," *Climate Change* (Cambridge: Cambridge University Press, 2007), p. 15.

¹¹ See Lino Briguglio, *Economic Vulnerability and Resilience: Concepts and Measurements* (Malta: Commonwealth Secretariat and the University of Malta, 2004).

potential social cohesion. Prasad¹² vividly demonstrated that “the importance of being unimportant” has allowed many small economies to pursue national policies by seeking favorable deals which concede special advantages such as sales of passports (Kiribati, Samoa, FSM), internet domain names (Tuvalu), shipping registries (Vanuatu), fishing rights (Pacific islands), postage stamps (Tuvalu) and military bases (Okinawa, Palau, Marshall islands). The South Pacific countries also “sell their sovereignty” to other countries in order to finance their budget or to get foreign aid.

The huge expanse of ocean surrounding these island masses may also provide rich marine resources and natural energy which can be tapped for future economic development, as highlighted by the recent dispute regarding Senkaku Islands and nearby undersea oil and natural gas resources. Okinawa, for example, is making extensive use of ocean resources through aquaculture, the utilization of deep-sea water for various health products and marine or “blue” tourism such as whale-watching and scuba diving.

As discussed above, Pacific island countries have enormous potential to develop sustainable tourism industry as a future-oriented industry.¹³ That industry is becoming the most important source of foreign exchange earnings for small islands. The tourism industry, however, is in many ways beyond the control of these small islands because it depends not only on the economic conditions of industrialized countries but also on various imported inputs, for example: transportation, hotels, sales promotion, raw materials, souvenirs, and even foodstuffs, all of which consist of leakages from the islands' economies. Even in Fiji, one of the largest Pacific island economies, more than 70% of tourist expenditures are leaked out of the country in the form of imports, profit expropriation and expatriate salaries.

Another future-oriented growth industry that is suited to small islands is the ICT industry. The ICT industry is “footloose,” and it does not require natural resources, transportation or heavy technology which are essential ingredients for agriculture and manufacturing. Okinawa has been emerging as a center of the ICT industry in recent years, supported by the incentive systems (mainly subsidies of wages and connection fees) of the prefectural and Japanese governments. Within the past five years, 200 ICT companies with new employment of about 20,000 were created. However, such a success in Okinawa may not be easily transferred to island economies because the ICT industry requires well-trained human resources and appropriate policies and support. It should be noted that anyone can acquire the “means of production,” i.e., the ICT knowledge required for the job, but not everyone can win. The knowledge society is a highly competitive one for organizations and individuals alike.

Small islands may also have comparative advantages in environmental economic activities such as recycling, reusing, and reducing environmental hazards. Small islands could become model cases of zero-emission societies. Okinawa has been emerging as a model island of environmentally friendly practices and products, including recycling used bottles, and producing ethanol from

¹² S. N. Prasad, “Escaping Regulation, Escaping Convention: Development Strategies in Small Economies,” *World Economics* Vol.5, No.1 (2004), pp. 41-65.

¹³ See Hiroshi Kakazu, “Challenges for Sustainable Tourism: The Case of Okinawa,” Jack Carlsen and Richard Butler (eds.), *Island Tourism Development: Journeys to Sustainability* (London: CABI Publication, 2011).

sugarcane and waste materials.

Although we do not have enough space to detail Okinawa's growing "health industry" including the tourism-related "healing" and "spa" businesses and health foods such as turmeric (*ukon*), bitter melon (*goya* or *nigauri*) products, naturally processed salt, sea vegetable products (*mozuku*), dietary ostrich meat, various deep-sea water products to name a few well-known examples, these "niche" products possess comparative advantages in uniqueness of resource use and technology. Furthermore these products usually require more local inputs, including raw materials and labor, than conventional trading products. "Okinawa" is fast becoming a brand name for "health and longevity" because of its world-renowned "healthy islands" image.

Japan's Remote Islands

According to the Ministry of National Land, Infrastructure, Transport and Tourism (MLIT), an "island" is defined as a land area with a total coastal line of 0.1km and over. There are 6,852 remote islands (RIs) extending 2,500 miles (4,000 km) from the northern tip of Hokkaido to the southern tip of the Ryukyu archipelago, of which about 315 RIs were inhabited at the end of 2007. These islands account for 2% and 0.6% of Japan's total land area and population respectively. They contribute to Japan's 4,470 km² of Exclusive Economic Zone (EEZ) which is twelve times larger than Japan's total land area.

Japanese RIs are so diversified geographically, culturally, historically and economically, that four different national development laws and plans have been enforced. They are the Remote Island Development Act (RIDA-1953) which covers 263 RIs located in the vicinity of the Japanese mainland area. The Okinawa Development & Promotion Special Measures Act covers forty RIs of Okinawa Prefecture; Amami Development & Promotion Special Measures Act covers eight RIs; and Ogasawara Development & Promotion Special Measures Act covers four SRIs.

The RIDA is revised every ten years to incorporate socio-economic changes surrounding the RIs. The current RIDA, which was revised in 2002, clearly states three national roles of the RIs: namely (a) national land conservation, (b) utilization of marine resources and (c) environmental conservation. The most important objective of the 1953 RIDA, namely "improvement of

Table 3 : Outline of Japan's Islands: 2007

	Number of islands	Area (km ²)	Population (1,000)
All islands	6,852	377,873	693
Uninhabited	6,424	370,135	0
Inhabited	312	7,738	693
Under RIDA	262	5,267	433
Okinawa(all islands)	40	2,274	1,370
Amami	8	1,239	126
Ogasawara	4	67	3
Major islands by land size and population			
Okinawa		1,208	1,258
Sado		855	67
Amamioshima		720	69
Tsushima		697	38
Yakushima		505	14
Tanegashima		446	34
Fukushima		321	40
Iriomote		289	2
Tokunoshima		248	27
Shimajiri		243	17
Ishigakijima		223	45

Notes: RIDA = Remote Island Development Act.

Islands of Okinawa, Amami & Ogasawara are not included.

Source: Statistical Yearbook on Remote Islands, 2008.

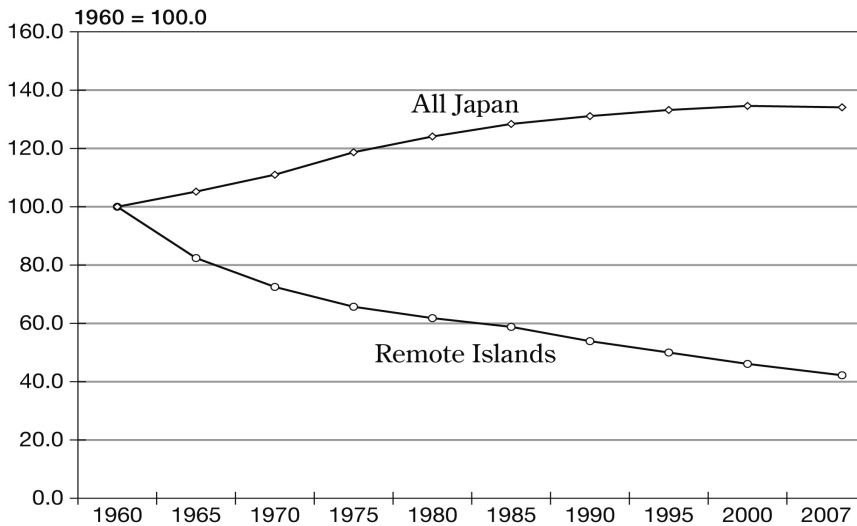


Fig.3 : Population Trends of Japan's Remote Islands

Source : Same as Table 3.

underdevelopment” was deleted. It is highly unusual to state clear national roles in regional development acts such as the RIDA. This can be understood from recent incidents and disputes surrounding Japanese uninhabited islands located on international borders such as the Senkaku or Diaoyu Islands bordering China and Takeshima or Dokdo Island bordering South Korea. These uninhabited rock islands have become a matter of hot socio-economic as well as security issues in recent years. The Senkaku (Diaoyu) Islands is a typical case of territorial dispute over resources (oil and natural gas), while Takeshima (Dokdo) Island is a dispute over the Exclusive Economic Zone (EEZ) and security. Particularly security has recently become an imminent issue because of recent discoveries that these islands have become key bases for smuggling and reconnaissance activities.

More than forty years after the initial implementation of the RIDA and the plans, RIs performance is mixed. The total population of the RIs has continuously declined from over one million, or 1% of the national total in 1960 to about half a million, or 0.4% of the total in 2007. The depopulation in the RIs was particularly accelerated during the period of Japan's high economic growth in the 1960s and early 1970s. Japan needed to mobilize its human and non-human resources to catch up with the Western industrialized economies in a short period of time. Resources, including human, technology, capital, and infrastructure, were shifted to metropolitan industrial belts. As a result, a massive labor force migration from remote and rural areas began to fill the labor demand gap caused by high economic growth in the metropolitan areas.

A New Open Approach to Island Development

Out-migration became the primary mechanism for keeping the population of Okinawa and other Pacific islands at a sustainable level before World War II. Okinawans, or “Uchinanchu” in the local dialect, migrated to Hawaii, North and South America, Southeast Asia, the South Pacific and

other areas. It is estimated that these overseas migrants and their descendants, excluding mainland Japanese, now number about 300,000. It was only quite recently that they actively organized or networked themselves to enhance their “Uchinanchu identity” beyond national boundaries. The “Worldwide Uchinanchu Business Association” (WUB) was organized across the five continents and in the Pacific in 1999. The WUB is now managing a global company that trades Okinawan products.

Okinawa and Taiwan are close enough to be within “whistle” distance. It takes only an hour by airplane from Naha to Taipei, and on a clear day we can see Taiwan’s highest mountain “Gyokuzan” from Yonaguni, the westernmost island of Japan. It is natural to consider that there should be deeper socio-economic ties between our two peripheral regions in the East China Sea. Yonaguni, a “sister city” with Taiwan’s Hualien City, has proposed a “Yonaguni-Taiwan Cross-border Exchange Special Zone” to the Japanese Cabinet Minister. The Special Zone aims at Yonaguni’s sustainable development through direct socio-economic exchanges between Yonaguni and Taiwan, particularly through direct trade. Yonaguni prospered through direct trade with Taiwan until the early 1950s. In September 2010, the Yonaguni-Hualien Exchange Development Association (YHEDA) assisted Yonaguni farmers to import fertilizer from Taiwan which was 30-40% cheaper than imports from mainland Japan. The YHEDA is planning to import other basic goods too.

Yonaguni’s innovative idea should be extended beyond Yonaguni-Taiwan bilateral trade to form a Taiwan-Okinawa-Kyushu Economic Zone (TOKEZ) as depicted in Fig.5.

As an initial step to realize this scheme, I would propose establishing an Okinawa-Taiwan Special Economic Zone (OTSEZ). Ideally the Okinawa side of the OTSEZ should be located in

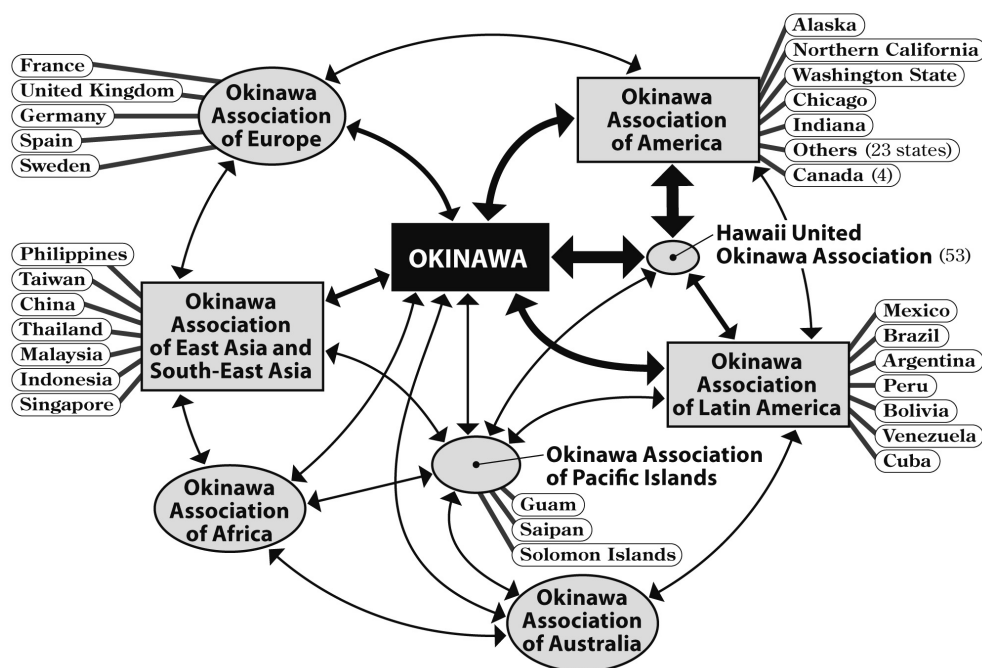


Fig.4 : World Uchinanchu Network & World Uchinanchu Business Association

Note : () figures are number of organizations.

Source : Constructed from the data of Okinawa Prefectural Government.

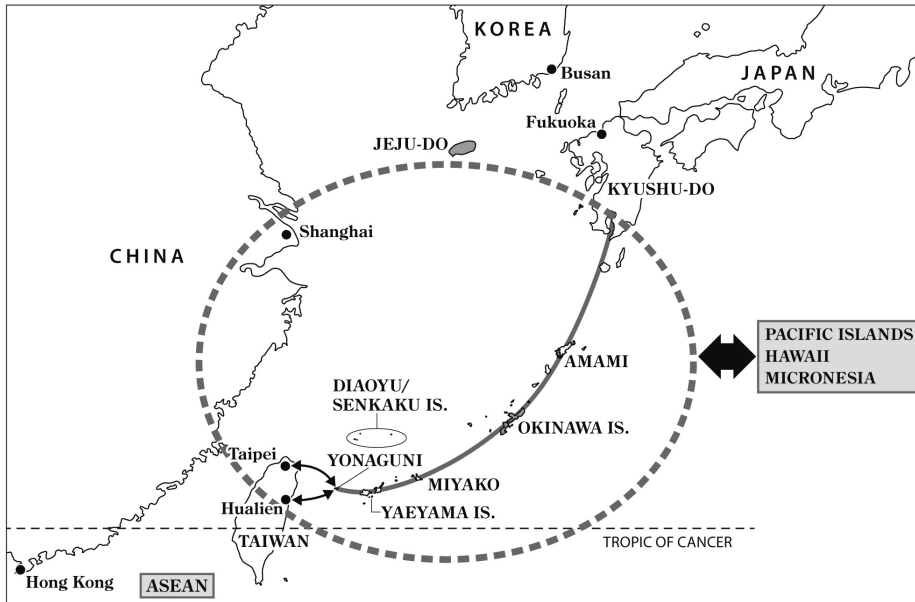


Fig.5 : A Concept of Island Networking: Taiwan-Okinawa-Kyushu Economic Zone

Source : Kakazu, *op.cit.*, (2011).

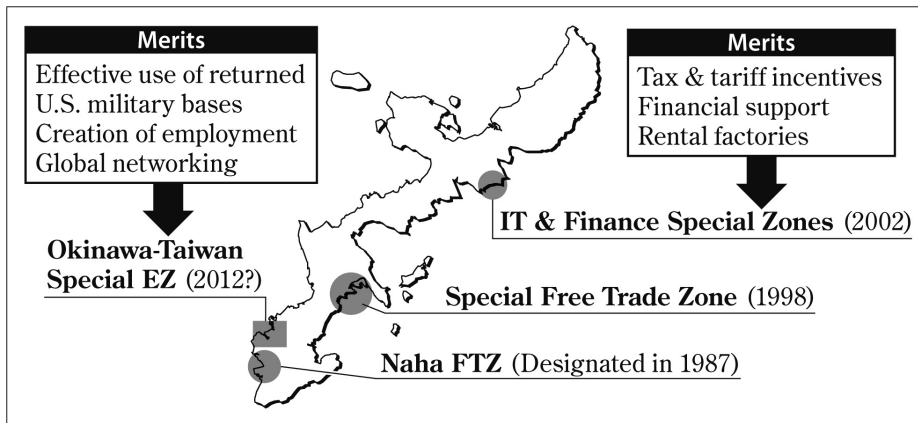


Fig.6 : Okinawa-Taiwan Special Free Trade Zone

Source : Kakazu, *op.cit.*, (2011).

facilities within returned US military bases such as the Naha Military Port or Camp Kinser which are expected to be returned in the near future (Fig.6). The Taiwan Special Economic Zone in Subic Bay in the Philippines, which was successfully established on the returned naval US bases in the 1990s, may be a good model for OTSEZ.¹⁴

The OTSEZ will be used as a trade center, including a stockpoint for parts, exhibitions of

¹⁴ See Hiroshi Kakazu, *Kokkyo o Koeru Asia: Seicho no Sankaku Chitai* (Borderless Asia: Growth Triangles in Asia) (Tokyo: Toyo Keizai Shimpo Sha, 1995).

new products, processing parts, a data and information center (back-office), design center, a R&D center, a human resource development center, etc. Just as the existing Okinawa Free Trade Zone, the OTSEZ should have a special tax credit system as well as duty-free imports for export purposes. The thorniest issue, in order to realize the OTSEZ, is probably politico-diplomatic-security relationships within the regional and global context. Despite enhanced local autonomy in recent Japanese legislation, Okinawa and Kyushu are not in a position to negotiate with Taiwan and China in order to conclude trade related agreements. These are mandates of the Tokyo government. But there are good signs under the Kan Cabinet in that Japan's *cabotage* regulations, which prohibit a foreign shipping company (i.e. Taiwan) from operating within the domestic borders of another country (i.e. within Japan), are no longer being enforced as of 2010.

Okinawa hosted the third and fourth Pacific Leaders Meetings (PALM) with 14 independent countries including Australia and New Zealand and two regions (Cook Islands and Niue) in 2003 and 2006 respectively. PALM adopted "The Okinawa Initiative on Regional Development Strategies for a More Prosperous and Safer Pacific."¹⁵

This initiative emphasized the important role of Okinawa in spearheading and coordinating development and educational relationships among the Pacific islands. Okinawa's situation and experience can be useful in developing appropriate models for sustainable island development in this

Table 4 : Major Technologies & Innovations Developed in Okinawa

Subtropical Base	Island Base
Fruit fly and sweet potato weevil eradication	Transportation, communication & waste disposal systems
Tropical fruits, vegetables & health foods (mango, orange, papaya, goya, mozuku seaweed)	Water resources management underground dams multi-purpose dams desalination plants water tanks
Tropical flowers (chrysanthemum, orchid)	
Sugarcane cultivation	Energies windpower solar ethanol from sugarcane smart grid
Aquaculture and payao (artificial fishing nests)	
Deep-sea water utilization	
Environmental conservation coral reef mangrove rain forest	Coastal Sea Conservation soil erosion prevention & monitoring
Grassroots public health and hygiene (medical support info. system for remote islands)	ITC technology (call centers distance learning)
Subtropical & eco-tourism	
Studies on tropical biodiversity & longevity	Community development (Yuimaru = mutual help Moai finance, one-island-one product network)
Amicable environments for education & training (i.e., JICA International Center, LEAD Program)	

Sources: Kakazu, *op.cit.*, (2011).

¹⁵ Ministry of Foreign Affairs, *The Okinawa Initiative: Regional (Development) Strategy for a More Prosperous and Safer Pacific* (Okinawa, 16-17 May 2003).

region. Okinawa has developed various subtropical and island-based "zero-emission" or "renewable" technologies and know-how such as the re-use and recycling of discard glass bottles, waste vegetable oil, fruit fly eradication, the development of clean energy, underground dams, deep-sea water utilization, health foods, eco-tourism, and networking island communities which may be usefully applied or transferred to the Pacific island societies with appropriate modifications (Table 4).

Concluding Remarks: Challenges Ahead

We know from the experiences of small independent island nations, notably in the South Pacific, that political independence does not necessarily guarantee economic self-reliance. Many in-depth studies on island economies suggest that the attainment of political independence inevitably brought about a revolution of rising expectations among island people.¹⁶ Although many Japanese islands are endowed with more politico-economic as well as locational advantages than most small-island economies in the Asia-Pacific, they have so far failed to utilize these valuable endowments in conducting self-generating development processes.

The on-going trends of Japan, i.e., globalization, decentralization (or greater regional autonomy through localization), rural depopulation, a knowledge-based and environmentally conscious society may be push factors for the future course of island societies if appropriate policy and strategies are adopted. In the past, the terms globalization and localization have provoked strong reactions, positive and negative, in island societies, including Okinawa. Despite the new opportunities it brings, globalization is feared by many islanders because it exposes local workers and small enterprises to global competition. Localization is usually praised for raising levels of participation in decision making and for giving local people more opportunities to shape the context of their own lives. We argue, however, that globalization and localization cannot be traded off against each other. Instead they are essential, complementary factors for islands' future development path as suggested in this research. Without full, efficient, value-added use of location factors such as labor, niche technologies, culture and natural resources, the local economy would not withstand the tides of changes brought about by globalization.

There is no doubt that the urgency of integrating national as well as island economies into the international economy will be heightened in the coming decades. No region can afford to ignore an increasingly globalized, revolutionary, networked cyber world. As the Internet spreads and transport costs fall, companies are increasingly relying on international joint ventures, strategic relationships, and information-sharing partnerships. What is crucial in enhancing these locally-based, global activities is the availability of a highly flexible, skilled labor force.

As noted in previous sections, Japan's island societies, particularly Okinawa, have been experiencing a growing mismatch in the labor market arising from a rapid transformation of economic structure and lagging human resource development. This widening mismatch can be

¹⁶ See Committee for Pacific Islands Countries, *Pacific Island Nations in the Age of Globalization* (Tokyo: Foundation for Advanced Information and Research, 1999), pp. 1-54.

addressed by improved human resource development in targeted economic activities, namely tourism-centered and information-based activities. Investments in human resource development are not only the top priority for islands' industrial transformation towards higher value-added activities: such investments also promote capabilities for young islanders to venture into the global business world. A drastic policy shift, from investments in hard and tangible infrastructures such as roads, bridges, ports, monumental buildings, etc., to investments in soft infrastructures such as human resource development and information networking, is crucial as well as urgent in achieving the true ends of development.

I should briefly touch on recent security and territorial issues in the East China Sea where Okinawa is directly involved. The US government's 2001 Quadrennial Defense Review (QDR)¹⁷ concisely described the areas from the Middle-East to the Korean Peninsula as an "arc of instability," vulnerable to terrorism attacks, but strategically important for regional security, stability and prosperity. The QDR particularly stressed a possible security vacuum in the Asia-Pacific region where China is rapidly emerging as a world economic and military powerhouse and tensions are high over the impending Taiwan issue, territorial disputes over surrounding islands, imminent threats from North Korea both within and outside of the Korean Peninsula.

The reality of this instability become clear during the September 7, 2010 incident in which a Japan Coast Guard vessel and a Chinese fishing boat collided near the disputed Senkaku (Diaoyu) Islands. The islands, which were administered by the US military government (USCAR) after World War II and by Okinawa Prefecture under the Japanese government since 1972, have become a hot geopolitical issue between China (and Taiwan) and Japan since 1969 when a report by the UN Economic Commission for Asia and the Far East (ECAFE) revealed the possibility of large underwater oil and gas reserves in the vicinity. Territorial issues over the islands gained new momentum since China started drilling for natural gas in the Chunxiao gas field which is located in the vicinity of the disputed islands.

The Japanese government decided to include the Senkaku (Diaoyu) Islands as its integrated territory after the Treaty of Shimonoseki which was concluded in 1895. According to the UN Convention on the Law of Sea, a *terra nullius*, a land which has not been controlled by any state, will belong to a country which first occupied and effectively controlled the land. There is doubt, however, whether or not the Japanese government has ever effectively controlled the islands after the Shimonoseki Treaty. China (Taiwan) used the islands as a fishing base for many centuries. China's late vice-premier Deng Xiaoping once remarked that the border issue should be solved by the next, wiser generation. Although there is no space to elaborate, the East China Sea should be a Military-Weapon-Free Zone which does not allow any country to use the water for military purposes including military drills and rocket launching exercises.

The territorial disputes, no doubt, undermine the proposed concept of establishing an Okinawa-Taiwan Special Economic Zone (OTSEZ) which would make borders in some sense

¹⁷ US Department of Defense, *Quadrennial Defense Review Report* (Washington, DC, 30 September 2001), pp. 1-71. The QDR, which reviews US global security, is published every four years.

meaningless. "The role of a border is to control the flow of people, goods, services, capitals and information between states. If states agree to liberalize these flow, then the border will no longer play a role."¹⁸ I basically agree with Japanese Prime Minister Naoto Kan's proposed Trans-Pacific Partnership (TPP), particularly because the idea would support the OTSEZ concept. Okinawa has been used as a key strategic military post in the Pacific. Now the time is ripe for Okinawa to map its own destiny by making peaceful use of its strategic advantages in the Asia-Pacific.

¹⁸ Masataka Okano, "How to Deal With Border Issues: A Diplomat-Practitioner's Perspective," *Eurasia Border Review* Vol.1, No. 1 (Spring 2010), p. 40.