



Okinawa and Military Housing: Challenges and Opportunities for Progress

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Okinawa and Military Housing: Challenges and Opportunities for Progress

Kana Mochida

A Thesis in the Field of International Relations
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Abstract

There are many challenges related to U.S. Military Housing on Okinawa. Several of the most prominent issues are U.S. military-related accidents and incidents (e.g. Aircraft related accidents, Pollution, Wildfire, Noise), crimes, economic impact, and compensation politics. Both the U.S. and Japanese governments regard the U.S.–Japan security alliance as a cornerstone of peace and stability in the Indo-Pacific region, and the U.S. Forces Japan (USFJ) continues to play a critical role in supporting this alliance. Although the USFJ reformation plan includes reducing the burden on Okinawa as one of its objectives, significant challenges persist. This research confirmed that the crime rate and traffic accident rate by U.S. military-related population is much lower than the civilian population. However, the number of U.S. military-related accidents and incidents has not decreased over the past 20 years, averaging approximately 86 cases per year. There is a substantial safety risk associated with hosting U.S. military bases. It also affects the local economy development and influences the local communities policies.

This research also uncovered opportunities for better understanding current conditions, specifically identifying the need for a clear definition on how think about the concentration of military forces outside the U.S. The concentration of military forces is not only about the size of U.S. military-related population, the size of base, or how closely they are located to each other, but also what kind of units and from which branch of the military they are from. U.S. military-related incidents and accidents are associated with the combination of units, which military service branch they come from and what

kind of training and operations they conduct. There needs to be greater quantitative and qualitative research as this can help shape local and national policies governing not just Okinawa, but in similar conditions around the world.

Dedication

To my parents,
for their unwavering support, encouragement, and love.

To Matt,
for your love, patience, trust, and encouragement.
This journey would not be possible without you.
You have witnessed my hardest days and supported me through it.

To Dr. Doug Bond,
for your guidance, trust, and encouragement.

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Chapter I.

Introduction

Japan hosts the largest number of U.S. military bases located outside U.S. territory. 34% of all U.S. military service members (55,423) deployed abroad are stationed in Japan (Defense Manpower Data Center, 2023). More than 70% of Japanese territory being operated by the United States Forces Japan (USFJ) is located in the Okinawa prefecture. Okinawa is a small prefecture of Japan, and it is only 0.6% of the national land. 15% of Okinawa's land is occupied by the USFJ. The substantial military presence has severely impacted the lives of the people of Okinawa. Issues such as military-related accidents, noise, pollution, and violent crimes committed by the U.S. service members (e.g., murders, sexual assault).

Some (The Okinawa prefectural government, Nishiyama et al) argue that Okinawa's economic development has been impacted by the military presence. In fact, Okinawa is one of the poorest prefectures in Japan with one of the highest rates of unemployment. Okinawa has been the prefecture with the highest unemployment rate in Japan for past 25 years (1997 to 2023), except for two years (third highest in 2019, second highest in 2020). Others argue that Okinawa's economy benefits from the military presence (Base-Dependent Economy), although that is contested by Okinawa's Prefectural Government and other research. Does a highly concentrated militarization of the U.S. forces, located outside of the U.S. territories including the U.S. unincorporated territories, adversely impact the surrounding local communities?

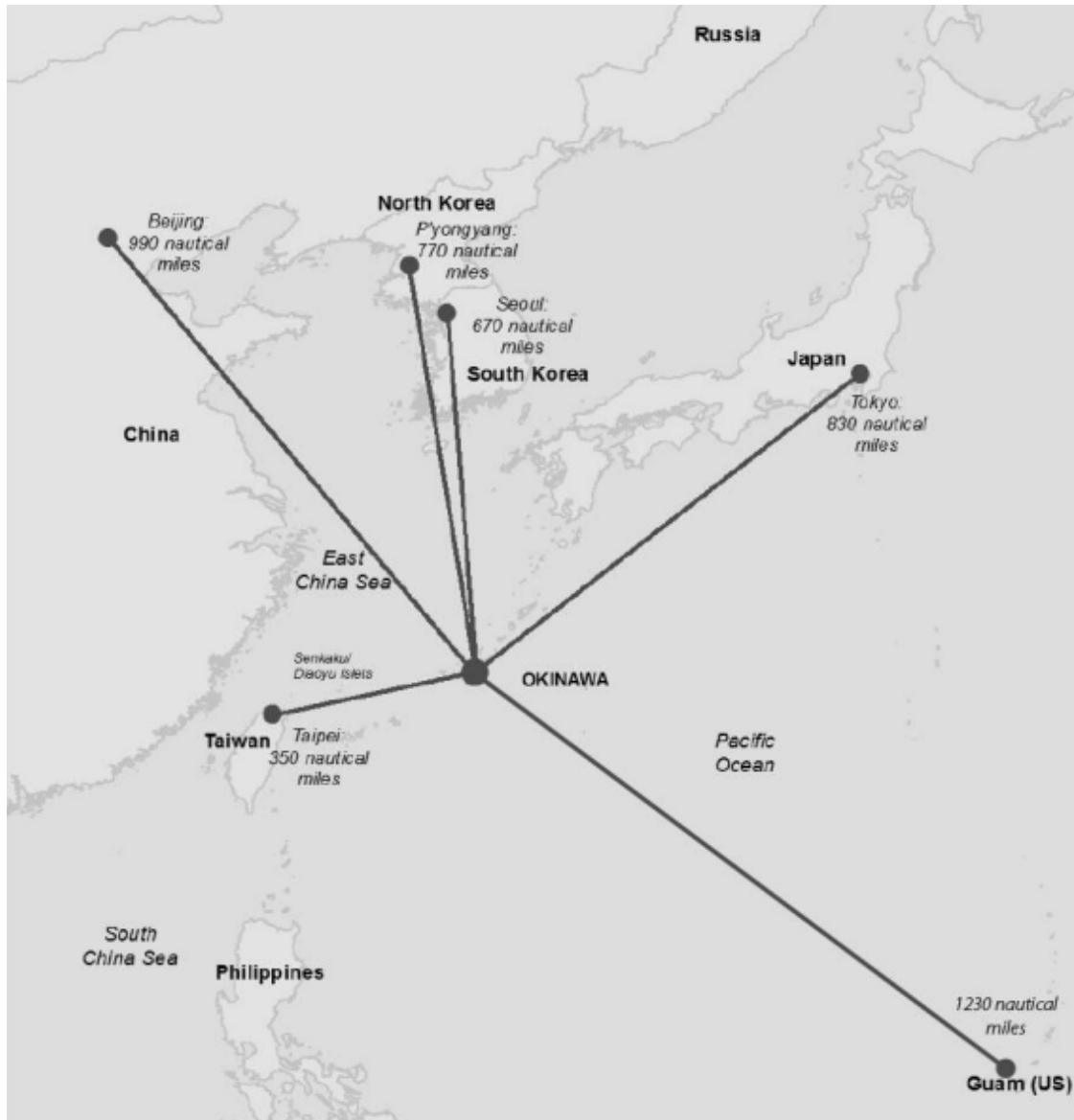


Figure 1. The location of Okinawa Island

Note: Map created by CRS using data from the U.S. State Department, 2009; and ESRI data 2009.

Source: US Congressional Research Service (CRS) 2019

The high concentration of the U.S. forces present in Okinawa is frequently justified by the Japanese government as Okinawa's geopolitical significance in the Asian

Pacific region. Critical to the strategy for the emergency cases relating to China, Taiwan, and North Korea due to its close location to these areas of concern (Figure 1). In the recent escalation of security concerns and military tensions around the Taiwan Strait and the South China Sea, more Japanese people are supportive of the security alliance between Japan and the U.S. More than 90% of respondents consider China is a threat to Japanese national security (“The younger generation responded positively to the U.S. bases” 2022). However, 79 % of Okinawans consider the concentration of USFJ military bases in Okinawa unjustified (“The Okinawa’s burden of US military bases is unfair?” 2022). Some research (Vine et al) indicates that the multiple communities that are outside and inside of U.S. territory where U.S. military bases are located have the similar phenomena as Okinawa’s situation in terms of the safety and economic impacts that may be caused by U.S. military bases presence.

Although other research (Nishiyama et al) has assessed the militarization related impacts to Okinawa’s economic development and safety, they do not present their findings relative to similar comparable areas where the U.S. forces are located. Such areas like other Japanese prefectures, Germany, South Korea, Italy, and the United Kingdom as well as some U.S. unincorporated territories (e.g. Guam, Puerto Rico). There has been various research presented that analyzed the impact of U.S. military deployment to a host countries economy and crime activity (Allen et al). That research explored national level data, and they did not incorporate sub-national level variation in crime or economic impact.

As mentioned, Japan has the biggest number of U.S. bases, and the U.S. troops located outside of the U.S. territory (55,423). Germany has the second largest number of

U.S. troops (35,125), South Korea ranks third in hosting U.S. troops (23,813), Italy has the fourth largest number of U.S. troops (12,408) , and the UK has the fifth largest number of U.S. troops (9,994), Guam has the sixth largest number of the U.S. troops (6,456), Bahrain has the seventh largest number of the U.S. troops (3,569) apart from incorporated the U.S. territory (DMDC 2023).

Since Okinawa is a prefecture of Japan, it does not appear independently in the list: the size of the U.S. troops deployed per country. However, if it is added to this list of countries and territories, it has the third largest US troop deployment at 25,743 (Table 1). The Japanese prefecture level of U.S. Military Service member's numbers has not been released since 2011. Therefore, there is no updated information regarding the breakdown of U.S. Military force service members as well as APF Appropriate Civilian Personnel numbers per prefecture. The U.S. government releases their Military force numbers information only per country level, not per local prefecture, county, or state level. In Table 1, the Okinawa prefecture is listed as one of the Duty Countries although it is actually one of Japan's 47 prefectures, it is not a country. Japan's total active-duty service member number includes Okinawa's numbers, so Active-duty service member number (25,743) shown in Okinawa prefecture is double counted for Japan and Okinawa in this list. However, this shows that the Okinawa prefecture hosts the third biggest number of U.S. military active-duty service members of the world, which is 15.3% of overall the U.S. overseas active-duty service members.

Table 1. Number of U.S. Military Active Duty & APF DoD Civilian per Country

US Military Duty Country	Total Active Duty Service Member	% of Total US Overseas Active Duty	2023 Country Population	Country Populatopm per Active duty	APF DOD Civilian TOTAL	Grand TOTAL of Active Duty and APF Dod Civilian	Country Population per Grand Total (Active Duty & APFC)	No. of Active DutyService member Ranking	Country Population per Active duty Ranking	Country population per Grand Total (Active Duty & APFC) Ranking
JAPAN	55,423	33.0%	124,516,650	2,247	7,003	62,802	1,983	1	8	12
GERMANY	35,125	20.9%	84,482,267	2,405	11,803	48,392	1,746	2	9	10
Okinawa	25,743	15.3%	1,392,818	54	1,994	47,300	29	3	2	2
KOREA, SOUTH	23,813	14.2%	51,712,619	2,172	3,057	27,151	1,905	4	7	11
ITALY	12,408	7.4%	58,761,146	4,736	2,676	15,193	3,868	5	12	15
UNITED KINGDOM	9,994	5.9%	68,350,000	6,839	1,398	11,540	5,923	6	14	17
GUAM	6,456	3.8%	172,952	27	2,888	10,300	17	7	1	1
ZZ-UNKNOWN	5,380	3.2%			268	21,588		8		
BAHRAIN	3,569	2.1%	1,485,509	416	486	4,079	364	9	5	5
SPAIN	3,254	1.9%	48,373,336	14,866	441	3,709	13,042	10	22	22
TURKEY	1,742	1.0%	85,326,000	48,982	70	1,814	47,037	11	36	37
BELGIUM	1,105	0.7%	11,822,592	10,699	716	1,828	6,468	12	18	18
PUERTO RICO	659	0.4%	3,205,691	4,864	2,209	7,176	447	13	13	7
AUSTRALIA	582	0.3%	26,638,544	45,771	30	612	43,527	14	35	34
CUBA	569	0.3%	11,194,449	19,674	262	831	13,471	15	23	23
KUWAIT	551	0.3%	4,310,108	7,822	208	760	5,671	16	16	16
NETHERLANDS	423	0.3%	17,879,488	42,268	224	648	27,592	17	31	29
GREECE	397	0.2%	10,361,295	26,099	79	476	21,767	18	27	26
HONDURAS	386	0.2%	10,593,798	27,445	25	411	25,776	19	28	28
DJIBOUTI	341	0.2%	1,136,455	3,333	1	342	3,323	20	11	13
QATAR	324	0.2%	2,716,391	8,384	26	350	7,761	21	17	20
PHILIPPINES	284	0.2%	117,337,368	413,160	14	299	392,433	22	87	87
SAUDI ARABIA	267	0.2%	36,947,025	138,378	94	361	102,346	23	53	50
POLAND	249	0.1%	36,685,849	147,333	62	311	117,961	24	55	54

Note: The full list is in Appendix I. This list is ordered by the Total Number of Active-Duty and APF DoD Civilian per Country. Okinawa's total active-duty service member number as well as APF DoD Civilian data is from 2011. The prefecture level of U.S. military service member numbers has not been released neither from the U.S. government nor Japanese government. ZZ-Unknown numbers are the numbers of Active Duty and APF civilians which are not allocated to specific locations.

Source: the U.S. Defense Manpower Data Center, December 2023. Okinawa Prefecture. US Military and Self Defense Force Bases in Okinawa Report, May 2024. World Bank Country Population data.

In 2006, Japan and the U.S. signed the roadmap to revise USFJ. Part of the roadmap was to transfer U.S. military personal (8,000) and their families (9,000) to Guam. The roadmap and agreement have been revised several times over the years, and it has not yet been implemented. However, a substantial military buildup has been ongoing in Guam. Various research was performed already at the national level, and they have not provided full clarification to the adverse impact that Okinawa has been burdened with for the past 80 years and continues to suffer. This research mainly focuses on sub-national level (i.e. other prefectures of Japan) as well as the comparative analysis between Okinawa and Guam.

This research begins by analyzing Okinawa's Economy and Safety (Chapter II). In Chapter III, the Japanese prefectures where U.S. military bases are located are analyzed and provides a comparative analysis between Okinawa and Yamaguchi (Iwakuni City). Chapter IV gives an overview of Guam especially after the U.S. and Japan's bilateral agreement in 2006. It focuses on the buildup of militarization and its impact on Guam.

Problem Background

The Okinawa prefecture was established in 1879 by the Japanese government after removing the king of the Ryukyu kingdom. The Ryukyu kingdom ruled the area since the 14th century. Due to its geographic location, the kingdom was required to balance its relationship with both Japan and China. The people in Ryukyu maintained their unique cultures while balancing their relationship with both countries. However, since the Japanese government established the Okinawa prefecture, they have enforced the ideology that the people of Okinawa (Okinawan) are Japanese. During World War II

U.S. military forces despoiled Okinawa and has occupied the region ever since. Vine pointed out “the base nation has relied on continuing colonial relationships in 20th and 21st centuries” (Vine, 2015). Okinawa was also colonized by Japan. Until it officially became part of Japan in 1879 or some (McCormack, Narimatsu, et al) argue that colonialism is still strongly present in Okinawa. “The militarization of Okinawa Island is a direct result of the dual colonial domination of Japan and the United States” (Nishiyama, 2022).

Okinawa was occupied by the United States forces until the reversion to Japan in 1972, 27 years after the war ended in 1945. Even though it has been more than 50 years since the reversion, Okinawa is still burdened significantly by the substantial U.S. military presence. The Japanese public do not consider a local U.S. military base as desirable. Based on Okinawa’s historical background, some (Asato, Shiga et al) argue that the Japanese government and Japanese mainlanders discriminate against Okinawans, and this has contributed to their decision to maintain more than 70% of the USFJ bases in Okinawa. Asahi Shinbun and Okinawa Times performed a survey with all 46 governors of Japan (except for the Okinawan governor) in April 2024. The 21 governors agreed Okinawa’s burden from U.S. military base should be reduced. However, no governors answered that they can share the burden by accepting some of U.S. military bases in Okinawa (“Survey: 21 governors back easing Okinawa’s U.S. base burden,” 2024).

In 1995, a brutal crime committed by U.S. military service members in Okinawa caused a nation-wide anti-military base movement. The relocation of Futenma airbase and the return of its land to Okinawa was suggested as the proposal to reduce the Okinawa’s burden and the people’s frustration. However, the location to relocate the

Futenma airbase became an issue. Eventually, Henoko became the relocation destination. It was agreed by the Okinawan, Japanese, and the U.S. governments in 1999. However, the construction did not make much progress due to significant anti-relocation movements. In 2006, the bilateral agreement between the U.S. and Japan on reformation of USFJ was signed. One of the three primary initiatives of the original agreement was the relocation of Futenma airbase and returning its land to the Okinawa prefecture. Another primary initiative was the relocation of USFJ from Okinawa to Guam. The last one was the return of the southern part of land from Kadena airbase. Since then, the agreement has been revised many times based on the U.S. policy changes related to the budget for USFJ relocation to Guam. In 2012, the Futenma relocation initiative became separated from the other two initiatives (Ministry of Defense of Japan).

In December 2023, the Naha Branch of Fukuoka High court ruled to allow the administrative subrogation case on the Henoko's U.S. base construction in Okinawa for the first time since 1999 when the administrative subrogation was added to the Japanese local autonomy act. Based on that decision, the court allows the national government to step in and remove the authority from the local government and execute the action which is aligned with the national government.

This decision raised the crucial question in terms of the validity of Japan's local autonomy. When the clause of the administrative subrogation was added, it came with strict conditions because this action may result in a local government losing their authority. Those conditions are I) It is evident that no execution of the administration will seriously harm the public interest II) No other feasible alternative resolution can be considered. The high court determined that the further delay of the Henoko construction

will seriously harm the public interest and the Okinawan governor, Denny Tamaki would not approve the change of the construction plan which requires the local government's approval any time soon if ever. The court clarified that "the public interest" is for the people who have been at risk due to Futenma air base and will continue to be at risk until Futenma air base moves to Henoko. However, it was evident that there is a significant difference on the definition of "the public interest" between the High court and the Okinawa prefectural government.

Governor Tamaki was elected by the Okinawan people based on his policy that opposes the relocation of the Futenma airbase to Henoko. He is consistent with his policy and exercising his election manifesto. In addition, the multiple surveys done by various organizations and media indicated that most of the Okinawan respondents to those surveys are always opposing the relocation to Henoko ("The military base in Okinawa is unfair"). From the Okinawa prefectural government's perspective, "the public interest" is in not continuing the construction of Henoko.

The construction plan change was submitted by the national government because they found the soft foundation on the ocean bed in Henoko. It will make the construction extremely challenging and increase its cost. According to the Okinawa prefectural government, even though it would require a large-scale foundation construction improvement, which has never been performed in Japan, no sufficient foundation research has been performed on the Henoko seabed to date (Okinawa Prefecture, "Okinawa Prefecture Henoko New Base Construction Issue"). It is doubtful that it is "the public interest" if the national government continuously spends taxpayers' money on the construction that is uncertain if it is even feasible. There have been multiple court cases

over the Henoko base construction issue. Now that the court has allowed the national government to supersede Okinawa local government's authority and maintain the national government's policy, it is even more unlikely the Okinawan's public interest can be heard or prioritized. Following the national government winning the lawsuit, the Okinawa Defense Bureau, Ministry of Defense Japan started the landfill in Henoko. By January 2025, the Okinawa prefectural government lost all fourteen cases (except for four cases that reached settlement or withdrawal) related to the USFJ base relocation to Henoko against the Japanese government.

In Italy, Germany, and Japan, the U.S. forces continued their occupation after World War II as the victorious country. Following the Korean War outbreak in 1950, the numbers of U.S. military service members dispatched to Asia and Western Europe was significantly increased to battle against the threat of communism. During the Korean war, the U.S. increased the number of their bases by 40% and then an additional 20% increase during the Vietnam War. After the dissolution of the Soviet Union, about three hundred thousand U.S. troops returned home to the U.S. and about 60 % of U.S. bases in overseas were closed (Vine, 2015). The largest number of troops returned to the U.S. was from Germany and the U.S. returned the 92,000 acres of land to the German government (Cunningham & Klemmer, 1995). Although there was a significant reduction of overseas bases and troops after the Cold War, they did not fundamentally change the strategy of the U.S. force abroad until the George W. Bush administration. In 2003, the administration kicked off the realignment of overseas military bases and decided to add more strategic focus on the Middle east and Africa. In 2006, the Japanese national government announced the plan for the USFJ restructure that including the relocation of

U.S. troops in Okinawa to Guam. This plan based on the bilateral agreement with the U.S. is also part of the U.S. strategy that kicked off in 2003. There has not been a significant reduction of the U.S. troops and bases in Japan. U.S. military has been building up in Guam since 2000 to support its partners such as Japan, South Korea, Taiwan. The U.S. government is planning to relocate approximately 5,000 Marines and their families from Japan to Guam by 2025 as of 2022 (The U.S. Department of Defense).

Literature Review

The adverse impacts to host countries or communities due to the presence of the U.S. bases' have been researched and discussed in multiple published studies. David Vine argues that the U.S. bases typically provide some adverse impacts to the local communities' economic and safety status. The existing research provides the data of those shared phenomena in the host countries including Japan, Germany, South Korea, Italy, Honduras, Puerto Rico, Cuba, and Guam (Vine, 2015). Those shared phenomena are observed not only in the host countries that are outside the U.S. territory but also the communities in the U.S.

Those adverse impacts include a high level of dependency for businesses related to the military base (lack of other business development opportunities), higher unemployment compared to other areas without any military bases in their surroundings, and a higher number of incidents or crimes related to the military bases. Although there are shared phenomena across multiple communities, that data has not been analyzed comparatively among multiple communities. The most comparative research performed so far is based on the national level not the local community level. The national level crime rate and GDP information is relatively accessible compared to the specific local

economic trend and crime rate information. It becomes especially challenging to obtain specific crime or incident records where U.S. military service members were involved.

However, Paloyo, Vance, and Vorell researched both the local community (surroundings of US military base) level and national level. Their research was about the impact on criminal activity (i.e. breaking and entering, automobile-related crime, violent crime, and drug-related crime) related to the significant base closures and realignment in Germany between 2003 to 2007.

Although they did not analyze Germany's data comparatively with communities in other countries, which have US military bases, they gathered local community economic information as well as the crime activity information, including specifically the ones that the U.S. service members committed. They found that the closure of military bases does not have an impact on criminal activity and did not find any evidence of the relationship between crime activity and military bases. They found that the conventional causes such as unemployment, higher percentage of foreigners, and poor economic condition have clear correlation with crime activity (Paloyo et al, 2014). Allen and Flynn researched if there is a correlation between U.S. military deployments and the host-county's crime rate increase. They could not find any evidence of correlation and suggested "the conventional wisdom regarding the negative impact that the U.S. troop deployments have on host-states" (Allen, 2013, 281) may not be correct. However, they pointed out "aggregation bias" as their serious concern, their study is based on national level reported crime data. The national-level data may not provide the sub-national level of variation. This is particularly concerning as the military deployments are usually focused on a specific area, such as a military base. Without the data of sub-national and

immediate surrounding areas of military deployments, the result may be washed out in the aggregate.

Jones and Kane conducted research on U.S. military deployments of a host country's economic growth and development between 1950 to 2000. They utilized the national level information for this research, and they confirmed that U.S. military deployment positively impacted the host countries' economic growth. They call it "Troops-Growth relationship" and explained the three theories: Expenditure, Diffusion, and Security (Jones and Kane, 2012). U.S. military deployments frequently happen in relation to the U.S. national interest such as security and business development. USAID support is often provided to the host countries alongside military deployment as well as other business opportunities. A more substantial military deployment may result in a bigger economic impact as well as improved political stability of the host country in many cases. However, it requires further research to analyze if "Troops-Growth relationship" trend can be applied at the local community level which have a higher concentration of military deployment.

For instance, the research shows Okinawa has an annual average of 80 U.S. base-related incidents and accidents between the years 2003 and 2020 (Nishiyama, 2022). Those are training related incidents and accidents (e.g. aircraft crashes, stray bullets, pollution of water and other areas, wilderness fire) as well as other incidents. The data presents an annual average of 121 crime cases committed by U.S. military members from 1972 to 2020. These crimes are heinous offences, violent offences, larceny, intellectual offences, moral offences (Nishiyama, 2022). The number of crimes and incidents related to U.S. military personal in Okinawa is more than in any other Japanese prefecture where

U.S. military bases are located. However, the crime and incident data across prefectures has not yet been comparatively analyzed. The data availability per prefecture is sporadic except for the Okinawa prefecture. It would not be feasible to perform full regression analysis across all Japanese prefectures where U.S. military bases are located due to the lack of available data. Investigating existing data may help clarify the significance of the high number of U.S. military-related crimes and incidents in Okinawa and it will be included in this research.

The rape of an Okinawan twelve-year-old girl by U.S. military service members in 1995 triggered widespread Japanese hostilities towards the U.S. forces. Mikanagi argues that most Okinawans continuously voted for the reduction of the U.S. forces in Okinawa, but the Japanese government utilized the fear of subsidies reduction and refusal of economic development support to Okinawa as leverage to motivate Okinawans to accept maintaining the status-quo (Mikanagi, 2004).

Eventually the Japanese and the U.S. governments agreed to revise USFJ in 2006. The revision plan included the reduction of the U.S. marines from Okinawa and move them to Guam. Vine's research on the U.S. base in Guam provided various similarities with Okinawa. For instance, the amount of Guam's land taken by military facilities is about 30%. The unemployment rate is about 13% and the poverty rate is about 20%. Guam's median household income is less than 75% of the U.S. average (Vine, 2015). The similarity between Guam and Okinawa is not only the concentration of the U.S. militarization level and the economic status compared to the mainland (Japan and the U.S.). As mentioned, Okinawa was also colonized by Japan. Until it officially became part of Japan in 1879, there was a Ryukyu kingdom in Okinawa. Some (Abe et al) argue

that Ryukyuans/Okinawans right to self-determination (RSD) is legitimate under international human rights law and the current state of Okinawa is due to the legacy of colonialism. Similarly, Alexander argues that military colonialism has developed the spaces in Guam that are constructed by the “fence” and militarization and colonization destroyed the local culture and language (Alexander, 2015). Guam’s strategic importance “Strategic Hub” (Kan, 2014) has been increasing, like Okinawa, and a significant U.S. military build-up is on-going. Meanwhile, Anti-militarization and decolonization activism are also increasing (Nogues 2018).

Chapter II.

The Economy and Safety of Okinawa

The year 2022 was marked as fifty years since the reversion of Okinawa. The Asahi Shinbun, Okinawa Times, Ryukyu Asahi Broadcasting Corporation jointly conducted an opinion poll in the Okinawa prefecture by mail. They asked individuals on what they viewed as Okinawa's most critical matter. 38% of respondents (which was the largest portion of respondents) considered it to be economic development. The next largest number of responses (26%) was the presence of U.S. military bases, followed by education and social benefit (19%). In a similar opinion poll conducted in 2017, the highest ratio of respondents (33%) answered the most crucial matter is the presence of U.S. military bases and that was followed by the prefecture's economic development (19%). Asked if U.S. military base contributes to Okinawa prefecture's economy, 58% of respondents answered yes, U.S. military base contributes to Okinawa prefecture's economy: 12% answered it is contributing greatly and 46 % said it is somewhat. To the same question in previous opinion polls, more respondents answered yes: 69% of respondents in 2002 and 62% of respondents in 2012. Compared to previous opinion polls, a lower percentage of respondents now consider U.S. military base to be contributing to Okinawa's economy. However, that is still close to 60% of respondents consider that U.S. military bases contribute to the Okinawa's economy.

89% of respondents consider that there is an inequality between the Okinawa prefecture and other prefectures in mainland Japan. 89% is higher number than previous opinion polls. More than 50% of respondents consider that inequality is evident in the income difference. 20% of respondents believe that U.S. military bases issue reflects

inequality (“Economy more than Military base”). These poll results reflect a complex perspective that Okinawans have towards U.S. military base. Some Okinawans may consider that U.S. military bases to be problematic, however, it is somewhat contributing to the prefecture’s economy. In this chapter, Okinawa’s economy and the safety issues that caused by U.S. military bases are analyzed.

Base-Dependent Economy

The Okinawa’s economy is frequently referred to as a “Base-Dependent Economy.” This implies that the Okinawa prefecture’s economy heavily relies on the income and subsidies related to hosting U.S. military bases. Is this perception based on the evidence? It is analyzed by utilizing data such as unemployment rate, income per capita, Okinawa development (promotion) budget, and compensation politics.

Unemployment Rate

The Okinawa prefecture has had the highest unemployment rate in Japan for 23 out of the past 25 years (1997 to 2023). It was the third highest in 2019 and second highest in 2020. Japan has a lower unemployment rate when compared to other countries in G20 and the unemployment rate of Japan has declined over the years. Japan’s unemployment rate was third or fifth lowest between 2001 to 2008. It became the second lowest since 2009 and the lowest since 2015, up to and including 2023 (IMF). Okinawa’s unemployment rate has a similar trend to Japan’s national median unemployment rate (Figure 2). Okinawa has the highest unemployment rate in Japan. Although the difference in unemployment rate between Okinawa and Japan’s national median has decreased over the years, Okinawa is still significantly higher.

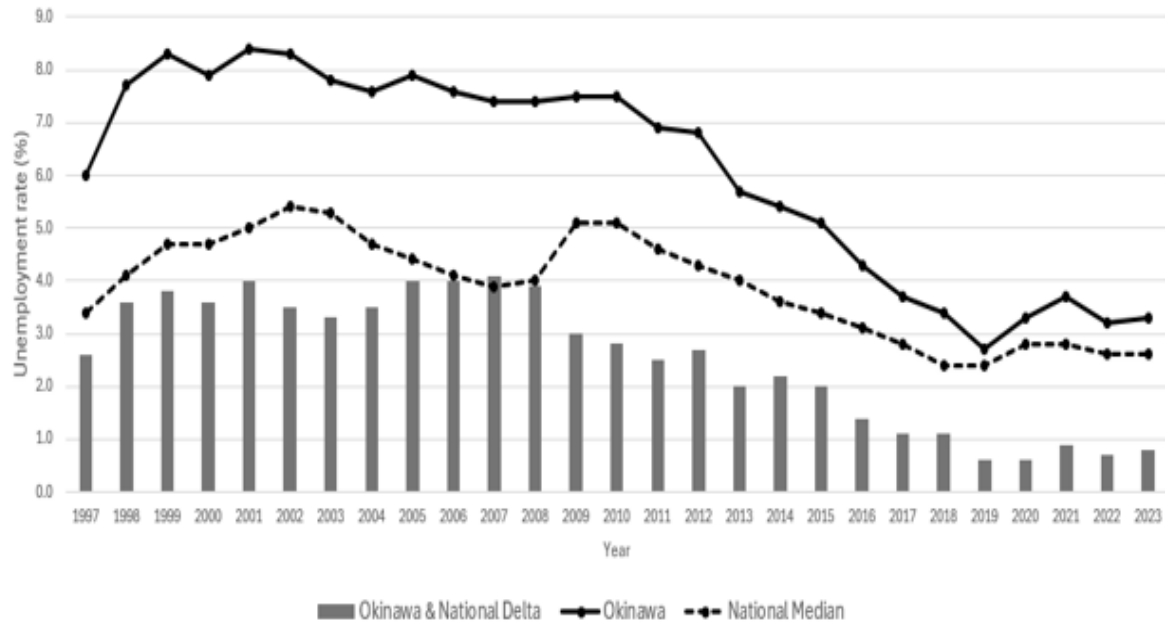


Figure 2. Okinawa's Unemployment Rate Comparison with the National Median

Source: Statistics Bureau of Japan, Labor research in 2023

Income per Capita

The per capita income of Okinawa has been the lowest of all 47 Japanese prefectures for most years since 1972. The exceptions are 1975, 1979, 1981, 1982, 1983, 1984, 1985, 1987 and 1988. Even during those ten years, Okinawa was still the second to fourth lowest income per capita prefecture. In 2021, Okinawa's income per capita was 2,258,000 JPY which is 68% of Japanese national income per capita median (3,330,000 JPY) and it is the lowest in 47 prefectures. Figure 3 is the Okinawa's income per capita comparison with the Japanese National median. This figure starts from 1972 which is the year of reversion of Okinawa, and it presents a steep income per capita increase for both Okinawa and Japanese national median until 1989. Okinawa's income per capita

percentage compared to the Japanese national median was only 58% in 1972. However, by 1989, Okinawa's income per capita caught up with the national median and it became more than 70% of the Japanese national median. After 1990, the speed of Okinawa's income per capita increase slowed down, and national median did the same. The actual income per capita difference has reduced. However, Okinawa prefecture's income per capita percentage remains only a little over 70% of the Japanese national median. The income gap between Okinawa and other prefectures of Japan persists.

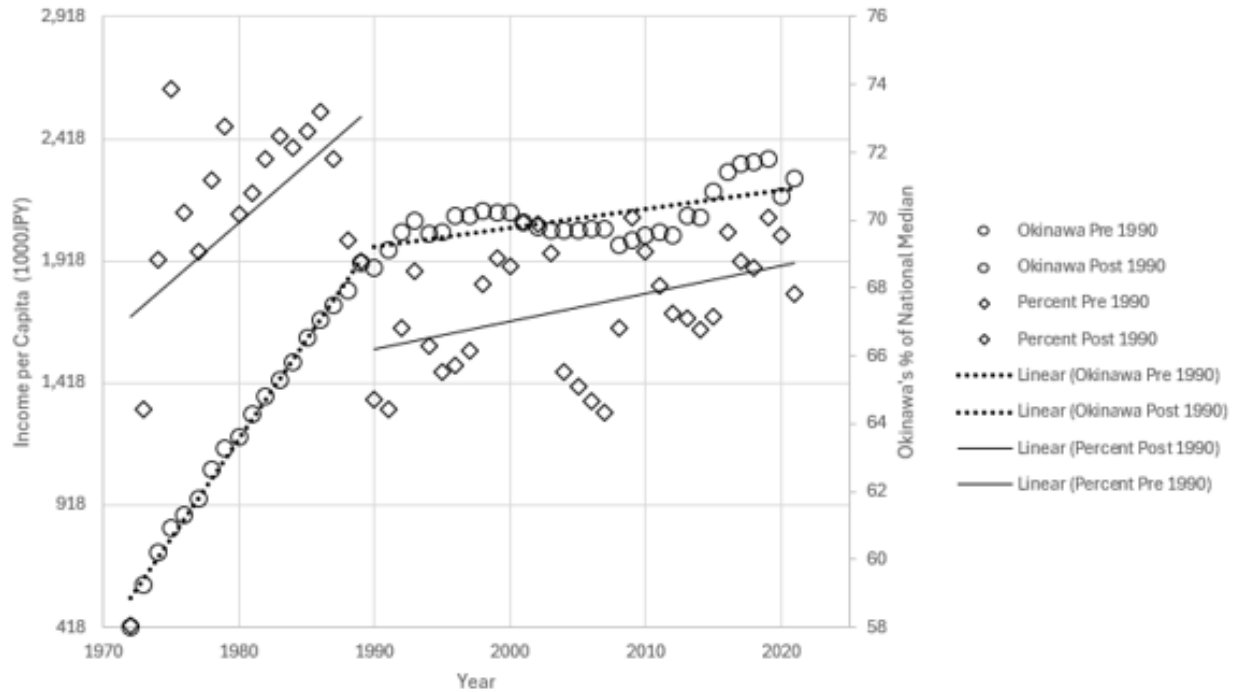


Figure 3. Okinawa's Income per Capita Comparison with Japanese National Median.

Note: Derived Okinawa's Income per capita and national median data between 1972 and 2021 from all 47 prefectures' data.

Source: Annual Report on National Accounts, Economic and Social Research Institute. Cabinet office Japan, Economic and Social Research Institute

The Okinawa's total prefecture income related to U.S. military was close to 20 % of the prefecture's income in 1972, however, it was decreased rapidly within five years and became less than ten percent by 1977. Since then, U.S. military-related income percentage of the prefecture's total income declined further, stabilizing around five percent of the prefecture's total domestic income. Figure 4 presents U.S. military-related income percentage of Okinawa's total prefectures income as well as a comparison with the prefecture income from tourism. Tourism became one of the key industries of the prefecture. The ratio of income from tourism has increased steadily until 2012 when the prefecture saw a rapid increase. The cause of the rapid increase may be related to an increase in the number of tourists from outside of Japan driven by a favorable currency exchange rate. From 2012 to 2021 until Covid-19 hit, tourism continuously brought significant income into the Okinawa prefecture, becoming more than 15% of the prefecture's total income, much higher than the income related to the presence of U.S. military bases. Based on the reformation of U.S. military plan, there is a total of more than 10.48 square kilometers currently utilized by U.S. military to be returned to the Okinawa prefecture.

The Okinawa prefecture's government has multiple plans to utilize the land being returned from U.S. military. Such as parks, residential housing, community centers, tourists' accommodations. They have already converted some returned land based on those plans. Considering the growth of tourism over the last decade, there is significant potential for that returned land to contribute to Okinawa's economy. The reduction of respondents in the opinion poll (58% in 2022, 69% in 2002, 62% in 2012) who consider

U.S. military base is contributing to Okinawa's economy could be because Okinawans have more confidence

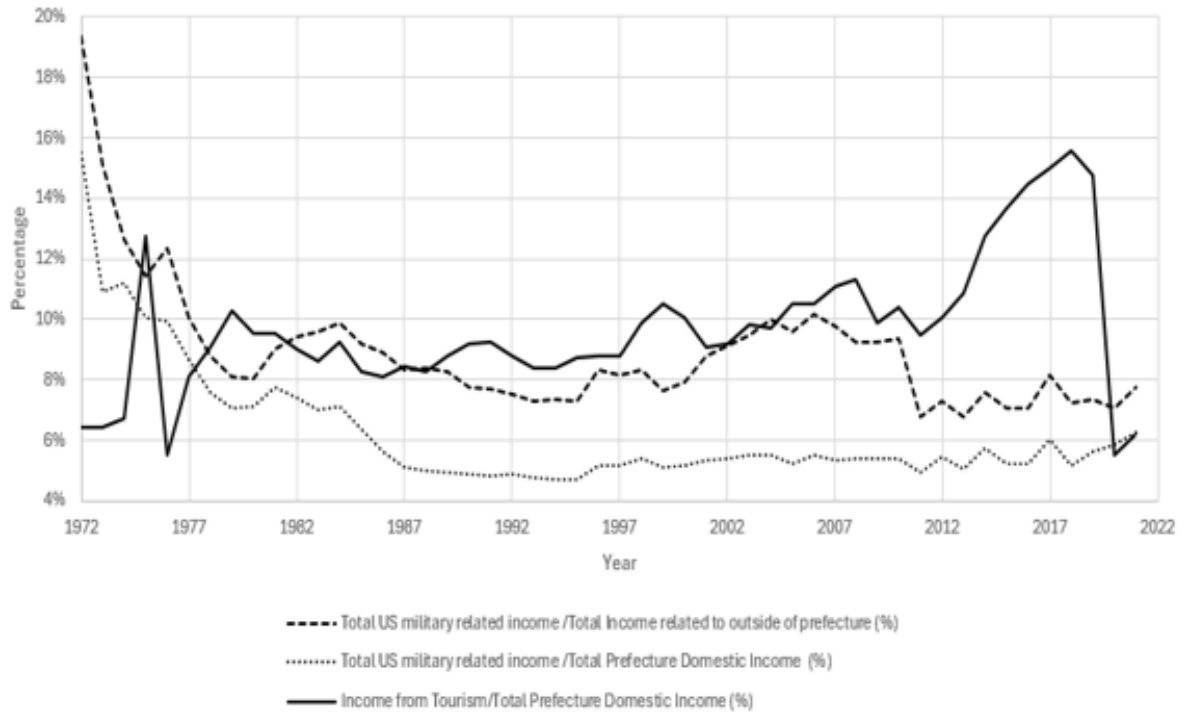


Figure 4. Okinawa's U.S. Military Income Compared with Income from Tourism

Note: U.S. military-related income includes 1. Providing service 2. Employment income 3. Land rental fee, 4. Others. Others include construction works and employee income related tenants located within U.S. military bases. Others were not included into U.S. military-related income until 2004. Total Income Related to outside of Prefecture is the total of current transactions and capital transactions. However, it does not include private capital transactions.

Source: Okinawa Prefecture Statistical data, May 2024

Okinawa Development (Promotion) Budget

The Okinawa Development (Promotion) Budget is the budget that the Japanese national government provides to the Okinawa prefectural government. Some (Ikemiyagi

et al) point out that this name of the budget is misleading, and it could be driving the perception that the Okinawa prefecture is receiving some special and significant amount of budget from national government as compensation for the burden of hosting U.S. military bases. As a result, there is a perspective that the Okinawa prefecture must have a “base-dependent economy” (Ikemiyagi, “Okinawa Promotion Budget,’ a Misleading Name”). It is mostly a combination of local allocation tax grants and the national government-disbursement. The Japanese national government provides those tax grants and disbursement not only to the Okinawa government but also to all other local prefectural governments. However, the budget name would provide the impression that it is special and only available to Okinawa.

The ministry of Internal Affairs and communications of Japan releases the financial capability index (Table 2) yearly and it is calculated by dividing the standard financial revenue by the basic financial need. The numbers of prefectures and prefectures in each index group have changed gradually over the years. The Okinawa prefecture was in Group E until 2015 and it has been listed in Group D since 2015. There are several research projects (Ikemiyagi, Higa) that compare the local allocation tax grants and the national government-disbursement that the Okinawa prefecture received with the tax grants and disbursement that other prefectures in the similar groups (Group E and D) as well as all prefectures received. Higa’s research confirmed that the total amount of national government-disbursement since 1972 was highest in the specific Index group. However, the allocation of disbursement to the Okinawa prefecture per capita is second after Shimane prefecture. Higa’s research suggested that the Okinawa Development Budget is not significantly more than any other prefectures’ budget (Higa 2016).

Regarding the national direct implementation project costs comparison between the Okinawa prefecture and other prefectures in the Index group, the amount that the Okinawa prefecture received was third out of 14 prefectures and fifth by per capita amount (Higa 2018). Comparing the Okinawa Development Budget in 2017 and the tax grants and reimbursement for other prefectures in the specific Index group, the Okinawa prefecture received the highest amount for both total amount and per capita amount. However, the Okinawa prefecture is ranked as third in the total amount received since 1972. The Shimane prefecture and Kochi prefecture received the first and second amounts, respectively, of tax grants and reimbursement (Higa 2021).

More than 80% of the Okinawa prefecture's population lives in the southern part of Okinawa main island and that helps the local government provide their service (e.g. education, welfare service, road work) more effectively compared to other prefectures, in the same financial index group. The investment expense of Okinawa prefecture is lower than the average of other prefectures in their index group, therefore, it may not be appropriate to consider that Okinawa's economy is supported by public projects. In terms of local allocation tax grants, the Okinawa prefecture is receiving relatively more grants than other prefectures that are listed in higher financial index groups. However, their grant amounts are not exceptionally higher than the prefectures in the similar index groups (Ikemiyagi, "Okinawa Promotion Budget,' a Misleading Name"). Considering the majority of USFJ bases located in the Okinawa prefecture and impacting their city planning, economic and community development, the subsidies that the Okinawa prefecture receives from the Japanese government may not be enough compensation.

Table 2. 2021-2023 Prefectural Financial Capability Index of Japan

Group		Index	No. of Prefectures	Prefecture								
A		Above 1.00	0	N/A								
B	B1	0.700-1.00	5	Aichi	Kanagawa	Chiba	Osaka	Saitama				
B	B2	0.500-0.700	15	Shizuoka	Ibaraki	Fukuoka	Tochigi	Hyogo	Gunma	Miyagi		
				Hiroshima	Mie	Kyoto	Shiga	Gifu	Okayama	Fukushima	Nagano	
C		0.400-0.500	8	Ishikawa	Toyama	Niigata	Hokkaido	Kagawa	Yamaguchi	Ehime	Nara	
D		0.300-0.400	15	Fukui	Kumamoto	Yamanashi	Ohita	Okinawa	Yamagata	Iwate	Miyazaki	
				Aomori	Saga	Kagoshima	Nagasaki	Wakayama	Tokushima	Akita		
E		Less than 0.3	3	Tottori	Kochi	Shimane						
F		1.10065	1	Tokyo								

Note: Above 1.0 in Index means the specific prefectural government can manage their service with their tax revenue. Lower the financial capability index is more support would be required to the local prefectural government from the national government to provide the necessary service in those specific prefectures. Tokyo prefecture is listed in Group F since it has significantly different levels of governance, financial capability and size compared to other 46 prefectures. Prefectures in each group are ordered by their average financial capability index over three years (2021 to 2023) from high to low. Source: Ministry of Internal Affairs and Communications of Japan

Compensation Politics

Some (Hoshino, Nishiyama) describe there is “Compensation politics” related to the subsidies from the Japanese government to the local governments that host military bases. “Compensation politics” suggests the Japanese government determines the subsidies it provides to local prefectural government is dependent on the level of local government cooperation for the Japanese government’s plan and actions related to the military bases and facilities. If the local government is not cooperative, subsidies could be withdrawn or reduced. Therefore, those subsidies could be utilized as leverage by the Japanese government. This viewpoint also may drive people’s perception that the Okinawa prefecture has a base-dependent economy (Nishiyama 2022).

U.S. military reformation grants is a part of the local development budget (the local allocation tax grants and the national government-disbursement) provided by the Japanese government to the local governments that host U.S. military bases. The Ministry

of Defense of Japan explains that the purpose of this grant is to compensate for the burden of the residents in the areas that are impacted by U.S. military reformation. This grant is allocated to those areas depending on the level of impact by the reformation and the degree of progress. The national government specifies the areas that have severe impacts by reformation as the Special Promotion Area Related to Reformation and provides special compensation.

Based on the Ministry of Defense explanation, the decision whether U.S. military reformation grants being provided to the specific local governments or not may depend on the local governments' policy towards U.S. military reformation. In Nago city in the Okinawa Prefecture, the compensation politics has become evident over the years. Henoko is a town in Nago city. The relocation plan of Futenma air base to Henoko has been a highly controversial topic, and the local government policy became an essential guideline for the Japanese government determining whether the grants to be provided or not. U.S. military reform grants started being provided to Nago city since 2007. However, the city mayor who had a policy opposed to the Futenma air base relocation to Henoko was elected in 2010, the grants were then discontinued.

The incumbent mayor who is currently in his second term has not clarified his position regarding the Futenma air base relocation to Henoko. It means that he has not mentioned that he is opposing or supporting the relocation plan. In 2018, the current mayor ran for the mayor election against the candidate who opposed the relocation plan. Once the current mayor was elected, U.S. military reformation grants were resumed (Miyahara). The director of the Okinawa Defense Bureau commented on the reason of resuming the grants that "the former mayor opposed the relocation plan. However, the

current mayor is neither opposing nor supporting, therefore, we determined that providing the grants would help proceeding the reformation of U.S. military bases smoothly and efficiently” (Mitsuzumi, Fukui). In the 2022 Nago city mayor election, the incumbent mayor emphasized his achievement by utilizing the U.S. reformatting grants effectively such as proceeding free of charge for the school meals, nursery fees, medical fees for children. An opposing candidate was objecting to the Futenma relocation plan and appealing the similar free of charge policies to support the residents without relying on the reformation grants as the grant would be discontinued if he won the election. As a result, the incumbent mayor won the election and started his second term, and the reformation grants were sustained.

Since the government grants could be an important part of those local area’s annual budget, or at least there is a perception that the grants are important. Therefore, it would play a critical role in the local community’s decision making. The compensation politics is not the concern only in the Okinawa prefecture, but also in other prefectures that host U.S. military and/or Japan Self-defense force bases. It is because U.S. military reformation plan includes multiple initiatives such as the relocation of training capacities from Okinawa to other prefectures and the relocation of aircraft carriers from one prefecture to another. Many prefectures and local communities are impacted by the reformation of U.S. military and the compensation politics may be considered as the part of that impact.

Summary of Okinawa’s Economy

It is evident that U.S. military base related income and subsidies are still an important part of Okinawa’s economy. However, the level of dependence has been

declined significantly over the years. Although there seems to be a strong perception towards Okinawa's economy as base-dependent, the data does not support a high-level dependency on U.S. military base. Instead, the military base is negatively impacting the potential of Okinawa's economic growth due to the limited land availability and infrastructure caused by the military base. If the reformation of U.S. military in Japan completes successfully and the land is returned to the Okinawa prefecture, the Okinawa prefecture may be able to maximize their economic potential fully.

Safety of Okinawa

On 13 August. 2004, U.S. military's helicopter (CH-53D) crashed into the Okinawa International University. The helicopter belonged to the Futenma air base, and the crash happened in the afternoon during training. The Futenma air base resides in a highly populated city area. The helicopter (27 meters long) burst into flames and more than 300 parts were scattered around the neighborhood reaching areas fifty meters away from the crash site. U.S. military closed the crash site for seven days after the incident and did not allow a team from Japanese side (e.g. Police, local authorities) to enter the site except for a limited location and restricted period. The cause of the accident was confirmed as a maintenance failure. This incident became one of the key triggers to enable the reformation of the USFJ initiative. Relocating the Futenma air base became a critical initiative in the reformation plan. It has been more than 20 years since the accident, however, the Futenma air base is still operating and the safety risk for the residents in the area continuously exists.

U.S. Military-Related Incidents and Accidents

U.S. military-related incidents and accidents in Okinawa have continued to occur, there has been no decrease, no improvement (Figure 5). The data from 2003 to 2023 shows there were a total of 1,728 incidents and accidents and 693 of those are related to aircraft, 40.1 % of entire incidents and accidents.

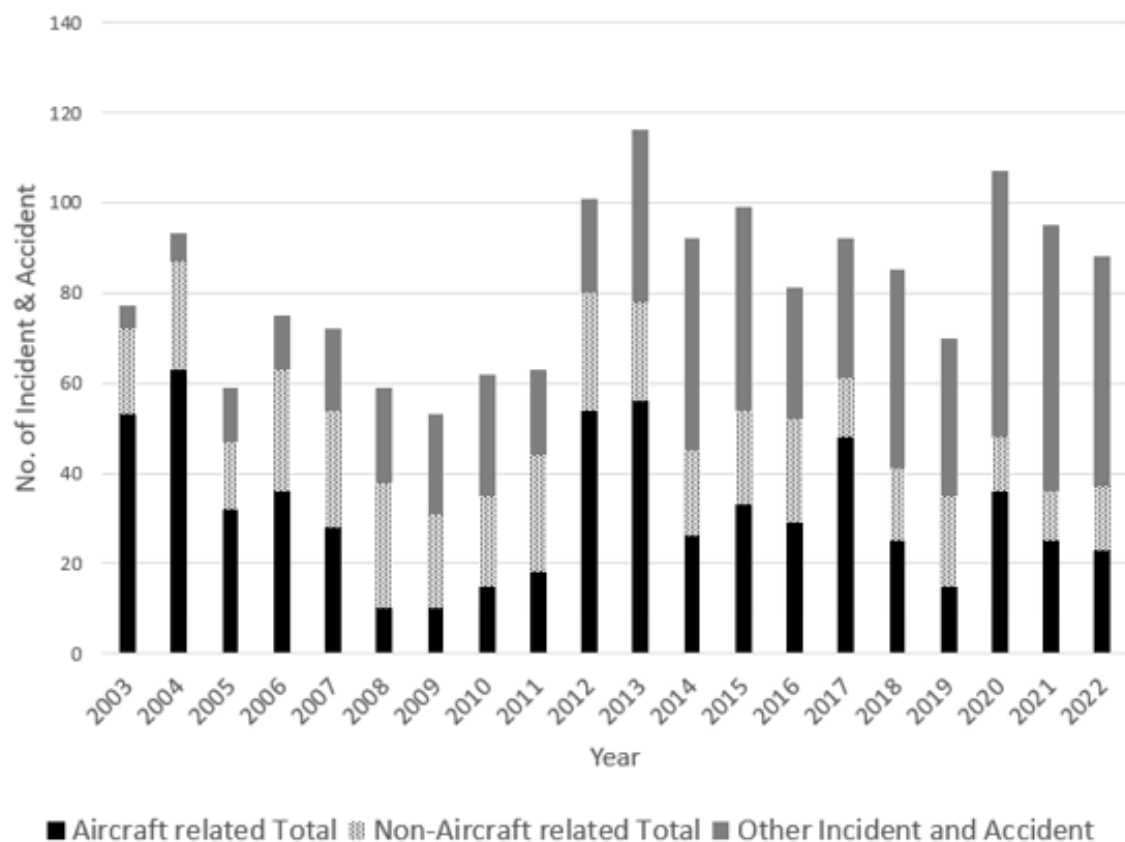


Figure 5. U.S. Military-Related Accidents and Incidents in Okinawa

Note: The complete table is in Appendix 2. Aircraft related incidents and accidents include Crash, Emergency Landing, and others. Non-Aircraft related incidents and accidents include Stray Bullet, Water pollution, Wildfire, and Others. The others in non-aircraft related includes a parachuting training which landed on outside of U.S. military facilities. The number of incidents and accidents are confirmed by the Okinawa

prefecture. However, the number of Wildfires is confirmed by Okinawa Defense Bureau. Emergency Landing includes precautionary landing informed by Okinawa Defense Bureau. Other incident and Accident include Driving Under the Influence and violation of the Firearms and Swords Control law.

Source: Okinawa Prefecture. U.S. Military and Self Defense Force Bases in Okinawa Report, May 2024, March 2004, March 2003

The aircraft related incidents and accidents include Crashes and Emergency landings. There were 422 non-aircraft related incidents and accidents, such as Stray bullets, Water pollution and Wildfires. It is 24.4% of all cases. The number of other incidents and accidents is 613, which is 35.5% of incidents and accidents. The number of incidents and accidents in all categories (aircraft related, non-aircraft related, other incidents & accident) does not present a strong trend. However, the total has increased since 2012.

U.S. Military-Related Crimes

The crimes by U.S. military-related personnel (Active-Duty members, AFP DoD civilians, and their family members) was 6.9% of all crimes in the Okinawa Prefecture in 1973. It was the highest percentage since the reversion of Okinawa. Since then, the percentage has decreased and stabilized, since 1981, to under 2.0%. (Figure 6). The overall number of crimes in the Okinawa prefecture has decreased significantly since the reversion and U.S. military-related crimes also decreased substantially (Figure 7). The number of crimes has been relatively flat in the last 20 years. A total of 6235 crimes were reported from 1972 to 2003. 3065(49%) of them are theft, 1124 (18%) are categorized as others, 1108 (18%) are violent offense, and 586 (9%) are heinous crimes. Intellectual offense (272 / 4%) and moral offense (80 / 1%) follow. Although the highest percentage

of crimes has been theft over the years, “Others” category is similar percentage with theft last ten years. The annual percentage of heinous crimes and violent offenses have been flat since 1972. Overall, the Okinawa prefecture has seen a reduction in crimes, not only by civilians but also by U.S. military and related personnel, in the last 20 years.

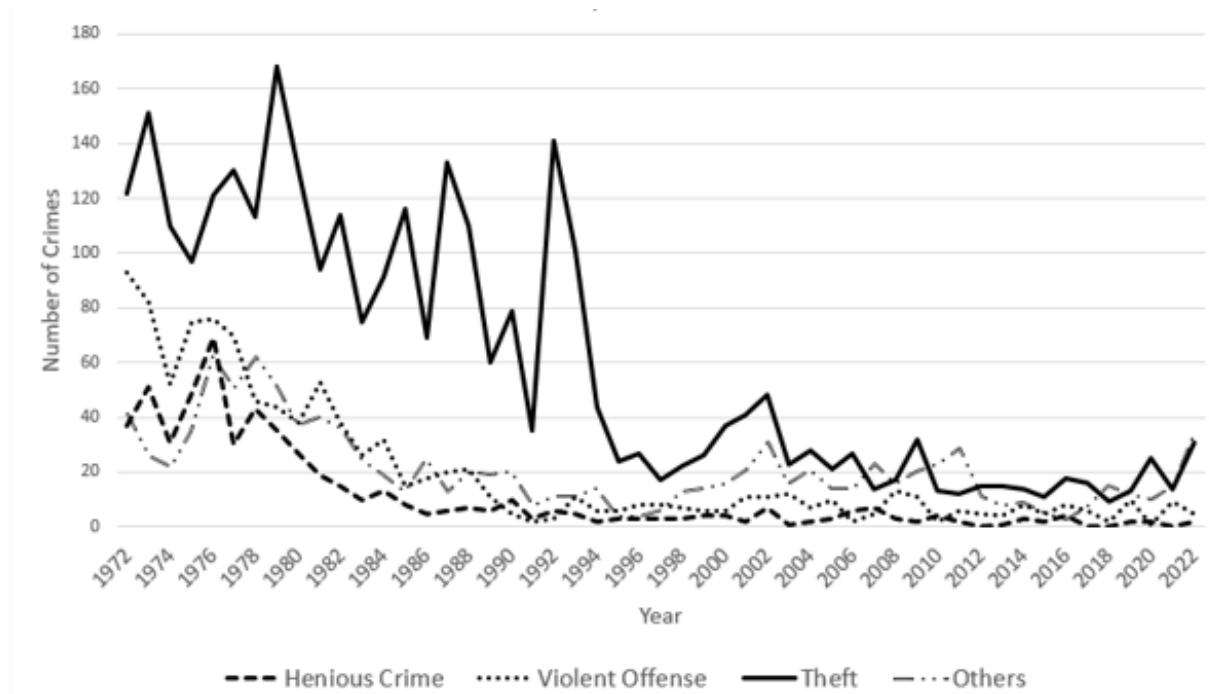


Figure 6. U.S. Military-Related Crimes in Okinawa

Note: The definition of “U.S. military-related” in this Figure is U.S. military active-duty members, APF DoD civilians, and their family members. Intellectual Offense and Moral Offense data was omitted from this figure to present the data focused on the categories that have a greater number of crimes. Traffic-related incidents are not included.

Source: Okinawa Prefecture. U.S. Military and Self Defense Force Bases in Okinawa Report, May 2024.

Comparing the crime rate per 100,000 between U.S. military-related personnel and civilians in Okinawa (Figure 7), U.S. military-related population's crime rate is significantly lower than the civilian population, except for the first few years after the reversion of Okinawa. The data presents that U.S. military-related population does not specifically generate a higher rate of crime risk to the local communities as it frequently indicated otherwise.

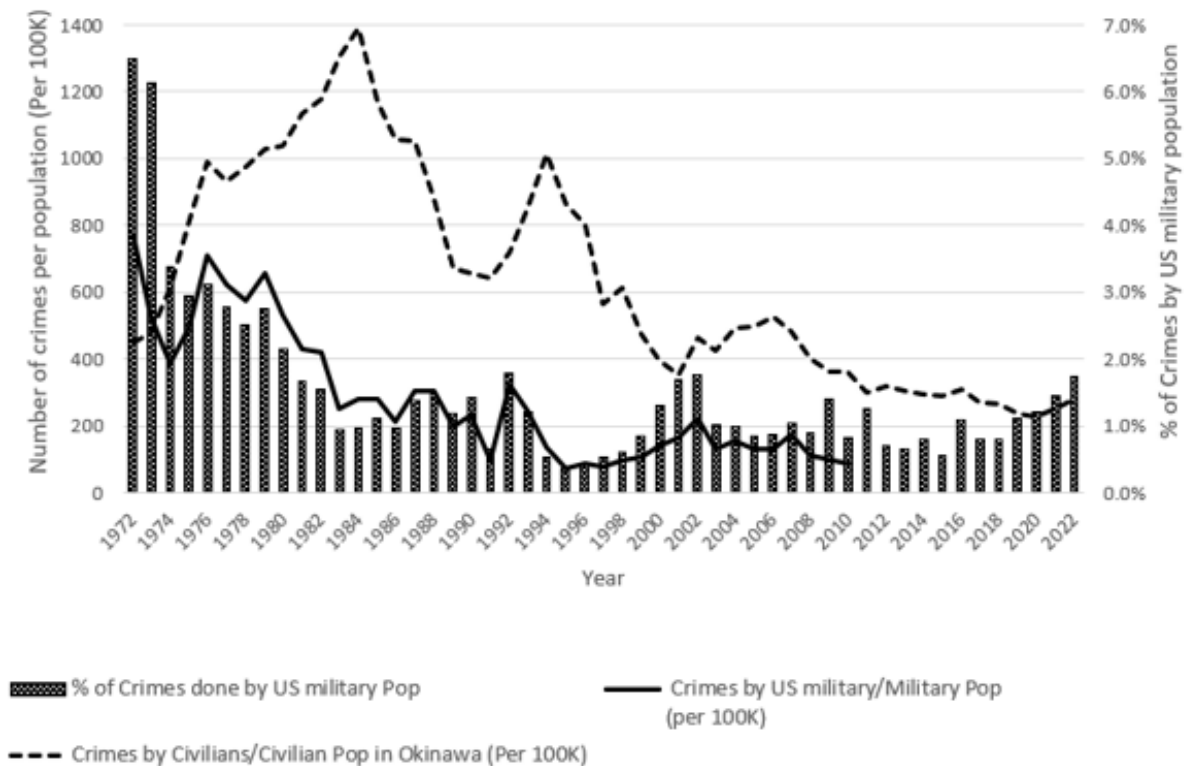


Figure 7. Crimes by U.S. Military Population vs Crimes by Civilians in Okinawa

Note: In this figure, U.S. military population includes Active-Duty, APF DoD civilians and their family. The number of crimes by U.S. military population includes their family members as well. The data of U.S. Military population in Okinawa has not been released since 2011, therefore, the crimes by U.S. military population per 100,000 data in this figure is only available until 2011.

Source: Okinawa Prefecture. U.S. Military and Self Defense Force Bases in Okinawa Report, May 2024.

U.S. Military-Related Traffic Accidents

The number of traffic accidents in the Okinawa prefecture has increased year on year. It tripled in the early 2000s and 2010s compared to early 1980s but it has been coming down the last five years and returning to 1980 levels. The number of accidents by U.S. military-related personnel (U.S. military active-duty members, APF DoD civilians, and their family members) has a similar trend to the overall traffic accidents by civilians in Okinawa (Figure 8). The traffic accidents by U.S. military-related personal has drifted between one and five percent of the entire traffic accidents in the Okinawa prefecture. 70% to 90% of U.S. military personnel's accidents are committed by active-duty members. A further eight to 31 % of them are committed by their family members. The accidents by APF DoD civilians are the lowest of all, which has fluctuated between one and 17% over the years. The data presents that the accident rate by U.S. military-related population per 100,000 is significantly lower than the civilian population's accident rate (Figure 9). The civilians in Okinawa have much higher rate of traffic accidents than U.S. military-related population.



Figure 8. Traffic Accidents in Okinawa

Note: This Figure shows the traffic accidents in Okinawa by U.S. military-related personal and Civilians). The definition of “U.S. military-related” in this Figure is U.S. military active-duty members, APF DoD civilians, and their family members. There was no data available for the traffic accident by U.S. military personal from 1972 to 1981. The number is counted based on the primary party of the traffic accident. In Japanese law, the primary party of traffic accident is the one has greater at fault. In case both parties have similar a level of fault, whichever received lessor damage is considered as a primary party.

Source: Okinawa Prefecture. U.S. Military and Self Defense Force Bases in Okinawa Report, May 2024.

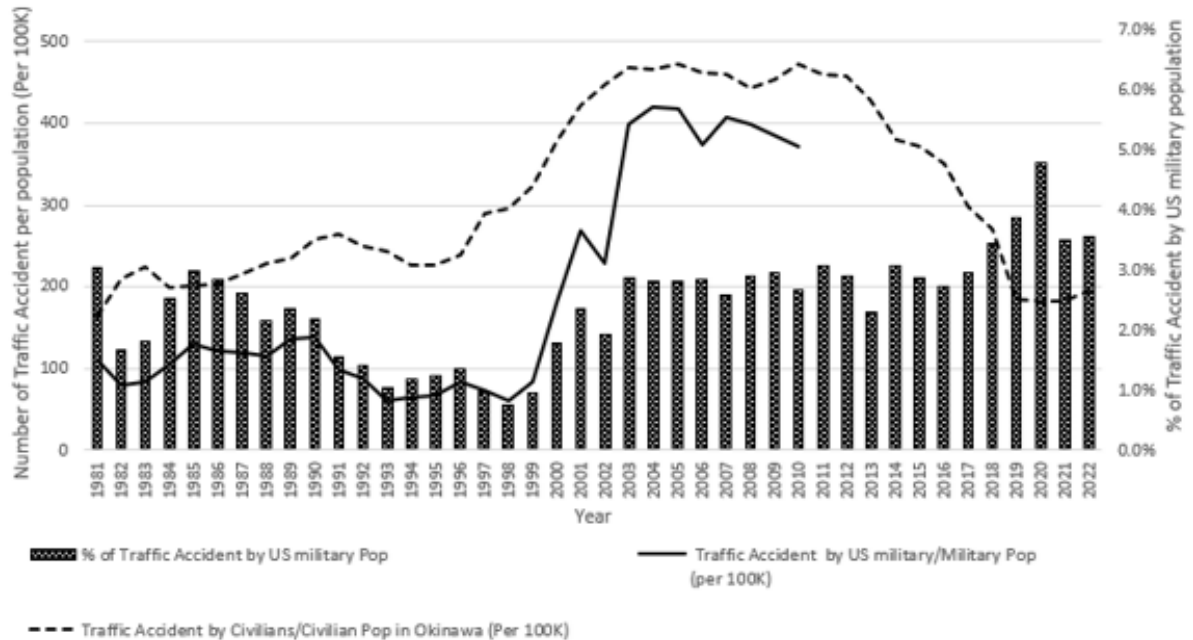


Figure 9. Traffic Accident Rates by U.S. Military vs Civilians in Okinawa

Note: In this figure, U.S. military population includes Active-Duty, APF DoD civilians and their family. The number of accidents by U.S. military population includes their family members as well. The data of U.S. Military population in Okinawa has not been released since 2011, therefore, the accident by U.S. military population per 100,000 data in this figure is only available until 2011. The number of traffic accident by the civilians was calculated by the percentage of the accident by U.S. military population and its number.

Source: Okinawa Prefecture. US Military and Self Defense Force Bases in Okinawa Report, May 2024. Okinawa Prefectural Office

Summary of Okinawa's Safety

The number of U.S. military-related crimes has decreased over the years, and it is now less than two percent of the entire crimes in the Okinawa prefecture. The number of U.S. military-related traffic accidents remain between one to five percent of the entire traffic accidents in the Okinawa prefecture. The crime rate and traffic accident rate by U.S. military-related population is much lower than the civilian population. It can be

argued that U.S. military-related population is safer than local civilian population based on this data. However, U.S. military-related accidents and incidents (e.g. Aircraft related accidents, Pollution, Wildfire, Noise) are somewhat unique to U.S. military. Those risks and issues cannot be prevented fully as long as the military base exists in the Okinawa prefecture. Those incidents and accidents continue to happen, and they have not decreased, even in the last 20 years. These incidents, accidents, and crimes are evidence that there is a significant safety risk associated with hosting U.S. military bases.

Chapter III.

USFJ and Japanese Local Communities

Japan hosts the largest number of U.S. military bases located outside of the United States. 34% of all U.S. military service members (55,423) deployed overseas are stationed in Japan (Defense Manpower Data Center, 2023). There are 76 U.S. military dedicated facilities and bases in Japan and the total area is 262,630 thousand square meters. 70% of them (184,546 square meters) are located in the Okinawa prefecture. Where are the other 30% located? Table 4 shows all thirteen prefectures that contain U.S. military facilities in Japan and their geographical sizes. A total of 76 U.S. military facilities are located across Japan. Those facilities are solely utilized by U.S. military forces. 31 of those 76 are in Okinawa prefecture and the remaining 45 facilities are dispersed across the other twelve prefectures. None of the other 12 prefectures have more than 0.61% of their total prefectural area operated by U.S. military but Okinawa prefecture has 8.09% under U.S. Military control. This list shows that more than 70% of Japanese territory being operated by U.S. military is located in the Okinawa prefecture. Although the Kanagawa prefecture has eleven facilities, the area of U.S. military facilities is only 5.6 % of all the US facility area in Japan.

In addition to the 76 US military facilities, there are 130 military facilities shared between the U.S. and Japan (Table 5). Again, the largest share, 33, of those shared facilities are located in Okinawa. The Okinawa prefecture hosts the largest number of shared military facilities in all of Japan. The Hokkaido prefecture hosts 18 facilities and

the largest size of facility area in Japan. However, the Hokkaido prefecture is also the largest prefecture of Japan, therefore, the facility area percentage in the prefecture is 0.41%, which is much smaller than Okinawa's 8.18 %.

Table 3. U.S. Military Facility and Area Size per Prefecture

	Prefecture	Number of US Military Facility	Ranking by No. of facility	US Military Facility Area (Thousand Square Meters)	Ranking by Area	Prefecture Area (Square Kilometers)	US Military Facility Area per Prefecture Area (%)	Ranking by %
1	Okinawa	31	1	184,546	1	2,282.15	8.09	1
2	Aomori	4	6	23,744	2	9,645.95	0.25	4
3	Kanagawa	11	2	14,730	3	2,416.32	0.61	2
4	Tokyo	5	4	13,176	4	2,194.05	0.60	3
5	Yamaguchi	2	8	8,672	5	6,112.50	0.14	5
6	Nagasaki	9	3	4,557	6	4,130.99	0.11	6
7	Hokkaido	1	10	4,274	7	83,423.81	0.01	11
8	Hiroshima	5	4	3,536	8	8,479.00	0.04	8
9	Chiba	1	10	2,095	9	5,156.74	0.04	9
10	Saitama	3	7	2,036	10	3,797.75	0.05	7
11	Shizuoka	2	8	1,205	11	7,777.02	0.02	10
12	Kyoto	1	10	36	12	4,612.20	0.00	12
13	Fukuoka	1	10	23	13	4,987.64	0.00	13
	Japan Total	76		262,630		377,973.26	0.07	

Note: The list does not include the facilities are shared between the U.S. and Japan. The number of facilities and their areas were from the Okinawa Defense Bureau, Ministry of Defense Japan as of March 2023. The facilities which are located across more than one prefecture are counted into the prefectures' facility numbers where their primary sections are located. This list is ordered by the size of the Military facility area.

Source: Okinawa Prefecture. U.S. Military and Self Defense Force Bases in Okinawa Report, May 2024

In this chapter, Japanese prefectures that host U.S. military facilities (not including shared facilities) are analyzed. None of these prefectures have a high degree of concentration of the U.S. forces militarization when compared to the Okinawa prefecture. Due to data availability, there is more focus on, and therefore more data available for, the

Yamaguchi prefecture (Iwakuni military base). Therefore, this prefecture is comparatively analyzed with the Okinawa prefecture.

Table 4. U.S. Military Facilities per Prefecture

	Prefecture	Number of Military Facilities	Ranking by No of Facility	Military Facility Area (Thousand Square meters)	Ranking by Area of Facility	Area of Prefecture (Square Kilometers)	Military Facility Area per Prefecture(%)	Ranking of %
1	Hokkaido	18	2	344,574	1	83,423.81	0.41	9
2	Okinawa	33	1	186,683	2	2,282.15	8.18	1
3	Shizuoka	4	9	89,169	3	7,777.02	1.15	2
4	Ohita	1	15	56,317	4	6,340.70	0.89	4
5	Yamanashi	0	30	45,968	5	4,465.27	1.03	3
6	Miyagi	3	10	45,687	6	7,282.29	0.63	7
7	Aomori	7	5	32,071	7	9,645.95	0.33	10
8	Shiga	1	15	24,085	8	4,017.38	0.60	8
9	Iwate	1	15	23,264	9	15,275.01	0.15	13
10	Okayama	1	15	18,844	10	7,114.77	0.26	11
11	Kanagawa	12	3	17,386	11	2,416.32	0.72	6
12	Kumamoto	3	10	16,281	12	7,409.18	0.22	12
13	Tokyo	6	7	15,996	13	2,194.05	0.73	5
14	Niigata	1	15	14,080	14	12,583.96	0.11	16
15	Miyazaki	1	15	9,167	15	7,734.24	0.12	15
16	Yamaguchi	2	12	8,672	16	6,112.50	0.14	14
17	Gunma	1	15	5,796	17	6,362.28	0.09	18
18	Hiroshima	7	5	5,222	18	8,479.00	0.06	19
19	Nagasaki	11	4	4,607	19	4,130.99	0.11	17
20	Kagoshima	1	15	3,899	20	9,186.33	0.04	21
21	Chiba	1	15	2,095	21	5,156.74	0.04	22
22	Saitama	5	8	2,059	22	3,797.75	0.05	20
23	Gifu	1	15	1,626	23	10,621.29	0.02	27
24	Ishikawa	1	15	1,606	24	4,186.23	0.04	23
25	Fukuoka	2	12	1,421	25	4,987.64	0.03	24
26	Yamagata	1	15	1,308	26	9,323.15	0.01	28
27	Ibaraki	1	15	1,089	27	6,097.54	0.02	26
28	Tottori	1	15	778	28	3,507.13	0.02	25
29	Kyoto	2	12	92	29	4,612.20	0.00	29
30	Hyogo	1	15	20	30	8,400.94	0.00	30
	Japan Total	130		979,862		377,973.26	0.26	

Note: This list is including shared facilities with the U.S. and Japan. The number of facilities and their area were from the Okinawa Defense Bureau, Ministry of Defense

Japan as of March 2023. The facilities which are located across more than one prefecture are counted into the prefectures' facility numbers where their primary sections are located (e.g. Yamanashi). This list is ordered by the size of the Military facility area. Source: Okinawa Prefecture. U.S. Military and Self Defense Force Bases in Okinawa Report, May 2024

Host Prefecture Actions Related to U.S. Military Bases

The Council of Governors of prefectures for External Affairs is organized by governors from fifteen prefectures. Those prefectures are Hokkaido, Aomori, Ibaraki, Saitama, Chiba, Tokyo, Kanagawa, Yamanashi, Shizuoka, Kyoto, Hiroshima, Yamaguchi, Fukuoka, Nagasaki, and Okinawa. These prefectures host U.S. military base and facilities. The council was established in 1962 to enable close communication among those host prefectures. It effectively responds to issues and requirements related to U.S. military base as a group and negotiate with the Japanese and the U.S. governments. They submit the request letter to the Japanese government regularly and have a meeting to explain the issues and challenges they require the Japanese government's support for. Those requests include an information disclosure of U.S. military aircraft crash report, the number of U.S. military personal that reside outside of U.S. military bases, improvement of countermeasures to reduce noise pollution, accident, incident, and crime related to the military bases as well as the increase of subsidies to support the local communities. The council has been addressing the shared concerns across those prefectures to improve their local communities' safety.

Although the prefectures in the council share multiple concerns related to U.S. military bases, each prefecture has a somewhat different approach to the matter. The Okinawa prefecture has been publishing the report annually which includes a significant amount of data related to U.S. military bases as well as the Japan self-defense force. The

Okinawa prefecture has a section in their prefecture's official website that shares and updates substantial amounts of data and records. The Iwakuni city in the Yamaguchi Prefecture has published some information. The information from the Iwakuni city is still somewhat limited compared to the Okinawa prefecture, however, it is more substantial than other eleven prefectures' data. The data availability for the other eleven host prefectures is sporadic or extremely limited. Most of the prefectures do not publish any information except for the official letters and activities of the Council of Governors of prefectures for External Affairs and the Japanese government.

Local police departments do not typically share information regarding U.S. military-related incidents, accidents, and crimes. The local police data availability and how it is shared varies by prefecture. Some police data includes the crimes and accidents by a non-Japanese population, however, there are no details to determine if that non-Japanese population is related to U.S. military. The National Police Agency also has the same approach for crimes, incidents and accidents data. The Kanagawa and Tokyo prefectures have some information published; however, they are very limited and not consistent. Why is U.S. military-related information so limited? Is it not an important topic for those host prefectures?

The reason for the limitation of information availability may be complex. The sporadic availability in the Tokyo and Kanagawa prefecture is likely associated with the politics (e.g. an incumbent governor's policy, status of the relationship with the Japanese government, what kind of accidents and incidents occurred, public opinion). The other prefectures do not share much information related to U.S. military base may also have some political intention (e.g. avoid drawing attention, concerns around the relationship

with the Japanese government) or they may simply not have much impact or concerns related to U.S. military bases.

Yamaguchi Prefecture (Iwakuni Military Base)

U.S. military base in the Yamaguchi prefecture is located in the Iwakuni city. The area of Iwakuni city is 14.3 % of Yamaguchi prefecture. It is facing the Seto Inland Sea and hosting the Marine Corps Air Station. U.S. military base in Yamaguchi is completely located within the Iwakuni city. This is one of the key differences regarding U.S. military base in Okinawa and Yamaguchi, in Okinawa they are located all over the prefecture's main island and across multiple cities. Therefore, this research utilizes the city level data instead of prefecture level data for U.S. military base in the Iwakuni City.

The Iwakuni city's area size is approximately 72% of Okinawa main island and its population is only eight percent. The Iwakuni city is less populated compared to Okinawa main island. U.S. military reformation plan has been impacting the Iwakuni city significantly. Based on the plan, fifteen KC-130 (tactical tanker/transport aircraft) from the Futenma air base in Okinawa and 60 carrier-based aircraft have been relocated from the Atsugi air base in the Kanagawa prefecture to Iwakuni. According to the mayor of Iwakuni city, approximately 3800 of U.S. military service members and their family were also relocated from Atsugi air base in 2018. This relocation is causing the rapid increase in the number of U.S. military service and their family members located in Iwakuni. Figure 10 shows the trend of U.S. military-related population in Iwakuni. During the 70s and 80s, the percentage of family member's in the total U.S. military population of Iwakuni was lower than recent years. It started off with around 22 % and increased to 44%.

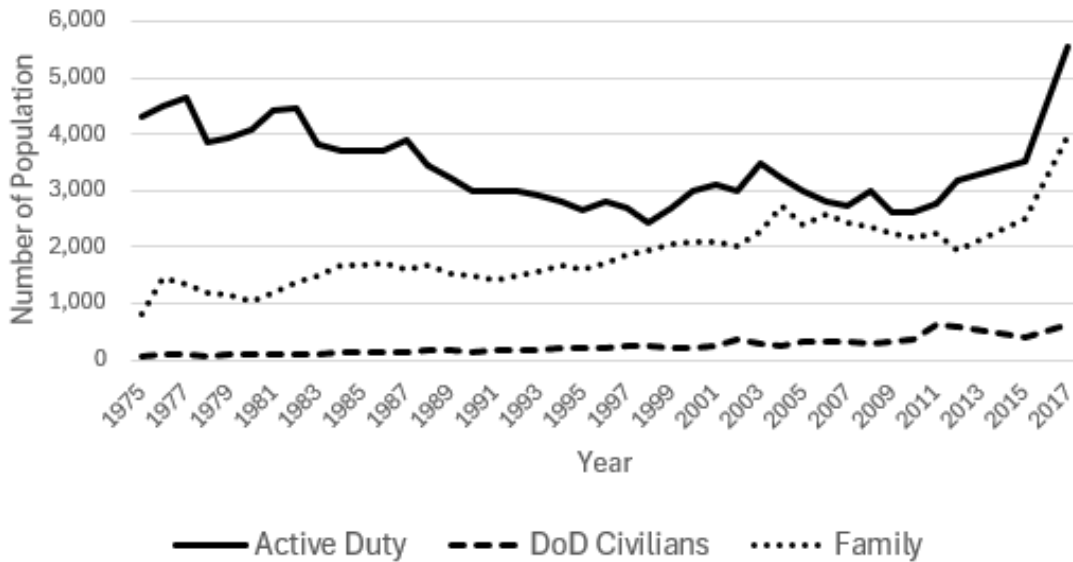


Figure 10. U.S. Military and Family Population on the Iwakuni Base

Note: There was no data published for the number of U.S. military active-duty, APF DoD civilians and their family members in 2014.2015.2017.2018. 2014,2015,2016 data is generated based on the overall trend. There was an official comment from the Iwakuni city mayor that 3,800 of U.S. military personnel and family members moved from the Atsugi airbase to the Iwakuni base in 2018(Ministry of Defense Japan). Therefore, the additional number was reflected in 2018 data by referring to previous years of population split over the military personnel and family members.

Source: Iwakuni City. The Iwakuni city and Military base report in March 2025. Ministry of Defense, Japan. The policy planning division, Iwakuni city.

U.S. Military-Related Incidents and Accidents

Based on the analysis of the Iwakuni city and Military base report by the Iwakuni city, the total number of U.S. military aircraft crashes was 16, emergency landings were four and “Other” accidents was 20 from 1973 to 2023. Other accidents include falling objects from aircraft and the aircraft’s fire accidents on the runway also counted as an emergency landing. The data did not present any trend, and it seemed to be occurring almost every year, however, there was no more than three accidents within a year.

U.S. Military-Related Crimes

The number of crimes by U.S. military-related population was remarkably higher in the 70s and 80s, it decreased significantly after the early 2000s. The largest number of crimes has been theft over the years (Figure 11).

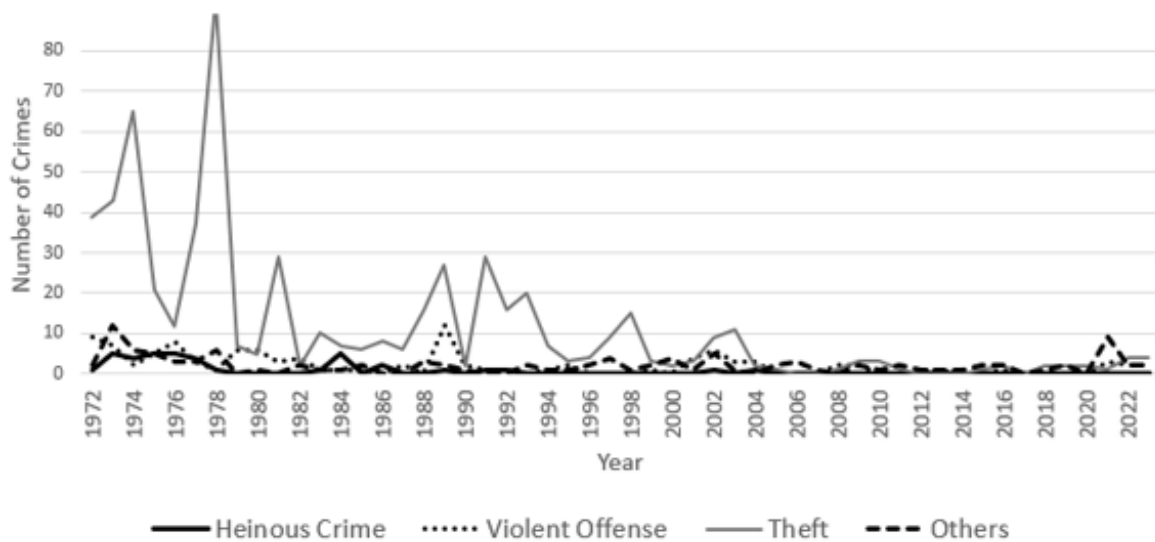


Figure 11. U.S. Military-Related Crimes in Iwakuni

Note: Heinous Crime includes Homicide, Sexual Assault, Set Fire. Violent Offense includes Atrocities, Assaults, Threat, and Blackmail. Intellectual offense includes Fraud and Embezzlement. Others includes Indecent Assault, Home Invasion. The number of Intellectual offenses from 1972 to 2003 was nine. Which was the smallest number of cases across the categories, so it was combined into the Others category.
Source: Iwakuni City. The Iwakuni city and Military base report in March 2025.

The percentage of total crime that was committed by U.S. military-related population ranges from 0.3 % to 9.4 %. The crime rate by U.S. military population is significantly lower than the crime rate by civilians in Iwakuni (Figure 12). The data presents that U.S.

military population does not introduce a higher safety risk if it is compared to the civilians in local communities.

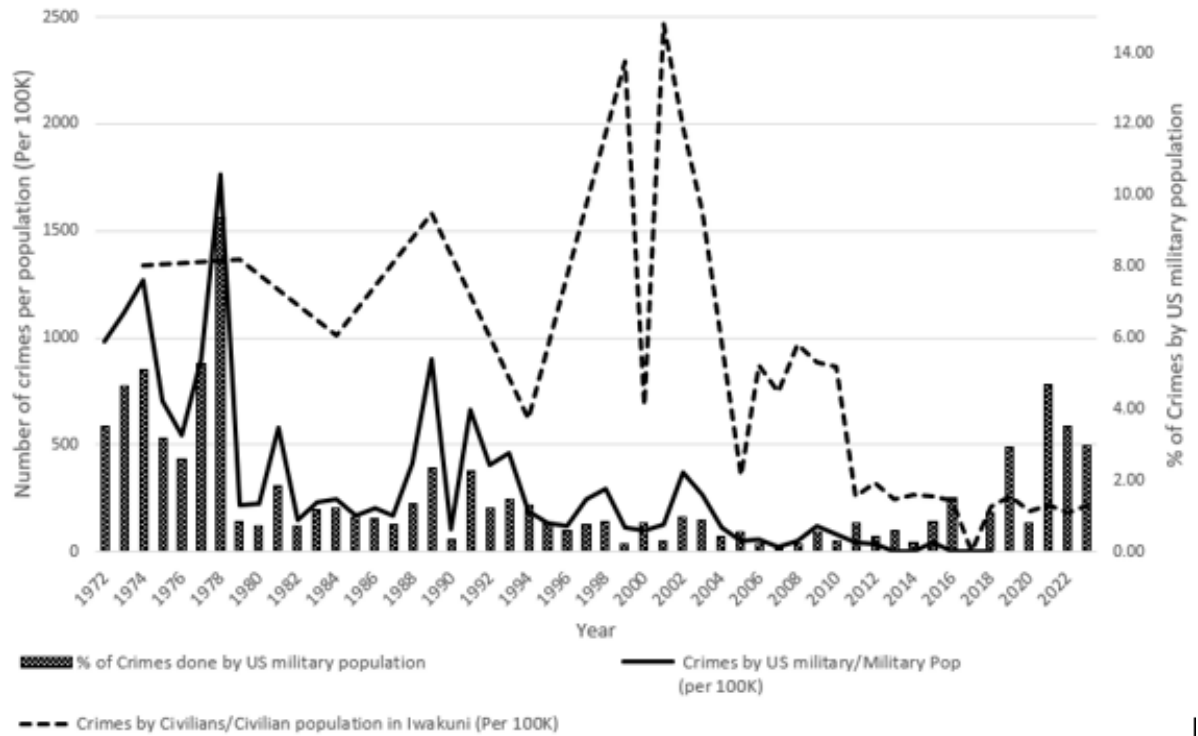


Figure 12 Crimes by U.S. Military personnel vs Crimes by Civilians in Iwakuni

Note: U.S. military population is the total of AFP DoD civilians and Active-Duty members (excluding family). The civilian population of Iwakuni city data availability was once every five years from 1977 to 1999. The figure is using the estimated numbers for those years that the actual data is not available. U.S. military population in Iwakuni has not been released officially since 2016. The total number of civilian crimes in Iwakuni city was calculated by utilizing the percentage and number of crimes by the U.S. military. Source: Iwakuni City. The Iwakuni city and Military base report in March 2025. Ministry of Defense, Japan. The policy planning division, Iwakuni city.

U.S. Military-Related Traffic Accidents

The traffic accident by U.S. military-related personnel has varied from 30 to 153 per year, that represents from one to six percent of the accidents in the Iwakuni city police territory. The numbers were higher in the 70s and 80s and they decreased in the 90s and early 2000s but started increasing around 2010. It is somewhat like the crimes committed by U.S. military because the number of accidents and per capita numbers are both significantly higher compared to the later years. Figure 13 presents the accident rate by the civilians and U.S. military-related population per capita (100,000). In the 70s and early 80s, the accident by U.S. military had the higher rate than civilians, however, it went down significantly. The number of accidents by U.S. military per capita was 2436 with 3080 civilians in 2016. The data shows that U.S. military population causes less traffic accidents than the civilian population. However, the data of U.S. military population in Iwakuni has not been published since 2016. Therefore, there is no recent data to assess the traffic safety of U.S. military population.



Figure 13. Traffic Accidents by U.S. Military vs by Civilians in Iwakuni

Note: U.S. military population includes Active-Duty and AFP DoD civilians (excluding their family members). The civilian population of Iwakuni city data availability was once every five years from 1977 to 1999. The figure is using the estimated numbers for those years that the actual data is not available. U.S. military population in Iwakuni has not been released officially since 2016.

Source: Iwakuni City. The Iwakuni city and Military base report in March 2025. Ministry of Defense, Japan. The policy planning division, Iwakuni city.

Economy of Iwakuni

The 2025 annual budget of Iwakuni city, including subsidies from the national government related to the Iwakuni military base, is 9.3 billion Japanese yen. It represents 11.3% of the entire city income for the year (Nagahisa). Iwakuni city publishes the details of subsidies and military-related land lease, however, they do not publish the total city income related to the military base (e.g. the employment income from the military base, the income related to the business associated with the military base). Therefore, the total

amount of city income related to U.S. military base is uncertain. U.S. military base in Iwakuni has been employing more than 1000 Japanese nationals consistently (Figure 14). Since the reformation of USFJ started, the number of employments has increased to more than 1500. By utilizing the national census data in 2010, 2015, and 2020, the number of employments in Iwakuni Military base represents one to 1.4 % of total labor force in Iwakuni city. The definition of labor force in this calculation is following the guideline of the Ministry of Internal Affairs and Communications of Japan. It is a population of people older than fifteen years old without an upper age limit. Since more than one percent of the local labor force is working in the USFJ base, it is evident that the USFJ base is an important working location for the local community.

Considering the subsidies related to the military base is more than eleven percent of the city budget and the number of military base employment, Iwakuni city's economy may have high dependency to the USFJ. Based on the reformation of USFJ, the number of employments at the military base, the number of subsidies, and U.S. military-related population are all increasing. In contrast, the population of Iwakuni city has been decreasing by more than 1500 per year, since 2006. The city population has decreased by 18.3% from 2006. Iwakuni city's dependency to U.S. military may increase even further in these coming years.

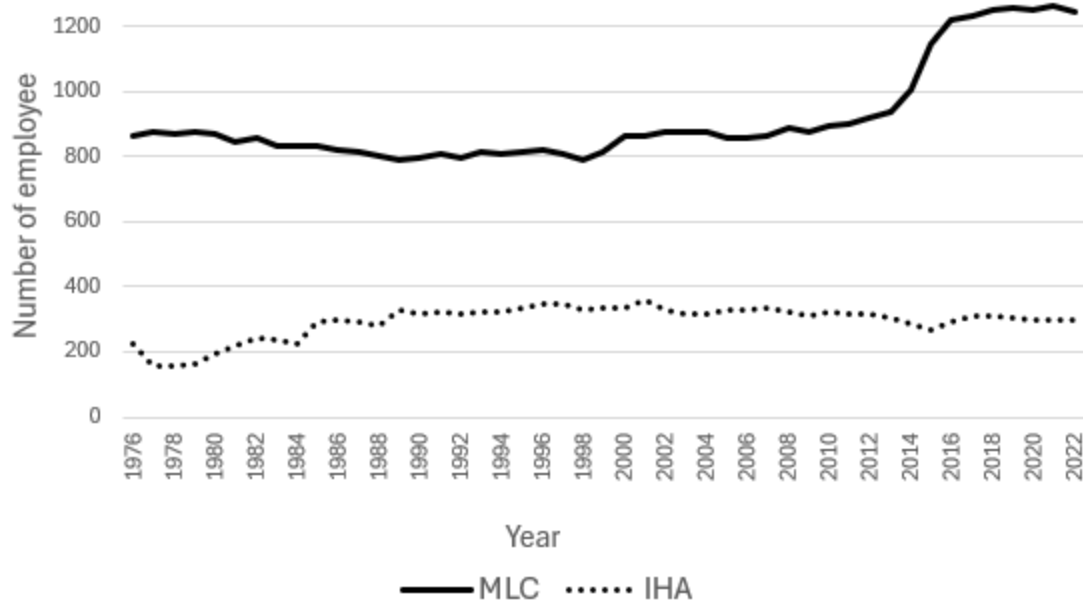


Figure 14 Employment Trend on Iwakuni Base

Note: MLC (Master Labor Contract) is an agreement between the Japanese and U.S. government regarding the terms of Japanese national's employment. IHA (Indirect Hire Agreement) is the agreement for the employees at stores and restaurants including HPT (Hourly Pay Temporary).

Source: Iwakuni City. The Iwakuni city and Military base report in March 2025.

Comparison: Okinawa vs Iwakuni

The number of the U.S military bases, area size, and population in the Okinawa prefecture is significantly more than Iwakuni city (Table 6). U.S. military base in Okinawa is located across the main island of the prefecture over multiple cities. The ones in Yamaguchi prefecture are only located in Iwakuni city. Iwakuni city has a smaller area and population than the Okinawa prefecture. However, the local population per U.S. military population in Okinawa and Iwakuni are very close, and it may be considered they have similar level of concentration. There are no other prefectures or cities that have

the necessary set of data available to conduct the comparison, therefore, this research utilizes the data of Okinawa prefecture and Iwakuni city.

Table 5. U.S. Military Base Area and Population on Okinawa and in Iwakuni

Location	Number of US Military Facility	US Military Facility Area (Thousand Square Meters)	Prefecture or City Area (Square Kilometers)	US Military Facility Area per Prefecture Area (%)	US Military Active Duty Population	APF DoD Civilians Population	US Military Family Population	Local population per Active-Duty Pop	Local population per US Total Military Pop	Local Population
Okinawa	31	184,546	2,282.15	8.09	25,843	1,994	19,463	54	30	1,401,000
Iwakuni city	2	8,672	873.67	0.99	2,600	360	2,170	56	28	144,995

Note: The number of U.S. military-related population in Okinawa has not been released since 2011. This list is using the population data as of 2011 for both Iwakuni city and Okinawa prefecture.

Source: Iwakuni City. The Iwakuni city and Military base report in March 2025. Okinawa Prefecture. U.S. Military and Self Defense Force Bases in Okinawa Report, May 2024. The policy planning division, Iwakuni city. The planning department, Statistic Section, Okinawa prefecture.

U.S. Military-Related Crimes

The USFJ implemented the Liberty regulations in 2004, and it has been updated multiple times over the years. The liberty regulations include Curfew, Training, Alcohol consumption, Off-Limit areas, Appropriate Attire (Liberty Guidelines and Information). In 2024, there were four sexual assault incidents by U.S. military service members in Okinawa, it was the highest number of incidents of the past ten years. It included the sexual assault of a sixteen-year-old girl. The Ministry of Foreign Affairs of Japan formally protested with the U.S. Ambassador to Japan in March and June 2024 (Tanahashi, Kamiji, 2024). The U.S. Ambassador to Japan announced measures to prevent recurrence. The revision of the liberty regulation was included in these measures.

The revision did not change the existing rules significantly, however, it added the clause to prohibit entry into establishments (e.g. bars) where the primary purpose is the serving of alcohol during 1:00 AM to 5:00AM (Hirakawa, 2024). As the data presented, U.S. military-related populations have lower crime and traffic accident rates than the local civilian population both in Iwakuni and Okinawa. The data does not present any drastic change before and after the liberty regulation implementation and there are multiple variables that must have impacted the outcome.

However, based on the lower crime and accident rate of U.S. military-related population, it should be considered that the liberty regulation may have made some contribution to reduce the risk. The Figure 15 presents the comparison of U.S. military crime rate per 100,000 between Okinawa and Iwakuni. Iwakuni has had significantly higher crime rates than Okinawa in some specific years (i.e. 1979, 1990, 1992) and in the 90s it had consistently a higher crime rate than Okinawa, however, Okinawa's crime rate was higher than Iwakuni after the mid-2000s. Overall, the crime rate comparison from 1975 to 2003 does not suggest either one location is particularly worse than the other.

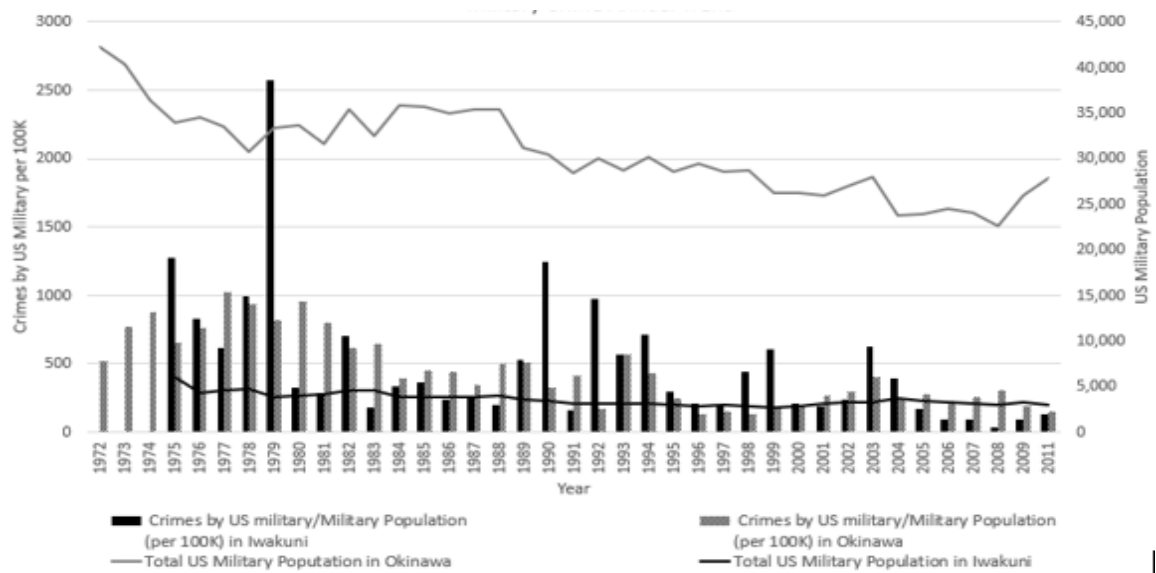


Figure 15. U.S. Military Crime Rates Comparison: Okinawa vs Iwakuni

Note: The data of the military population in Iwakuni is available only from 1975.

Source: Iwakuni City. The Iwakuni city and Military base report in March 2025.

Okinawa Prefecture. U.S. Military and Self Defense Force Bases in Okinawa Report, May 2024.

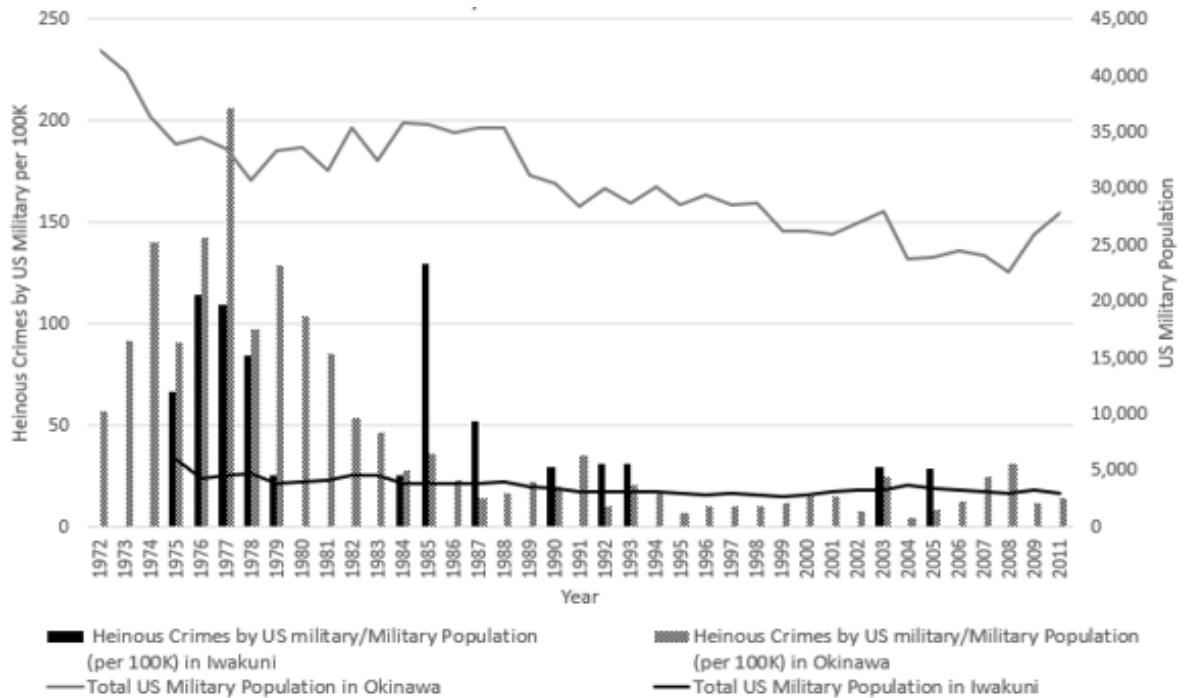


Figure 16. U.S. Military Heinous Crime Rate Comparison: Okinawa vs Iwakuni

Note: Heinous Crime includes Homicide, Sexual Assault, Set Fire. Violent Offense includes Atrocities, Assaults, Threat, and Blackmail.
Source: Iwakuni City. The Iwakuni city and Military base report in March 2025.
Okinawa Prefecture. U.S. Military and Self Defense Force Bases in Okinawa Report, May 2024.

Figure 16 presents the Heinous crime rate per 100,000 in Okinawa and Iwakuni. Except for 1985, the crime rate of Okinawa is higher than Iwakuni. There are many years that Iwakuni did not have any heinous crimes by U.S. military-related population, however, it has been occurring in Okinawa every year. The average heinous crime rate is 39 per 100,000 in Okinawa and 21 in Iwakuni. Although Iwakuni has an overall higher average crime rate than Okinawa, Okinawa has a much higher heinous crime rate than Iwakuni.

Both locations share a similar trend in the number of crimes and crime rates per 100,000. The trend is that the numbers were higher in the 70s, 80s, and 90s and declined from the late 90s to 2000s. As local civilians' data also has similar trends, it may be related to the multiple variables of society overall. However, analyzing the population of U.S. military service members (Active-duty and APF DoD civilians) and their family members confirmed that there is a strong correlation between the percentage of family members population in U.S. military population and the crime rate (Figure 17 and 18). Okinawa shows a stronger correlation than Iwakuni. Iwakuni had very few family members who came with the military service members in early years (Figure 10) and some randomness in number of crimes. However, both locations indicate that more family members coming along with U.S. military service members results in a lower crime rate.

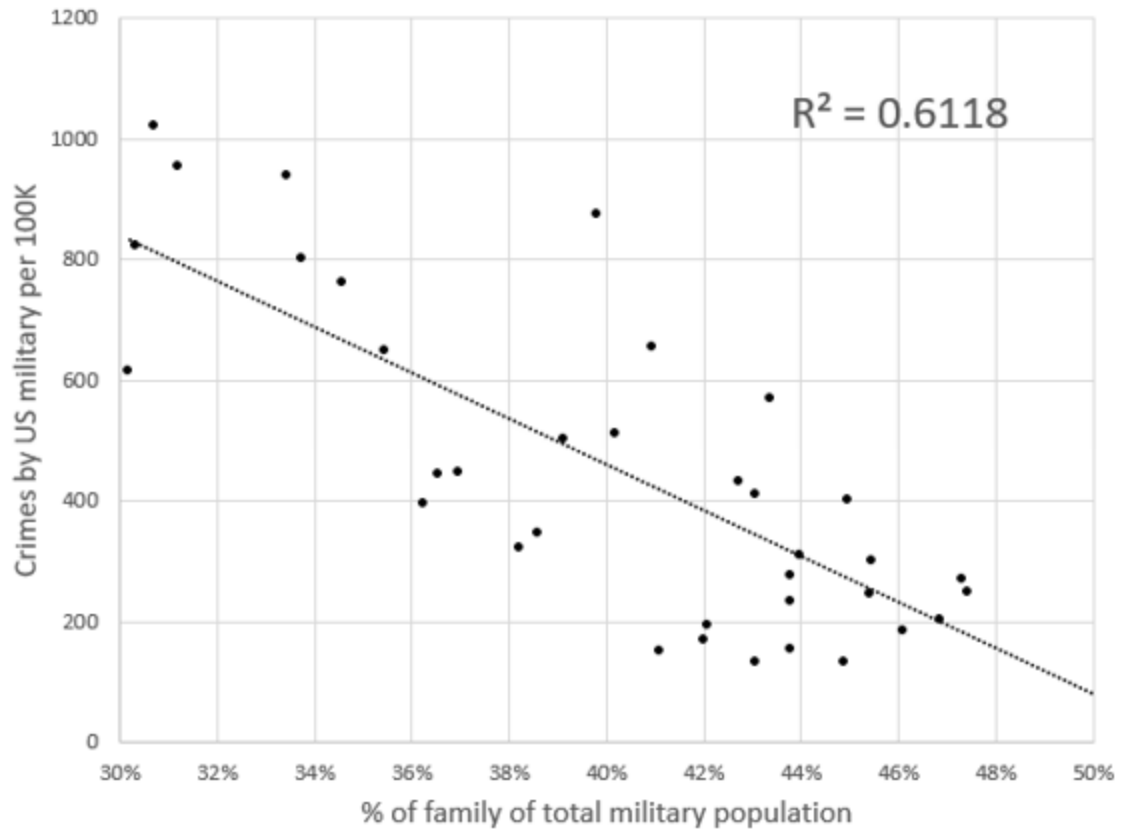


Figure 17. Crime Rate vs Percentage of Family Population in Okinawa

Source: Iwakuni city. Iwakuni City. The Iwakuni city and Military base report in March 2025. Okinawa Prefecture. U.S. Military and Self Defense Force Bases in Okinawa Report, May 2024.

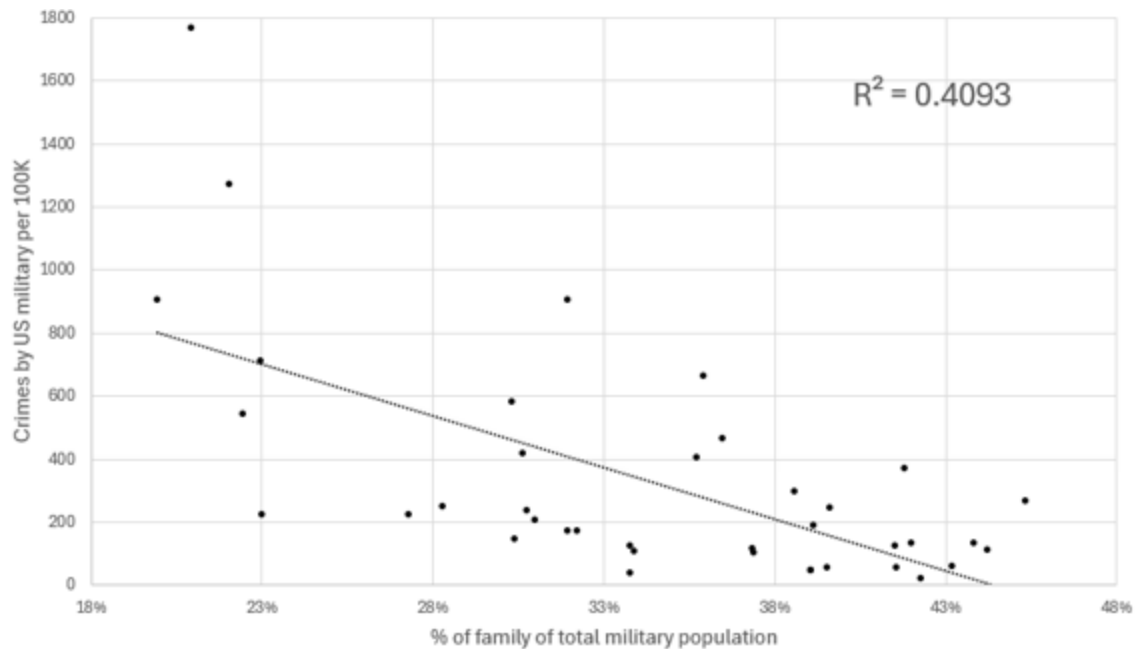


Figure 18. Crime Rate vs Percentage of Family Population in Iwakuni

Source: Iwakuni City. The Iwakuni city and Military base report in March 2025. Okinawa Prefecture. U.S. Military and Self Defense Force Bases in Okinawa Report, May 2024.

U.S. Military-Related Traffic Accidents

Comparing the traffic accident by U.S. military population per 100,000 confirmed that Iwakuni has a ten times higher median accident rate and six times higher average accident rate than Okinawa (Figure 19). Iwakuni city is lessor populated than Okinawa prefecture (less than 15 % of population density), so it may be expected to have lower traffic accident rates than Okinawa, however, the data shows differently.

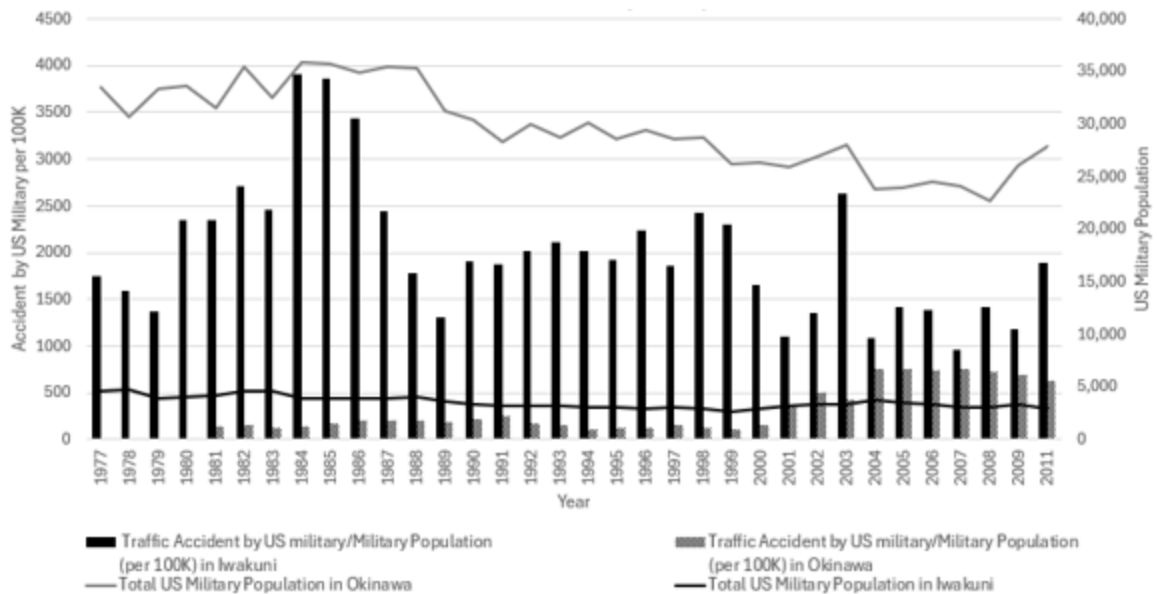


Figure 19. U.S. Military Traffic Accident Rate Comparison: Okinawa vs Iwakuni

Note: The traffic accident by U.S. military population is only available from 1981. Source: Iwakuni city. The Iwakuni city and Military base report published by the Iwakuni city, March 2025. Okinawa Prefecture U.S. Military and Self Defense Force Bases in Okinawa Report, May 2024.

U.S. Military-Related Incidents and Accidents

Okinawa has an average more than 82 accidents by U.S. military annually (Figure 5). The data from 2003 to 2023 shows that there was a total of 1728 accidents and incidents during the twenty years. There has not been even one year without incidents or accidents in Okinawa. On the other hand, Iwakuni has many years without incidents and the number has not been more than three incidents from 2003 to 2023. This significant difference between Okinawa and Iwakuni may be based on the area size, application of bases in each location. Iwakuni base is primarily the U.S. Marine Corps Air Station, and it focuses on supporting the operations, maintenance and supply of tenant units and

vessels. Marines in Iwakuni deployed aircraft such as F/A-18, KC-130, F-35B and Navy has aircraft such as F/A-18. The base in Okinawa has 21 times larger size than Iwakuni, nine times more military population than Iwakuni, and it is utilized by multiple units that are the U.S. Navy, Army, Air Force, and Marines. Each service branch has different operations and training requirements. The U.S. Air Force in Okinawa has aircrafts such as F-15, KC135, HH-60, E-3, MQ-9 in Kadena air base. Marines have helicopters such as CH-53, AH-1, UH-1, MV-22 Osprey in Futenma air base. Marines' infantry units are also deployed. The U.S. Army deployed Patriot PAC-3 and Airborne Special Forces in Okinawa (Okinawa Prefecture).

As an example, there are multiple accidents related to parachutes in Okinawa every year. It is mainly caused by the Airborne Special Forces during their parachute training when they land in areas that were not planned. It sometimes damages infrastructure or civilian property. Those accidents are counted as an emergency landing in Figure 5. This kind of accident or incident may not happen in the areas where the Airborne Special Forces are not deployed or are not conducting their training. None of other USFJ bases in Japan has as many units from different U.S. military service branches like Okinawa does. This is the reason why U.S. military in Okinawa has more categories of incidents and accidents than other USFJ bases in Japan. Each unit's operation, training, and equipment (e.g. aircraft) have different levels of risk associated with it. This risk becomes even greater if the base is in a highly populated area such as Futenma air base. The number of U.S. military incidents and accidents happening in Okinawa is because of the associated risks that come with the military base hosting units from various service branches.

Chapter IV

The Economy and Safety of Guam

On December 14, 2024, the Japanese government announced approximately one hundred U.S. Marines have started relocating from Okinawa to Guam. This was the first USFJ relocation from Okinawa to Guam to occur since the bilateral agreement of USFJ reformation between Japan and the U.S. was signed in 2006. It has been 18 years since the signing of the agreement. The original plan announced in 2006 was to relocate eight thousand Marines and their family members (approximately nine thousand) from Okinawa to Guam by 2014. The plan was modified in 2012 to relocate total nine thousand USFJ service members and their family from Okinawa to outside of Japan (e.g. Guam, Hawaii) and four thousands of those nine thousand service members to be relocated to Guam. The rest of the five thousand service members and their families will be relocated to Hawaii and the other U.S. territories including the U.S. mainland.

The Japanese government indicated the relocation of the U.S. Marines to outside of Japan is to reduce the burden on Okinawa. They explained that the relocation will have several phases although the details of the relocation schedule have not been disclosed. Okinawa has faced multiple challenges hosting many U.S. military service members and U.S. military bases. The relocation of some U.S. military population and operation functions to outside of Japan may reduce the burden of Okinawa and the challenges that Okinawa has been suffering from. However, does this mean they are only relocating the problem elsewhere? In December 2023, the number of active-duty service members in

Guam was 6,456. If the relocation from Okinawa is completed, the number of service members will increase approximately 40%. This substantial increase in service member population and operation capacity may adversely impact the local community significantly. This chapter will analyze Guam's economic development and Safety related to U.S. military.

Okinawa is a relatively small prefecture (2,282 Sq km) and the residential land is even more limited (1,210 Sq km). U.S. military base occupies a significant amount of their land (187 Sq km) that is 15% of their residential land. Therefore, some U.S. military bases abut residential areas. Guam has a similar, or perhaps even more extreme situation to Okinawa. Guam has 544 Sq km of land and U.S. military manages 254 Sq km of that, which represents 46.6% of the land of Guam. Okinawa's population is 1,469,435 that is 1.2% of the entire population of Japan (World bank). If Okinawa's population is divided by the number of U.S. troops stationed in Okinawa, it is one U.S. active-duty service member per 54 Okinawans. This is the second highest ratio after Guam (one U.S. active-duty service member per 27 Guamanians). If the number of APF DoD Civilian Personnel is added to the number of active-duty service members, it becomes one U.S. military active-duty member or APF civilian personal, per 29 Okinawan citizens and one per 17 Guamanians (Table 7).

Table 6. Number of U.S. Military Personnel: National & Local Population

US Military Duty Country	Total Active Duty Service Member	% of Total US Overseas Active Duty	2023 Country Population	Country Population per Active duty	APF DOD Civilian TOTAL	Grand TOTAL of Active Duty and APF Dod Civilian	Country Population per Grand Total (Active Duty & APFC)	No. of Active Duty Service member Ranking	Country Population per Active duty Ranking	Country population per Grand Total (Active Duty & APFC) Ranking
GUAM	6,456	3.8%	172,952	27	2,888	10,300	17	7	1	1
Okinawa	25,743	15.3%	1,392,818	54	1,994	47,300	29	3	2	2
PALAU	68	0.0%	18,058	266	0	68	266	41	3	4
GREENLAND	139	0.1%	56,865	409	1	141	403	33	4	6
BAHRAIN	3,569	2.1%	1,485,509	416	486	4,079	364	9	5	5
VIRGIN ISLANDS	30	0.0%	31,538	1,051	136	265	119	61	6	3
KOREA, SOUTH	23,813	14.2%	51,712,619	2,172	3,057	27,151	1,905	4	7	11
JAPAN	55,423	33.0%	124,516,650	2,247	7,003	62,802	1,983	1	8	12
GERMANY	35,125	20.9%	84,482,267	2,405	11,803	48,392	1,746	2	9	10
MARSHALL ISLANDS	17	0.0%	41,996	2,470	75	92	456	84	10	8
DJIBOUTI	341	0.2%	1,136,455	3,333	1	342	3,323	20	11	13
ITALY	12,408	7.4%	58,761,146	4,736	2,676	15,193	3,868	5	12	15
PUERTO RICO	659	0.4%	3,205,691	4,864	2,209	7,176	447	13	13	7
UNITED KINGDOM	9,994	5.9%	68,350,000	6,839	1,398	11,540	5,923	6	14	17

Note: The full list is in Appendix 1. This list is ordered by the Total Active Duty and APF DOD Civilian per Local population. Okinawa's data is from 2011. The prefecture level of U.S. military service member numbers has not been released neither from the U.S. government nor Japanese government since 2011. ZZ-Unknown numbers are the numbers of Active Duty and APF civilians which are not allocated to specific locations. Source: the Defense Manpower Data Center, December 2023, Okinawa Prefecture. U.S. Military and Self Defense Force Bases in Okinawa Report, May 2024

Economy of Guam

According to the Japanese Ministry of Defense, the total estimated cost of the USFJ relocation from Okinawa to Guam is USD 8.6 billion, in Fiscal Year 2012 dollars. The Japanese government had agreed to fund up to USD 2.8 billion in Fiscal Year 2008. However, the Japanese government announced that USD 2.75 billion of those USD 2.8 billion (98%) has already been spent and the U.S. government will fund any remaining cost. These contributions from Japan are mainly used for infrastructure projects on Marine Corps Base Camp Blaz, Anderson Air Force Base, and Naval Base in Guam. The Japanese government explained that the relocation of approximately one hundred service

members from Okinawa to Guam is in line with the Joint statement of the Security Consultative Committee (Two plus Two) on July 28, 2024. In this statement, the U.S. and the Japanese governments confirmed that the relocation of Marines from Okinawa to Guam will be beginning in 2024. Also, the statement reconfirmed that the accelerating work of the Marine Corps Air Station (MCAS) Futenma and the construction of the Futenma Replacement Facility at Henoko is “the only solution that avoids the continued use of MCAS Futenma” (“Joint Statement of the Security Consultative Committee (‘2+2’)”).

Base-Dependent Economy

According to the U.S. Department of Defense’s spending by state report in Fiscal year 2022, the USD 2.5 billion spend in Guam which comprised 41.3 % of Guam’s Gross Domestic Product is the highest of any U.S. state or territory. The average defense spending of the 50 states and DC is 2.2 % in FY 2022 and the highest percentage was at 9.7 % in Virginia. In 2021, the federal defense spending in Guam was USD 2.9 billion and it was 46.6% of Guam’s GDP. USD2.1 billion of the 2.9 billion was awarded as contracts to multiple organizations and USD 781.5 million was utilized in payroll. Many of those contracts were for the construction to build up the infrastructure and military facilities in Guam. Figure 20 presents the total dollar amount of contract awarded for the construction in Guam from 2000 to 2024. It has increased by eight times or more. Whether those awarded contracts truly contribute to the local community financially or not is a topic that is frequently debated.

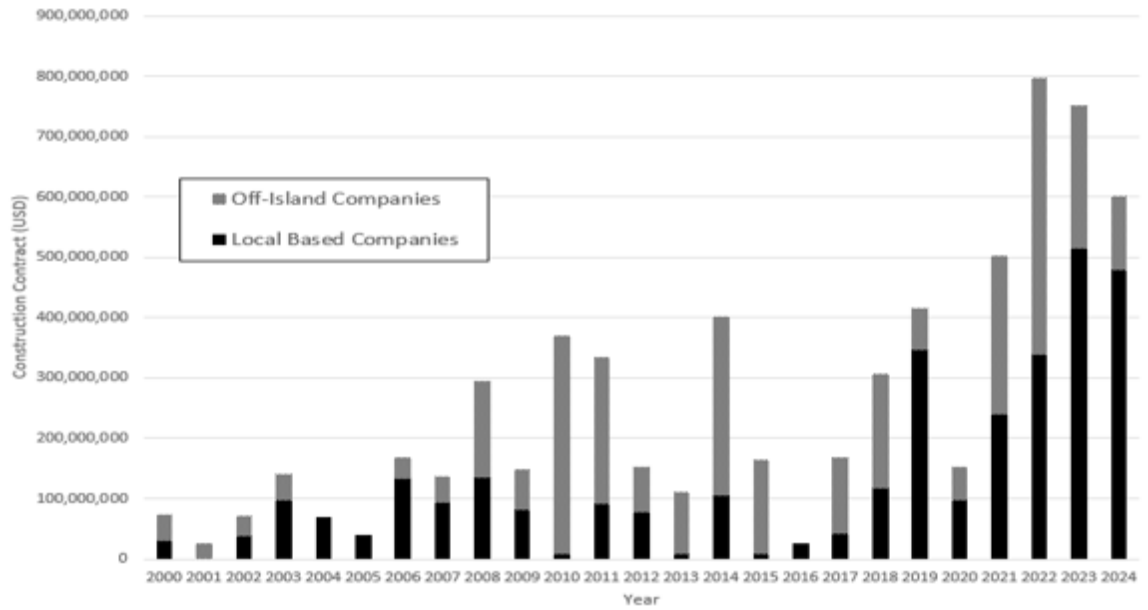


Figure 20. DoD Construction Contracts in Guam

Note: Individual Contract Amounts of \$5 Million plus only.

Source: Bureau of Labor Statistics of Guam, January 2025.

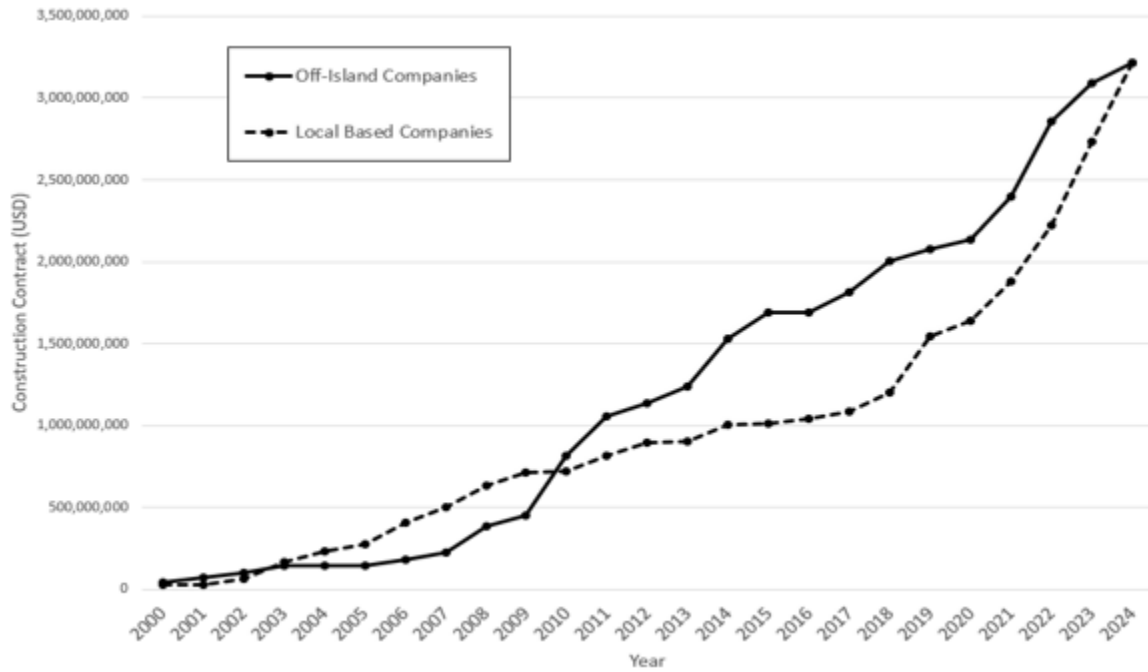


Figure 21. DoD Construction Contracts in Guam (Local vs Off-island Company)

Note: Individual Contract Amounts of \$5 Million plus only.

Source: Bureau of Labor Statistics of Guam, January 2025.

Figure 21 shows that the contracts have been managed intentionally to award both local and off-island companies equally. The contract amounts finally became fully equal in 2024 after the off-island companies had been receiving a greater share for many years.

Based on the employment statistics data from 2000 to 2024, an average 74% of employment is in the private sector and 24% is in the public sector. In the private sector, an average 62% of employment are in the transportation and public utilities, whole sales trade, retail trade, finance and insurance, and service. On average nine percent of employment was in the construction industry. However, since 2020, the employment percentage in the construction industry has increased significantly each year, and it reached 19 % in 2024. As Figure 22 presents, this rapid increase in the construction industry employment ratio is related to the U.S. Department of Defense's construction contract. Although U.S. military-related economic impact may not only be construction, the significant increase in construction contracts in recent years and construction industry employment ratio increase indicate that Guam's economy is becoming more military Base-Dependent.

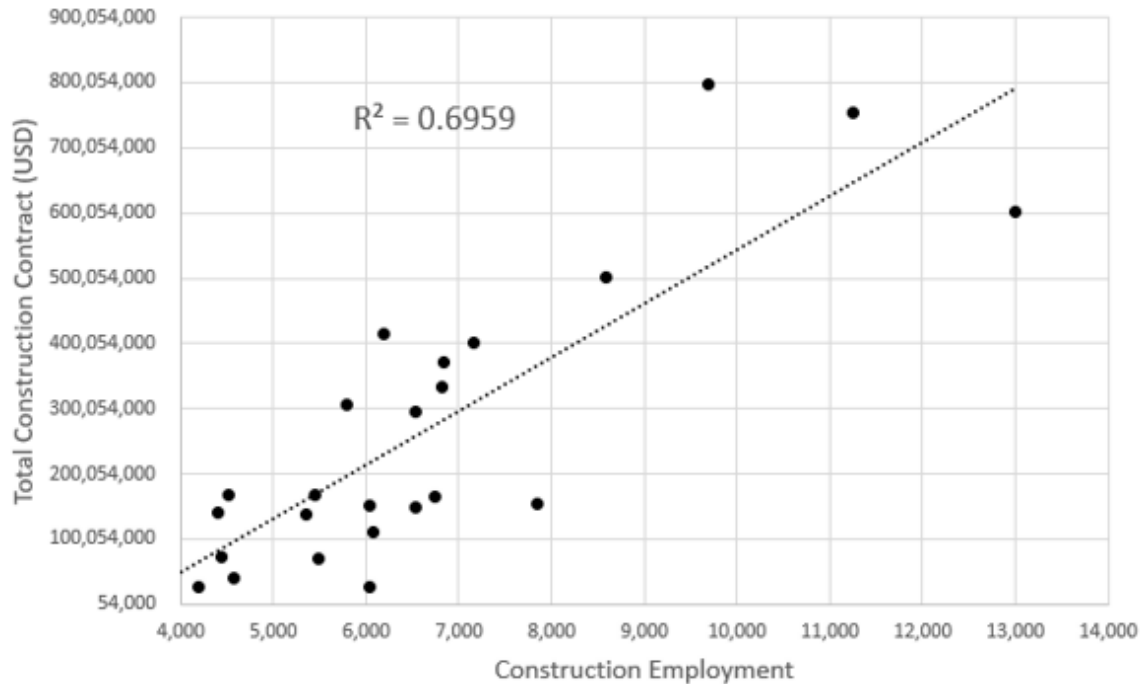


Figure 22. Construction Employment vs Contractx from 2000 to 2024

Note: This Figure includes both Off-island and Local companies contract and employment. Individual Contract Amounts of \$5 Million plus only. Employment data and Construction contract data from 2020 to 2024 are utilized.

Source: Bureau of Labor Statistics of Guam, January 2025.

Income per Capita

The last per capita income that the Guaman government released was in 2011 and it was the income per capita as of 2010. The data may be too old to refer to since the recent economic movement cannot be reflected. However, it was \$12,864 and it was less than half of the U.S. average income per capita.

Unemployment Rate

Based on the comparison in the unemployment rate between Guam and the U.S. national median from 2004 to 2024 (Figure 23), Guam had a higher unemployment for the first ten years and started having a similar rate as the national median except for 2020 and 2021. The extremely high unemployment rate during those two years may be the impact of Covid-19. The tourism and related industries (e.g. service, transportation) are the key industries in Guam and they were impacted drastically during that period. Based on this data, Guam's employment status was improved over the years.

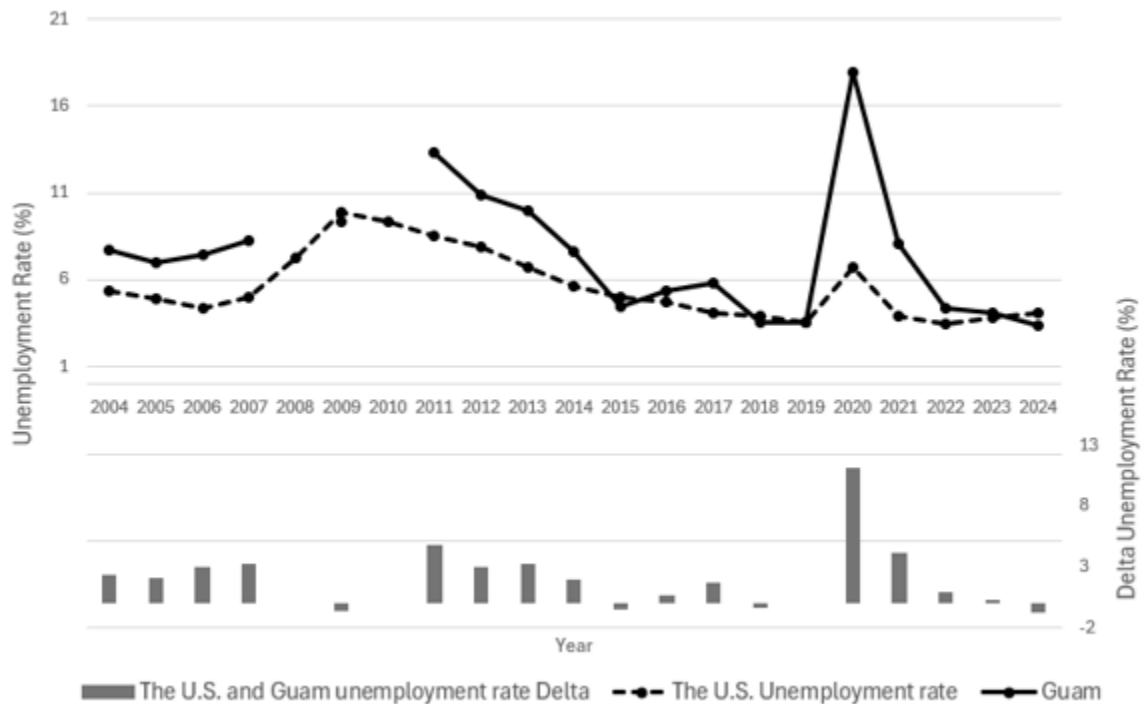


Figure 23. Guam's Unemployment Rate Comparison with National Median

Note: Guaman government unemployment data does not have the unemployment rate data in 2008 and 2010. Guam's September data of each year is utilized. The U.S. national data is Civilian unemployment rate from December of each year.

Source: The U.S. Government bureau of labor statistics. Government of Guam Bureau of Labor Statistics

Safety of Guam

There was no data set available to analyze the safety of Guam related to U.S. military base. The crime and incident report that the Guaman Police Department publishes includes the racial identification of perpetrators in high level, however, there are no details to determine if any of those crimes were committed by U.S. military population. No data has been found regarding accidents or incidents caused by U.S. military. The lack of data availability regarding crimes and accidents related to U.S. military population is very similar to Japan. Unless the local community commits themselves to collect the data and publish it, that data is not available. The information may have some political implications and may be utilized for a purpose that the local government does not intend. The reason why information availability is so limited may be based on concerns that local community leaders may have.

Conclusion

Does a highly concentrated militarization of the U.S. force, located outside of the U.S. territories including the U.S. unincorporated territories, adversely impact the surrounding local communities? This research discovered the requirement for further clarification on the definition of “concentrated militarization of the U.S. forces.” The concentration of militarization is not only about the size of U.S. military-related population, the size of base, or how closely they are located to each other, but also what kind of units and from which branch of the military they are from. The Okinawa prefecture checked all those boxes and fulfills the definition. Other locations this research investigated (i.e. all prefectures in Japan that host U.S. military base and Guam) do not satisfy the definition fully. However, the comparative research utilizing those areas that have lesser concentrated militarization helped to prove the adverse impact caused by a higher concentration of militarization, of the U.S. forces.

It was confirmed that U.S. military populations of both Okinawa and Iwakuni have a lower crime and traffic accident rate than the local civilian population. Also, the crime and traffic accident rates have decreased over the years. However, they have not been eliminated, and it is not realistic to expect them to be eliminated. Although the crime and accident rate are similar in Okinawa and Iwakuni, the number of U.S. military population in these two locations are significantly different.

Since Okinawa has a noticeably larger U.S. military-related population, the total number of crimes and accidents is more than Iwakuni. The crimes and traffic accidents are not unique to U.S. military population. The civilian population also commits crimes and causes accidents. However, the types of accident and the incidents caused by U.S.

military (e.g. aircraft crash, emergency landing, water pollution, wildfire) are specific to U.S. military operations. These incidents and accidents are associated with the combination of units, which military service branch they come from and what kind of training and operations they conduct. The research confirmed that the number of these incidents and accidents has not decreased. It is the unique and specific risk that the military bring into the local communities that the local population is forced to live with. The risk becomes especially great if the base is located in a highly populated area. Iwakuni and Guam have fewer combinations of branches where their units come from. Guam has hosted mainly the Navy and Air Force, however, now that the Marines are moving from Okinawa, their combination of units will become more complex like Okinawa has been. In addition, Guam has an even higher density of U.S. military population compared to the local population, and the percentage of the land that U.S. military occupies in Guam is six times more than Okinawa. It is likely that Guam will experience the adverse impact that Okinawa has been experiencing.

Regarding the economic impact, it may vary based on the size of territory and population. However, in case the local economy is smaller such as Iwakuni and Guam, U.S. military-related income (e.g. subsidies, construction contracts, employment) becomes a higher percentage of the local communities' budget and income. Base-dependent economies may not be considered as an adverse impact completely. However, it would cause multiple risks that the local community may not be able to control, such as military-related incidents and accidents. In addition, there may be lost opportunities caused by hosting the military bases that is difficult to quantify and tends to be ignored. It came up throughout the research of Okinawa. What could have happened if there were

fewer or no military bases? If the land and resources were utilized for some other purpose, Okinawans could have had a much more prosperous life?

The data sets that this research utilized were limited. There are more indicators available to analyze the economy and safety of local communities. As an example, some communities hosting the U.S. base in Japan specifically complained about noise pollution, however, it was not included in this research. Also, it will provide further clarification if the impact on the local community by each military service branch deployed is researched.

Appendix 1.U.S. Military-Related Incidents and Accidents in Okinawa

US Military Duty Country	Total Active Duty Service Member	% of Total US Overseas Active Duty	2023 Country Population	Country Populatopm per Active duty	APF DOD Civilian TOTAL	Grand TOTAL of Active Duty and APF Dod Civilian	Country Population per Grand Total (Active Duty & APFC)	No. of Active DutyService member Ranking	Country Population per Active duty Ranking	Country population per Grand Total (Active Duty & APFC) Ranking
JAPAN	55,423	33.0%	124,516,650	2,247	7,003	62,802	1,983	1	8	12
GERMANY	35,125	20.9%	84,482,267	2,405	11,803	48,392	1,746	2	9	10
Okinawa	25,743	15.3%	1,392,818	54	1,994	47,300	29	3	2	2
KOREA, SOUTH	23,813	14.2%	51,712,619	2,172	3,057	27,151	1,905	4	7	11
ITALY	12,408	7.4%	58,761,146	4,736	2,676	15,193	3,868	5	12	15
UNITED KINGDOM	9,994	5.9%	68,350,000	6,839	1,398	11,540	5,923	6	14	17
GUAM	6,456	3.8%	172,952	27	2,888	10,300	17	7	1	1
ZZ-UNKNOWN	5,380	3.2%			268	21,588		8		
BAHRAIN	3,569	2.1%	1,485,509	416	486	4,079	364	9	5	5
SPAIN	3,254	1.9%	48,373,336	14,866	441	3,709	13,042	10	22	22
TURKEY	1,742	1.0%	85,326,000	48,982	70	1,814	47,037	11	36	37
BELGIUM	1,105	0.7%	11,822,592	10,699	716	1,828	6,468	12	18	18
PUERTO RICO	659	0.4%	3,205,691	4,864	2,209	7,176	447	13	13	7
AUSTRALIA	582	0.3%	26,638,544	45,771	30	612	43,527	14	35	34
CUBA	569	0.3%	11,194,449	19,674	262	831	13,471	15	23	23
KUWAIT	551	0.3%	4,310,108	7,822	208	760	5,671	16	16	16
NETHERLANDS	423	0.3%	17,879,488	42,268	224	648	27,592	17	31	29
GREECE	397	0.2%	10,361,295	26,099	79	476	21,767	18	27	26
HONDURAS	386	0.2%	10,593,798	27,445	25	411	25,776	19	28	28
DJIBOUTI	341	0.2%	1,136,455	3,333	1	342	3,323	20	11	13
QATAR	324	0.2%	2,716,391	8,384	26	350	7,761	21	17	20
PHILIPPINES	284	0.2%	117,337,368	413,160	14	299	392,433	22	87	87
SAUDI ARABIA	267	0.2%	36,947,025	138,378	94	361	102,346	23	53	50
POLAND	249	0.1%	36,685,849	147,333	62	311	117,961	24	55	54
SINGAPORE	242	0.1%	5,917,648	24,453	175	417	14,191	25	26	24
PORTUGAL	236	0.1%	10,525,347	44,599	5	241	43,674	26	33	35
NORWAY	226	0.1%	5,519,594	24,423	6	233	23,689	27	25	27
BRITISH INDIAN	211	0.1%			2	213	0	28	169	
EGYPT	175	0.1%	112,716,598	644,095	7	183	615,938	29	100	101
UNITED ARAB	166	0.1%	9,516,871	57,331	15	181	52,579	30	37	38
CANADA	156	0.1%	40,097,761	257,037	31	189	212,157	31	71	71
FINLAND	141	0.1%	5,584,264	39,605	2	143	39,051	32	30	32
GREENLAND	139	0.1%	56,865	409	1	141	403	33	4	6
ROMANIA	131	0.1%	19,056,116	145,467	47	179	106,459	34	54	52
ISRAEL	110	0.1%	9,756,700	88,697	20	130	75,052	35	41	42
JORDAN	109	0.1%	11,337,052	104,010	16	125	90,696	36	45	45
THAILAND	107	0.1%	71,801,279	671,040	15	122	588,535	37	105	99
MEXICO	84	0.0%	128,455,567	1,529,233	13	97	1,324,284	38	136	132
HUNGARY	79	0.0%	9,589,872	121,391	3	82	116,950	39	48	53
FRANCE	78	0.0%	68,170,228	873,977	14	92	740,981	40	119	114
PALAU	68	0.0%	18,058	266	0	68	266	41	3	4
CHINA	66	0.0%	1,410,710,000	21,374,394	0	66	21,374,394	42	167	167
COLOMBIA	65	0.0%	52,085,168	801,310	16	81	643,027	43	116	106
KENYA	65	0.0%	55,100,586	847,701	3	68	810,303	44	118	121
PAKISTAN	65	0.0%	240,485,658	3,699,779	0	65	3,699,779	45	154	155
INDIA	60	0.0%	1,428,627,663	23,810,461	2	62	23,042,382	46	168	168
BAHAMAS, THE	57	0.0%	412,623	7,239	0	57	7,239	47	15	19
BRAZIL	57	0.0%	216,422,446	3,796,885	9	67	3,230,186	48	155	152
EL SALVADOR	52	0.0%	6,364,943	122,403	3	61	104,343	49	49	51
SOMALIA	49	0.0%	18,143,378	370,273	0	49	370,273	50	82	83

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SOUTH AFRICA	47	0.0%	60,414,495	1,285,415	1	48	1,258,635	51	130	130
PERU	46	0.0%	34,352,719	746,798	7	54	636,161	52	111	105
NIGERIA	41	0.0%	223,804,632	5,458,650	2	44	5,086,469	53	160	160
TAIWAN	41	0.0%			7	48	0	54		
RUSSIA	40	0.0%	143,826,130	3,595,653	0	40	3,595,653	55	153	154
CHILE	39	0.0%	19,629,590	503,323	4	44	446,127	56	93	92
INDONESIA	37	0.0%	277,534,122	7,500,922	3	41	6,769,125	57	162	162
MOROCCO	34	0.0%	37,840,044	1,112,942	7	41	922,928	58	125	123
VIETNAM	32	0.0%			3	35	0	59		
ARGENTINA	31	0.0%	46,654,581	1,504,986	0	32	1,457,956	60	134	137
VIRGIN ISLANDS,	30	0.0%	31,538	1,051	136	265	119	61	6	3
GEORGIA	30	0.0%	3,760,365	125,346	8	38	98,957	62	50	49
PANAMA	30	0.0%	4,468,087	148,936	4	34	131,414	63	56	56
OMAN	30	0.0%	4,644,384	154,813	2	32	145,137	64	59	58
KAZAKHSTAN	28	0.0%	19,900,177	710,721	0	28	710,721	65	108	113
ECUADOR	27	0.0%	18,190,484	673,722	2	29	627,258	66	106	104
TUNISIA	23	0.0%	12,458,223	541,662	4	27	461,416	67	95	93
BURKINA FASO	22	0.0%	23,251,485	1,056,886	0	22	1,056,886	68	124	126
GHANA	22	0.0%	34,121,985	1,550,999	2	24	1,421,749	69	138	135
MALAYSIA	22	0.0%	34,308,525	1,559,478	1	24	1,429,522	70	140	136
ESTONIA	21	0.0%	1,366,188	65,057	1	22	62,099	71	39	41
SENEGAL	21	0.0%	17,763,163	845,865	2	23	772,311	72	117	117
SWITZERLAND	20	0.0%	8,849,852	442,493	0	20	442,493	73	89	91
AUSTRIA	20	0.0%	9,132,383	456,619	1	21	434,875	74	91	90
LATVIA	19	0.0%	1,881,750	99,039	1	21	89,607	75	44	43
LITHUANIA	19	0.0%	2,871,897	151,152	5	24	119,662	76	58	55
LEBANON	19	0.0%	5,353,930	281,786	0	19	281,786	77	74	78
BULGARIA	19	0.0%	6,430,370	338,441	21	40	160,759	78	78	60
SWEDEN	18	0.0%	10,536,632	585,368	1	19	554,560	79	97	98
DOMINICAN	18	0.0%	11,332,972	629,610	4	22	515,135	80	99	96
GUATEMALA	18	0.0%	17,602,431	977,913	4	23	765,323	81	121	116
CHAD	18	0.0%	18,278,568	1,015,476	0	18	1,015,476	82	123	125
UKRAINE	18	0.0%	37,000,000	2,055,556	1	19	1,947,368	83	145	144
MARSHALL	17	0.0%	41,996	2,470	75	92	456	84	10	8
BOSNIA AND	17	0.0%	3,210,847	188,873	1	18	178,380	85	63	64
SOUTH SUDAN	17	0.0%	11,088,796	652,282	0	17	652,282	86	103	109
NIGER	17	0.0%	27,202,843	1,600,167	0	17	1,600,167	87	141	141
BOTSWANA	16	0.0%	2,675,352	167,210	0	16	167,210	88	60	62
DENMARK	16	0.0%	5,946,952	371,685	1	17	349,821	89	83	82
SERBIA	16	0.0%	6,618,026	413,627	0	17	389,296	90	88	86
HONG KONG	16	0.0%	7,536,100	471,006	0	16	471,006	94	92	94
HAITI	16	0.0%	11,724,763	732,798	1	17	689,692	91	110	111
UZBEKISTAN	16	0.0%	36,412,350	2,275,772	0	16	2,275,772	92	146	147
CONGO (KINSHASA)	16	0.0%	102,262,808	6,391,426	0	16	6,391,426	93	161	161
KOSOVO	15	0.0%	1,756,374	117,092	1	18	97,576	95	47	47

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URUGUAY	15	0.0%	3,423,108	228,207	0	15	228,207	96	68	73
COSTA RICA	15	0.0%	5,212,173	347,478	3	19	274,325	97	79	76
NEW ZEALAND	15	0.0%	5,223,100	348,207	2	17	307,241	98	80	80
SLOVAKIA	15	0.0%	5,426,740	361,783	1	16	339,171	106	81	81
CENTRAL AFRICAN	15	0.0%	5,742,315	382,821	0	15	382,821	99	85	85
CZECHIA	15	0.0%	10,873,689	724,913	3	18	604,094	100	109	100
SRI LANKA	15	0.0%	22,037,000	1,469,133	0	16	1,377,313	101	133	133
MALI	15	0.0%	23,293,698	1,552,913	0	15	1,552,913	102	139	140
CAMEROON	15	0.0%	28,647,293	1,909,820	0	15	1,909,820	103	142	142
COTE D'IVOIRE	15	0.0%	28,873,034	1,924,869	0	15	1,924,869	104	143	143
TANZANIA	15	0.0%	67,438,106	4,495,874	1	16	4,214,882	105	158	158
ARMENIA	14	0.0%	2,777,970	198,426	0	14	198,426	107	64	66
LAOS	14	0.0%	7,633,779	545,270	2	16	477,111	110	96	95
RWANDA	14	0.0%	14,094,683	1,006,763	0	14	1,006,763	108	122	124
BANGLADESH	14	0.0%	172,954,319	12,353,880	0	14	12,353,880	109	165	165
BARBADOS	13	0.0%	281,995	21,692	0	13	21,692	111	24	25
MALTA	13	0.0%	553,214	42,555	0	13	42,555	112	32	33
JAMAICA	13	0.0%	2,825,544	217,350	2	15	188,370	113	66	65
MONGOLIA	13	0.0%	3,447,157	265,166	0	13	265,166	114	73	75
CROATIA	13	0.0%	3,853,200	296,400	1	14	275,229	115	76	77
MAURITANIA	13	0.0%	4,862,989	374,076	0	13	374,076	116	84	84
PARAGUAY	13	0.0%	6,861,524	527,810	0	13	527,810	117	94	97
AZERBAIJAN	13	0.0%	10,112,555	777,889	0	13	777,889	118	113	118
TAJIKISTAN	13	0.0%	10,143,543	780,273	0	13	780,273	119	114	119
PAPUA NEW	13	0.0%	10,329,931	794,610	0	13	794,610	120	115	120
NEPAL	13	0.0%	30,896,590	2,376,661	0	14	2,206,899	121	148	146
CYPRUS	12	0.0%	1,260,138	105,012	1	13	96,934	122	46	46
SLOVENIA	12	0.0%	2,120,937	176,745	1	13	163,149	123	62	61
GABON	12	0.0%	2,436,566	203,047	0	12	203,047	124	65	68
LIBERIA	12	0.0%	5,418,377	451,531	0	13	416,798	125	90	89
MADAGASCAR	12	0.0%	30,325,732	2,527,144	0	12	2,527,144	126	149	149
UGANDA	12	0.0%	48,582,334	4,048,528	1	13	3,737,103	127	156	156
ETHIOPIA	12	0.0%	126,527,060	10,543,922	0	12	10,543,922	128	164	164
MOLDOVA	11	0.0%	2,486,891	226,081	1	12	207,241	129	67	69
ALBANIA	11	0.0%	2,745,972	249,634	2	13	211,229	130	70	70
KYRGYZSTAN	11	0.0%	7,100,800	645,527	0	11	645,527	138	101	107
BOLIVIA	11	0.0%	12,388,571	1,126,234	0	11	1,126,234	131	126	127
BURUNDI	11	0.0%	13,238,559	1,203,505	0	11	1,203,505	132	128	129
ZIMBABWE	11	0.0%	16,665,409	1,515,037	0	11	1,515,037	133	135	138
CAMBODIA	11	0.0%	16,944,826	1,540,439	0	11	1,540,439	134	137	139
ANGOLA	11	0.0%	36,684,202	3,334,927	0	11	3,334,927	135	151	153
ALGERIA	11	0.0%	45,606,480	4,146,044	0	11	4,146,044	136	157	157
BURMA	11	0.0%	54,577,997	4,961,636	0	11	4,961,636	137	159	159
MONTENEGRO	10	0.0%	616,177	61,618	0	11	56,016	139	38	40
TURKMENISTAN	10	0.0%	6,516,100	651,610	0	10	651,610	140	102	108

US Military Duty Country	Total Active Duty Service Member	% of Total US Overseas Active Duty	2023 Country Population	Country Population per Active duty	APF DOD Civilian TOTAL	Grand TOTAL of Active Duty and APF Dod Civilian	Country Population per Grand Total (Active Duty & APFC)	No. of Active Duty Service member Ranking	Country Population per Active duty Ranking	Country population per Grand Total (Active Duty & APFC) Ranking
NICARAGUA	10	0.0%	7,046,310	704,631	0	10	704,631	141	107	112
SIERRA LEONE	10	0.0%	8,791,092	879,109	0	10	879,109	142	120	122
GUINEA	10	0.0%	14,190,612	1,419,061	0	10	1,419,061	143	132	134
MOZAMBIQUE	10	0.0%	33,897,354	3,389,735	1	11	3,081,578	144	152	151
BELIZE	9	0.0%	410,825	45,647	0	9	45,647	145	34	36
GUYANA	9	0.0%	813,834	90,426	0	9	90,426	146	42	44
TRINIDAD AND	9	0.0%	1,534,937	170,549	0	9	170,549	147	61	63
NAMIBIA	9	0.0%	2,604,172	289,352	0	9	289,352	148	75	79
ZAMBIA	9	0.0%	20,569,737	2,285,526	0	9	2,285,526	149	147	148
IRELAND	8	0.0%	5,262,382	657,798	0	8	657,798	150	104	110
CONGO	8	0.0%	6,106,869	763,359	0	8	763,359	153	112	115
TOGO	8	0.0%	9,053,799	1,131,725	0	8	1,131,725	151	127	128
MALAWI	8	0.0%	20,931,751	2,616,469	0	8	2,616,469	152	150	150
SWAZILAND	8	0.0%			0	8	0	154		
LUXEMBOURG	7	0.0%	668,606	95,515	5	12	55,717	155	43	39
MACEDONIA	7	0.0%	1,811,980	258,854	0	8	226,498	158	72	72
GAMBIA, THE	7	0.0%	2,773,168	396,167	0	7	396,167	156	86	88
BENIN	7	0.0%	13,712,828	1,958,975	0	7	1,958,975	157	144	145
AMERICAN SAMOA	4	0.0%	43,914	10,979	20	35	1,255	159	20	9
NORTHERN	4	0.0%	49,796	12,449	7	13	3,830	160	21	14
MICRONESIA,	4	0.0%	115,224	28,806	0	4	28,806	162	29	30
FIJI	4	0.0%	936,375	234,094	0	4	234,094	161	69	74
YEMEN	4	0.0%	34,449,825	8,612,456	0	4	8,612,456	163	163	163
GIBRALTAR	3	0.0%	32,688	10,896	0	3	10,896	164	19	21
SAMOA	3	0.0%	225,681	75,227	0	6	37,614	165	40	31
ICELAND	3	0.0%	393,600	131,200	1	4	98,400	166	51	48
BRUNEI	3	0.0%	452,524	150,841	0	3	150,841	169	57	59
SUDAN	3	0.0%	48,109,006	16,036,335	0	3	16,036,335	167	166	166
BRITISH ATLANTIC	3	0.0%			0	3	0	168		
CABO VERDE	2	0.0%	598,682	299,341	0	3	199,561	170	77	67
WAKE ISLAND	2	0.0%			0	2	0	171		
KIRIBATI	1	0.0%	133,515	133,515	0	1	133,515	172	52	57
SURINAME	1	0.0%	623,236	623,236	0	1	623,236	173	98	103
MAURITIUS	1	0.0%	1,261,041	1,261,041	0	1	1,261,041	174	129	131
TIMOR-LESTE	0	0.0%	1,360,596	1,360,596	0	1		178	131	169
NETHERLANDS	0	0.0%			2	2	0	175		
AKROTIRI	0	0.0%			1	1	0	176		
MONTENEGRO	0	0.0%	616,177		1	1	616,177	177		102

Source: the U.S. Defense Manpower Data Center, December 2023. Okinawa Prefecture US Military and Self Defense Force Bases in Okinawa Report, May 2024. World Bank Country Population data.

Appendix 2. U.S. Military-Related Accidents and Incidents in Okinawa

Categories		2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	
U.S. military related	Aircraft and Helicopter	Crash	0	1	0	1	0	1	0	0	0	2	0	2	0	2	0	2	0	0	0	0	
		Emergency landing	53	47	57	25	32	22	8	6	8	15	47	39	14	25	23	42	21	10	28	23	20
		Others	5	5	6	6	4	5	2	4	7	3	5	17	12	6	6	4	4	5	8	2	3
	Total	58	53	63	32	36	28	10	10	15	18	54	56	26	33	29	48	25	15	36	25	23	
	Stray bullet	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	
	Water pollution	3	8	4	3	4	6	11	5	8	8	3	3	2	3	1	0	1	2	2	0	0	
	Wildfire	11	7	9	8	20	18	14	8	8	13	19	12	14	14	13	9	11	16	8	10	14	
	Others	5	4	11	4	3	1	3	8	4	5	4	7	3	4	8	3	4	2	2	1	0	
	Training related & Accident Total		77	72	87	47	63	54	38	31	35	44	80	78	45	54	52	61	41	35	48	36	37
	Other incident and accident		12	5	6	12	12	18	21	22	27	19	21	38	47	45	29	31	44	35	59	59	51
Grand Total		89	77	93	59	75	72	59	53	62	63	101	116	92	99	81	92	85	70	107	95	88	
Self-Defense force related		7	8	10	6	3	5	9	22	10	22	9	9	12	20	21	19	27	11	9	8	14	

Source: Okinawa Prefecture. *US Military and Self Defense Force Bases in Okinawa Report*, May 2024

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