# Summary of the International Conference on Climate Change and Fragility in the Asia-Pacific Region

Interlinkage among science, regional studies and business from the perspective of long-term climate risks

Hosted by Ministry of Foreign Affairs of Japan on July 12, 2018 at Mita Kyoyo Kaigisyo

Climate Change Division, International Cooperation Bureau

Ministry of Foreign Affairs of Japan

August 2018

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#### Overview

The Ministry of Foreign Affairs of Japan hosted the International Conference on Climate Change and Fragility in the Asia-Pacific Region on July 12, 2018 at *Mita Kyoyo Kaigisyo*, Tokyo, Japan. It brought together over 130 participants including Japanese and international government officials, representatives from United Nations organizations and development agencies, researchers from academia and research institutes, the private sector, civil society and the media. The participants actively discussed about relations between climate change and national vulnerability as well as effective approaches against future risks. The Institute for Global Environmental Strategies (IGES) served as the conference secretariat.

## II. Background

Climate change is considered one of the most serious challenges posing a threat to global security and economic prosperity. The G7 Foreign Ministers have been discussing this issue since 2013, through the working group on climate change and fragility. However, a number of challenges prevent the formation of a nexus between climate change and foreign policies because this issue cannot be shown using simple figures. In this complex area, Japan played a leading role at the G7 Hiroshima Foreign Ministers' Meeting<sup>1</sup> during its presidency in 2016. Additionally, the Ministry of Foreign Affairs of Japan organized a roundtable seminar in January 2017 with the participation of G7 officials and more than fifty experts, as well as holding follow-up review meetings<sup>3</sup>. Through discussions at these events, the urgency of addressing climate-fragility risks has been recognized and some important and possible actions to take have been proposed such as the importance of long-term perspectives and inputs from research institutes, and the need to consider financial risks. Aside from the G7, Japan also has taken the initiative and has been carrying out actions in Asia and the Pacific by focusing on natural disasters taking place in the region, drawing on its knowledge and experience in disaster prevention. One of Japan's remarkable efforts in this field is its latest publication of an official report on climate change and fragility to analyze climate-related disasters in the Asia-Pacific region<sup>4</sup>, which was published in September 2017 and looks at impacts on vulnerability as well as regional and socioeconomic fragility and effects, taking into account that many Asia-Pacific countries have emerging economies and increasing populations, and thus are at high risk on these issues. The report was submitted to the working group held in Rome in October 2017 under the G7 Italian presidency. The findings of the report were also shared at the COP23 Preparatory Workshop in Suva, Fiji as well as at COP23 in Bonn, Germany.

#### III. Objectives and session structure

What has emerged from these proactive undertakings by Japan in the field of climate change, is that the political, economic and social aspects of each region and country must be fully examined. In Asia and the Pacific, with its growing economy, it is essential that climate change measures are considered as business opportunities that bring economic growth and employment, rather than being an additional duty for companies and municipalities. At this international conference,

<sup>1</sup> G7 Hiroshima Foreign Ministers' Meeting (<a href="https://www.mofa.go.jp/ms/is-s/page24e-000138.html">https://www.mofa.go.jp/ms/is-s/page24e-000138.html</a>)

<sup>&</sup>lt;sup>2</sup> The overview and report of the Roundtable Seminar on "Climate Change and Fragility Implications on International Security" (https://www.mofa.go.jp/ic/ch/page25e\_000118.html)

The Follow-up Review Meeting on the Roundtable Seminar on Climate Change and Fragility Implications on International Security (Summary) (https://www.mofa.go.jp/files/000252482.pdf)

<sup>&</sup>lt;sup>4</sup> Publication of Analysis and Proposal of Foreign Policies Regarding the Impact of Climate Change on Fragility in the Asia-Pacific Region — With focus on natural disasters in the Region — (https://www.mofa.go.jp/press/release/press4e\_001714.html)

participants were gathered from various sectors such as governments, businesses, financials, research institutes and civil society. They were all encouraged to discuss various aspects of fragility and security, risk management of companies in the regions and investment risks brought by climate change with particular emphasis on extreme weather events and resilient infrastructure. The participants explored approaches/actions each sector can take to address potential risks in the future.

The conference consisted of three plenary sessions: Opening session; Panel discussion 1; and Final session and a Breakout session. The programme of the Conference and a list of participating organizations are attached in the Annex. There was also an exhibition area at the plenary venue to promote participants' activities on climate change.

# IV. Summary of each session

#### i) Opening session

The conference started with welcome remarks by Mr. Kazuyuki Nakane, State Minister for Foreign Affairs, followed by the Keynote speech by Mr. Yoichi Kato, Senior Research Fellow of the Asia Pacific Initiative.

Mr. Kazuyuki Nakane, State Minister for Foreign Affairs welcomed the participants and expressed his deep condolences for the heavy loss of life and damage in the Heavy Rain Event of July 2018 in Japan. He stated that some other countries in the Asia-Pacific region also have high climate change risks with threats of natural disasters which can cause a significantly negative impact on socio-economic and political stability and security. Mr. Nakane highlighted that the G7 Foreign Ministers have identified climate security as an important issue and the Ministry of Foreign Affairs of Japan is making every effort in this regard, including a decision to pursue RE100 approval and also the establishment of the Climate Diplomacy Task Force<sup>5</sup> within the ministry to take leadership in this region. He expected that business would play an important role in dealing with climate risks which also need to be addressed to stabilize economic and political development.

Mr. Yoichi Kato, Senior Research Fellow of the Asia Pacific Initiative, delivered the Keynote speech. He explained the serious extent of the flooding recently experienced in western Japan due to record rainfall, the Heavy Rain Event of July 2018, stating that climate change increases the risk of more extreme natural disasters across the world and that this kind of global turbulence is making the world believe that this is going to be the new normal.

He also introduced seven risks that have been identified in past discussions as climate fragility risks — resource competition, migration, extreme weather events and disasters, food prices, water management, sea-level rise, and unintended effects of climate change policies. Climate change is also being recognized as an ultimate threat multiplier that acts as a catalyst in exacerbating the risks. For example, in August 2017, an ice breaker took a fast route through the Arctic without encountering any difficulties due to icebergs. It showed how climate change was changing polar geopolitics and opening the region for exploration, resulting in countries such as China issuing an Arctic strategy. The US announced a similar strategy this summer. There, climate change is acting as a tension multiplier because the growing interest among major states is leading to resource competition.

He pointed out that it has been widely understood in the US armed forces that climate change is the biggest long-term security threat. However, the US withdrawal from the Paris Agreement and the recent national security and defense strategy containing no terms on climate change and global warming reflects the skepticism on climate change held by the current administration.

Climate change cannot be effectively dealt with by a single country; rather, it needs multilateral cooperation as for other global issues. Competition with China has weakened the hegemony held by

<sup>&</sup>lt;sup>5</sup> Establishment of "Climate Diplomacy Task Force" (https://www.mofa.go.jp/press/release/press4e\_002030.html)

the United States globally and regionally and as a result it has driven the region to a multipolar leadership. Under the multipolar leadership, Japan's strategic leadership has three options such as internal balancing, try to be independent from the US; external balancing, try to find other coalition partners without the US; and China as a major option to consider and to work with. Mr. Kato concluded that Japan has had a robust partnership with the US; however, the Asia-Pacific region will be led to a multipolar leadership as a consequence of climate change, and it is now important for Japan to look at countries apart from the US and consider and apply other options.

#### ii) Panel discussion 1

The Panel discussion 1 was to set up for the afternoon sessions, looking at what climate and security and fragility might look like in Southeast Asia and the Pacific islands. It was moderated by Ms. Shiloh Fetzek, Senior Fellow of the Center for Climate & Security.

[Moderator] Ms. Shiloh Fetzek, Senior Fellow, the Center for Climate & Security (CCS)

[Panelists]

Mr. Alexander Carius, Co-founder and Director, adelphi

Dr. Yasuko Kameyama, Deputy Director, Center for Social and Environmental Systems Research, National Institute for Environmental Studies (NIES), Japan

Ms. Mari Yoshitaka, Chief Environmental & Social Strategist, Environmental Strategy Advisory Division, Mitsubishi UFJ Morgan Stanley Securities Co., Ltd.

Dr. Megumi Muto, Director General, Global Environment Department,

Japan International Cooperation Agency (JICA)

Dr. Daisaku Higashi, Professor, Center for Global Education and Discovery,

Sophia University

How have key countries such as the US and EU viewed climate change as a threat multiplier and how is this issue being included in discussions at the UN Security Council?

Mr. Carius: Climate experts and heads of state often repeat the statement that climate change is the biggest threat of national security and socioeconomy. Japan is the world's fourth biggest importer and heavily depended on supply chains, and its private sectors are very sensitive to the issue of climate threat as same as other Asia-Pacific countries. In the UN Security Council, starting with the UK, then Germany, and recently under the Swedish presidency, climate change was clearly stated as a factor driving and impacting fragility and security of states. The Security Council has referred to Lake Chad when discussing climate components and three issues emerged during the discussion: one is that there needs to be a mechanism on climate security for the UN as a whole; second, called for by Germany, there needs to be a reporting system on climate change as a threat multiplier; third, it is necessary to identify what kind of information is necessary to develop a proactive and preventative mechanism.

Climate change and conflict in Syria and South Sudan.

Dr. Higashi: (Following a brief outline of the background of the two countries,) the situations in these two countries are strongly linked to climate change. The severe drought in Syria in 2006 and 2009 was a critical factor that caused the conflict in Syria. In the case of South Sudan, the cause of civil conflict was mainly due to the problems between the president and vice-president at the time, but the drought in 2016 and 2017 exacerbated the conflict. There is no doubt that climate change had a major impact not only on a society but on political damage caused but there is no official mechanism to evaluate climate risks and to create a collective response.

About the evaluation on coastal megacities which face many climate risks

**Dr. Muto**: The role of development is how to develop the dynamics of growth in the framework of overall sustainability including climate change concerns. In the context of poverty reduction, the focus has been how to prevent poverty often due to natural disasters; research on rural households shows that a single extreme natural disaster event can push households towards absolute poverty. Micro credits and insurance are therefore important for ex-post resilience. Ex-ante disaster risk reduction (DRR), as promoted by the Sendai initiative is equally important. Research with the World Bank on climate risks and adaption for megacities shows that one extreme typhoon could wipe out 24% of GDP in Metro Manila and 8% in Bangkok in the worst scenario. The results of this research called for ex-ante disaster prevention for these urban cities.

The key findings of Japan's official report published last year. How is the recent international discussion on climate change and security relevant to the report?

**Dr. Kameyama** (as a leading expert of the official report): (Following details explaining the official report,) when drafting the report, two groups were targeted: one was made up of natural scientists and the other of regional experts. In fact, these two groups had never interacted each other until drafting the report. Two maps were created — the first was for social, political and economic fragility, on top of which was placed another map of climate modelling. The two maps showed that the impact of climate change does not always automatically resulted in conflict. If there was good governance in a society, it would have much more ability to overcome climate risks. Less social capital within a society tends to lead to conflict. In some Southeast Asian countries, people are moving to the big cities, which creates a wide gap between the rich urban and poor rural populations, including farmers. If those farmers are affected by climate change, they have less financial capacity to overcome the impact, therefore the regional food supply will be affected. It is important for the Japanese government to support social capacity and nurture governance in other Asian countries.

Ms. Fetzek, the Moderator, stated that there is a need for governance and economic stability, as indicated by the participating panelists. She also stressed that this conference was trying to draw these themes together with the private sector. Long-term climate risks are now considered one of the key elements to be incorporated in corporate disclosure, and companies and investors are also finding increasing business opportunities for providing solutions to the challenges created by climate change both in terms of mitigation and adaptation.

How should business address the long-term impact of climate change as business/investment risks and opportunities, and how should companies demonstrate their accountability for key business decisions?

Ms. Yoshitaka: Previously the focus was on climate finance and carbon credit in Japan and overseas, but now focus is being shifted to climate-related risks in business, and companies are starting to carry out a climate risk analysis, not only on mitigation risks but also adaptation risks. For instance they have more interest in Environmental, Social and Governance (ESG) investment. Japan is very behind in the field of information disclosure but in 2015 the Taskforce on Climate-related Financial Disclosure (TCFD) was established which had a major impact on financial institutions in Japan. Many Japanese businesses drew up a business continuity plan (BCP), aiming to consider these changes as a business opportunity. Even if this is still not going far enough, it is a welcome change that information disclosure in Japanese industry is finally moving forward. Companies are recently supporting environmental policies, which is a big change compared to previously.

What needs to be done to promote approaches the private sector takes to assess its financial risks?

**Dr. Kameyama**: A dialogue to understand the situation better is necessary and can be a starting point to enhance cooperation as not many people actually know the consequences of global warming.

Ms. Yoshitaka: People in finance do not take the science seriously.

**Dr. Higashi**: Risks to students from the impact of climate change were never considered when taking students overseas, even though consideration was given to what would happen in cases of abduction or accident. Universities as private entities should also prepare how to respond to climate change risks.

Mr. Carius explained the Lake Chad risk assessment project<sup>6</sup> which has been led and conducted by adelphi. The joint assessment came out of the G7 foreign ministers meeting but it was quite naive to ask foreign office personnel with their own strategic interest to conduct the assessment together because a risk assessment should detail the climate component in terms of conflict; the reason why Lake Chad was chosen to conduct an assessment was based on the assumption that it was shrinking, even if that was scientifically proven not to be the case. The problem in climate terms was that there is climate vulnerability with the majority of the households dependent on agricultural income. His team intended to clarify what kind of information was needed for policymakers, agencies and multilateral organizations to change the way to approach the conflict there and have a better understanding of the dynamics. The assessment process involved not only researchers and regional organizations, but also policymakers from the affected communities and representatives from local communities, international humanitarian organizations, and diplomats.

How could development play a role to scale up assistance through mobilizing business and investment activities?

**Dr. Muto**: Development can support the private sector by providing policy incentives for ex-ante DRR. The key is preventative action to be taken in business-planning. These initiatives may be linked to financial products such as resilience bonds.

**Ms. Yoshitaka**: Green bond (GB) market in Japan is growing. Companies have started considering adaptation as business opportunities even though in the past they thought it had no relation to business, but was rather governmental ODA. However, there is sometimes a lack of commitment by top management.

It was also mentioned that it is critical to have scenario-making and training with understanding of who the key actors are; the importance of ability to judge if the information is sufficient or different interests to be balanced out; sharing data creates a win-win situation; for instance, if combining processes of adaptation and DRR analyses, it is a great opportunity for the two communities to cooperate in carrying out risk profiling assessment.

From the floor, a participant commented that it is not easy to integrate adaptation and DRR, a framework or institutional arrangement in the UN on climate issues are needed as information platforms. Another participant asked the panel how climate security stands in relation to traditional security issues that the Security Council discusses. Mr. Carius responded there has been no attempt to put climate policy in the agenda of the Security Council. However they have to take into account that the entire landscape and nature of conflict and security has changed. Conflict dynamics need to be better understood by looking at natural resources and climate drivers and having a broadened perspective.

<sup>&</sup>lt;sup>6</sup> Lake Chad Risk Assessment Project, adelphi (https://www.adelphi.de/en/in-focus/lake-chad-risk-assessment-project)

#### iii) Breakout session (Interactive scenario exercise)

The participants were divided into five groups of Group A to E. The organizer preliminarily created two scenarios (attached in Annex) set in the near future, featuring a fictional Southeast Asian country (ENIA: Groups A, C and E) or Pacific country (HARIA: Groups B and D). As the scenario developed over time, there were crises that came up in quick succession and accompanying scenarios. Each participant was given one of five roles: Onsite operations (a plant manager of a Japanese company); Host gov. (officials of the host government); JP Embassy (officials at the Japanese Embassy); Tokyo HQs (staff at Tokyo headquarters); and Investors (those who have a stake in the plant operation) and requested to discuss how to deal with possible problems that would be caused by climate change, occurring in the fictional country. The Moderator of each group took the initiative of the overall discussion and the Facilitator of each group supported its Moderator.

#### Group A (ENIA)

Moderator: Ms. Shiloh Fetzek (the Center for Climate & Security)

Facilitator: Ms. Mari Yoshitaka (Mitsubishi UFJ Morgan Stanley Securities Co., Ltd)

#### Group B (HARIA)

Moderator: Mr. Kunihiko Shimada (KS International Strategies, Inc.)

Facilitator: Dr. Daisaku Higashi (Sophia University)

#### **Group C (ENIA)**

Moderator: Mr. Jonathan Miller (Japan Institute of International Affairs)
Facilitator: Ms. Miho Kurosaki (Bloomberg New Energy Finance)

# Group D (HARIA)

Moderator: Mr. Ko Fujii (Makaira)

Facilitator: Mr. Alexander Carius (adelphi)

### **Group E (ENIA)**

Moderator: Mr. Yasushi Hibi (Conservation International)

Facilitator: Dr. Yasuko Kameyama (National Institute for Environmental Studies, Japan)

#### iv) Final session (Report from Breakout session, Panel discussion 2 and Closing remarks)

In the Final session, first the Breakout Moderators provided a brief summary of each Breakout session followed by Panel discussion 2. The Final session was moderated by Mr. Tomoaki Ishigaki, Director of the Climate Change Division of the Ministry of Foreign Affairs.

Mr. Ishigaki first thanked the Group Moderators and Facilitators for their work during the Breakout session. He called for the five Moderators of Group A to E as a representative of each breakout group.

#### Findings from the Breakout session

In HARIA, there was a gap between *Tokyo HQs* reluctant to stay on and *Onsite operations* claiming the investments were still worthwhile and climate impacts will be everywhere. Some hoped the Japanese government may support workers for employment elsewhere. The decision was to adapt to the changes of risks, with the governments and embassies playing an important role in decision-making. In ENIA, there was a lot of pressure from *Investors* and tension between cooperation and competition. The *Investors* pulled out in some places but the *Onsite operations* and *Tokyo HQs* had different considerations such as costs of moving out.

Commonly through the two scenarios, the role of aid organizations and international organizations was called for. It was also noted that it is an important aspect to understand the role of other partners and others' expectations on each role; there are deep expectations on *JP Embassy*; people hoped the host government and local authorities to set up official local information platforms or an information database; there is not much climate science-based information for business and

better contingency plans and practical information on climate change for business actors are required; it is also important to be imaginative and to be able to imagine other stakeholders' point of view to make some tough decisions in the case of emergency.

Group Moderators stated the most important findings or made one sentence headline:

- Survival of the fittest it is necessary to be creative and cooperative, and whoever is able to come up with the best solution will be the ones who are able to survive the situation;
- Act first and fast to react flexibly. Looking at the local situation and reaction had to be done very quickly based on the information they had;
- Under the disrupted situation, escalation control was more important than searching for solutions;
- Preparation is essential such as contingency plans as it would be the complexity of multiple cascades of challenges; and
- Be mindful of SDGs and what others are thinking in the situation. Also be aware that everyone has to make decisions with insufficient information on the situation.

#### Panel discussion 2

[Moderator] **Mr. Tomoaki Ishigaki**, Director, Climate Change Division, International Cooperation Bureau, Ministry of Foreign Affairs of Japan

[Panelists] Ms. Fetoloai Yandall-Alama, Assistant CEO, Planning and Urban Management, Ministry of Natural Resources and Environment, Samoa

**Ms. Sudhiani Pratiwi**, Deputy Director, Climate Change and Environmental Quality, Directorate for Environmental Affairs, Ministry of National Development Planning, Indonesia

Ms. Sally Yozell, Director, Environmental Security Program, the Stimson Center Dr. Koji Dairaku, Senior Researcher, Institute for Earth Science and Disaster Resilience Ms. Miho Kurosaki, Head of Japan and Korea Research, Bloomberg New Energy Finance

#### Comments on the Breakout session and its brief report.

**Ms. Yozell**: It would be important to bring in the insurance and reinsurance industry and government banks, and better coordination would be needed.

**Ms. Yandall-Alama**: The scenarios should have included community groups/NGOs and grass roots organizations as they help investors to get messages from the general. Financial resources and building human capacity are also necessary.

**Dr. Pratiwi**: Information is important for informing on where the situation stands now and what to do in the future. Learning from experiences of other countries is the way to approach the issues.

**Dr. Dairaku**: In the light of climate change threats and other hazards, it is necessary to integrate frameworks including science, policy, social and political aspects to gain synergy for these adaptation scenarios; communication will be also important in the entire decision-making process — sometimes there are data available but they are not useable or easily accessible by individual stakeholders.

**Ms. Kurosaki**: Indicating agreement with Dr. Dairaku, it was emphasised that it is also vital to have communications within the organizations themselves. Decisions are usually made by senior management, therefore it is top management that should be doing this kind of scenario exercise to realize the significance of climate change risk to their business. Another learned point was that innovation will happen in disruptive situations as some participants mentioned moving to robotics

during the Breakout session, which was a very new thought but companies should look at what type of innovation and new thinking can emerge.

How do we think of ways to communicate with different stakeholders in spite of conflicts of interest with a lot of future uncertainty in climate change?

**Dr. Dairaku**: Communication and cooperation based on experiences and assumptions among stakeholders are important aspects of these uncertainties especially when they have different expectations.

**Ms. Yandall-Alama**: When science is not available, basic observations based on experience and training are important to view post-disaster analysis; evidence-based information such as the situation in ten years from now may bring a change in attitudes.

How do business and investors promote their understanding on climate change? What ways would there be to facilitate long-term thinking?

**Mr. Ishigaki**: It is necessary to promote cooperation with other entities even if it is challenging to coordinate systems and share baseline information as each country has a different focus and priority. Having Japanese global companies and investors as about half of the conference participants, it is important to make CEOs more aware of climate change.

**Ms. Yozell**: People need to change their mindset in the planning stages, such as making sure that the true cost of climate related risks are taken into account as well as reflecting the cost on its insurance, for example when building a factory in a zone where climate risks lie. For example, in the US there is training to deal with active shooters or terrorism, and for issues of security, so it will be necessary to talk about the effects of climate change in the same way.

Japan's leadership on climate change and other global issues.

**Ms. Yandall-Alama**: (First mentioned Japan and JICA's generous contribution to overall development of Samoa in the past and present for capacity building, infrastructure support.) Samoa hopes to move to new innovative and affordable technology provided by Japan for the problems emerging due to climate change.

**Dr. Pratiwi**: Japan's support is expected in the field of rebuilding, and making use of development experience and ideas.

**Ms. Yozell**: Japan could fill the vacuum in leadership that the US government is creating at the very top. A lot of work to deal with the climate issues is still being done by the various government agencies and it is vital for top developed countries like Japan to step in and carry on doing this work around the world.

From the floor, a participant asked how to ensure industry takes direct action to stop climate change itself, not just respond to risks. The private sector understands that climate change brings about risks to their businesses and that there are issues to be discussed such as energy; however, using 100% renewable energy is not cost effective at the moment. Ms. Kurosaki referred to Google and Apple which are taking direct action and announcing intentions to go 100% renewable and responded that there are also many companies in Japan, Asia and the Pacific that are considering what options they have, in light of the fact that the costs of renewable energy are falling rapidly, making it cheaper to take action.

#### Closing remarks

As the closing remarks, Mr. Tomoaki Ishigaki expressed his deep gratitude for all the participants' active participation in the discussion at the sessions and also thanked staff members of the conference secretariat for their cooperation. He stated that the conference had been a great success and hoped the Japanese government and companies would take more direct action to address the challenges of climate change in the future. The key findings of the conference will be presented to various international fora such as G7, G20 and COP by the Ministry of Foreign Affairs of Japan so as to promote a more holistic approach towards climate change diplomacy that encompasses development, security, business and finance.

# International conference on climate change and fragility in the Asia-Pacific region

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Thursday, July 12 2018
Hosted by the Ministry of Foreign Affairs of Japan



# [Morning sessions]

09:30 – 10:00 Registration

**10:00 – 10:55 Opening session** 

• Welcome remarks

Kazuyuki Nakane State Minister for Foreign Affairs Ministry of Foreign Affairs of Japan

• Keynote speech

Yoichi Kato Senior Research Fellow, Asia Pacific Initiative

10:55 – 11:10 Break (15 min.)

11:10 – 12:10 **Panel discussion 1** "Sharing scientific facts and predictions"

- Discuss how to incorporate the facts & predictions into regional policies

- Discuss the impact of above actions on business

[Moderator] Ms. Shiloh Fetzek, Center for Climate and Security

[Panelists] Mr. Alexander Carius, adelphi

Dr. Yasuko Kameyama, National Institute for Environmental Studies, Japan

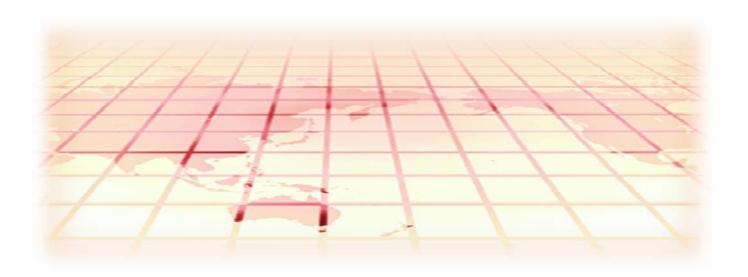
Ms. Mari Yoshitaka, Mitsubishi UFJ Morgan Stanley Securities Co., Ltd.

Dr. Megumi Muto, Japan International Cooperation Agency (JICA)

Dr. Daisaku Higashi, Sophia University

12:10 – 12:20 **Instruction for the breakout session** 

12:20 – 13:20 Lunch (60 min.)



#### [Afternoon sessions]

#### 13:20 – 15:00 **Breakout session** "Interactive scenario exercise"

Scenario 1: In a Southeast Asian country ENIA, one month after an

unprecedented cyclone event/torrential rain

Scenario 2: In a Pacific Island country HARIA, considering the impacts of

climate change to be one of the major threats to their security and economic development.

[Moderators (upper) and Facilitators (lower)]

Group A Ms. Shiloh Fetzek, Center for Climate and Security

ENIA

Ms. Mari Yoshitaka, Mitsubishi UFJ Morgan Stanley Securities Co., Ltd.

Group B Mr. Kunihiko Shimada, KS International Strategies, Inc.

HARIA
Dr. Daisaku Higashi, Sophia University

Group C Mr. Jonathan Miller, Japan Institute of International Affairs

Mr. Yasushi Hibi, Conservation International

ENIA

Ms. Miho Kurosaki, Bloomberg New Energy Finance

Group D Mr. Ko Fujii, Makaira

Mr. Alexander Carius, adelphi

Dr. Yasuko Kameyama, National Institute for Environmental Studies, Japan

15:00 – 15:10 Break (10 min.)

**HARIA** 

Group E

**ENIA** 

#### 15:10 – 16:00 **Final session**

### • Report from the groups of Breakout session

• Panel discussion 2 "To meet the climate change in regional policies and/or business strategy?"

[Moderator] Mr. Tomoaki Ishigaki, Ministry of Foreign Affairs of Japan

[Panelists] Ms. Fetoloai Yandall-Alama, Ministry of Natural Resources and

Environment, Samoa

Ms. Sudhiani Pratiwi, Ministry of National Development Planning, Indonesia

Ms. Sally Yozell, The Stimson Center

Dr. Koji Dairaku, Institute for Earth Science and Disaster Resilience

Ms. Miho Kurosaki, Bloomberg New Energy Finance

### Closing remarks

Climate Change Division, International Cooperation Bureau, Ministry of Foreign Affairs of Japan

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# International conference on climate change and fragility in the Asia-Pacific region

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# Opening session

# [Welcome Remarks Speaker]

# Kazuyuki Nakane

State Minister for Foreign Affairs



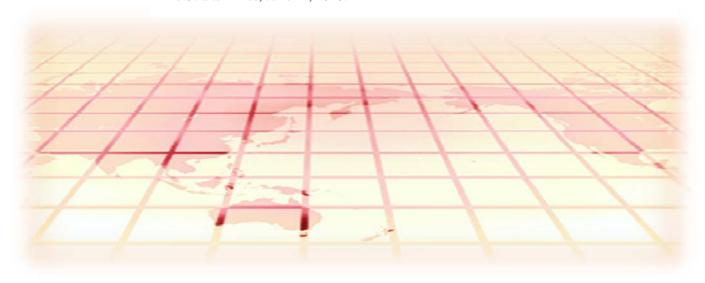
Mr. Kazuyuki Nakane became the State Minister for Foreign Affairs in November 2017. He started his career as a member of the Konosu City Council in April 1995. He was elected to the House of Representatives for the first time in September 2005 and assumed various positions both in the government and the Liberal Democratic Party (LDP) including Parliamentary Vice-Minister for Foreign Affairs and Director of the Land, Infrastructure and Transport Division of the LDP. He graduated from the Public Law Doctoral Program at the Graduate School of Law, Senshu University. He is from Konosu City, Saitama Prefecture.

# [Keynote Speaker] Yoichi Kato

Senior Research Fellow. Asia Pacific Initiative



Mr. Yoichi Kato is a senior research fellow at the Asia Pacific Initiative, a Tokyo-based think-tank. His areas of expertise include the national security strategy of Japan and U.S.-China relations. Prior to joining the Asia Pacific Initiative, Mr. Kato was the national security correspondent at the Asahi Shimbun, a Japanese newspaper. He served as the bureau chief of Asahi's American General Bureau in Washington, DC. He has an MA in International Relations from the Fletcher School of Law and Diplomacy, U.S.A. His recent publications are: "Trump-Kim summit; Why Japan's defense strategy hangs in the balance," The Straits Times, June 11, 2018.



# Panel discussion 1

# [Moderator]

## Shiloh Fetzek

Senior Fellow for International Affairs, Center for Climate and Security (CCS)

Also Moderator of Breakout session, Group A



Ms. Shiloh Fetzek is Senior Fellow for International Affairs at the Center for Climate and Security in Washington DC. Ms. Fetzek led climate security research projects at the International Institute for Strategic Studies (IISS) and the Royal United Services Institute (RUSI) in London, with focuses ranging from China, Latin America, Syria and the Arctic. At International Alert, she supported the New Climate for Peace project commissioned by the G7 Foreign Ministers. Ms. Fetzek's research interests include climate-security interactions with nuclear threats and other traditional security issues, their interplay with drivers of insecurity including demographic dynamics, and tools for managing systemic risk.

# [Panelists]

# **Alexander Carius**

Co-founder and Managing Director, adelphi

Also Facilitator of Breakout session, Group D



Mr. Alexander Carius is co-founder and director of adelphi, a leading independent think tank and public policy consultancy on climate, environment and development. He is an experienced facilitator of national and international stakeholder dialogues and consultation processes and has written on a broad range of sustainability issues, from hydro-diplomacy, the geopolitics of climate change and urban transformation. Alexander Carius has been instrumental in advancing the global agenda on the geopolitics of climate change advising government agencies and international organizations and helped to develop respective policy programmes and processes, most recently on new climate for peace for the G7 foreign ministries.

# Yasuko Kameyama

Deputy Director of Center for Social and Environmental Systems Research,

National Institute for Environmental Studies, Japan (NIES)

Also Facilitator of Breakout session, Group E



Dr. Yasuko Kameyama joined NIES in 1992. Her major field of study is international negotiation on climate change, from the aspect of international relations and political science. She spent a year during 1999-2000 as a visiting researcher at Department of Government and Politics, University of Maryland. She was a visiting professor at Graduate School of Frontier Sciences, University of Tokyo from 2006 to 2015. Her latest single-authored book "Climate Change Policy in Japan: From the 1980s to 2015" has been published from Routledge in January 2017.

# Mari Yoshitaka

Chief Environmental & Social Strategist, Environmental Strategy Advisory Division,

Mitsubishi UFJ Morgan Stanley Securities Co., Ltd.

Also Facilitator of Breakout session, Group A



After working for an IT company and a US investment bank, Ms. Mari Yoshitaka graduated from the University of Michigan, Graduate School of Environmental Policy. Within the IFC she worked on social impact studies for environmental projects in developing nations. Since she joined Mitsubishi UFJ Morgan Stanley Securities in 2000, she has been working on climate change policy especially climate finance and mitigation projects including Clean Development Mechanism and Joint Crediting Mechanism and pursuing modalities of enhancing financial incentives to reduce GHG emissions as well as adaptation and to generate multiple environmental socioeconomic benefits including human well-being improvement.

# **Megumi Muto**

Director General, Global Environment Department, Japan International Cooperation Agency (JICA)



Prior to her appointment as the Director General of JICA's Global Environment Department in April 2018, Dr. Megumi Muto has held positions such as Chief Representative in France and Deputy Director General for the Philippines and the Pacific. She has written extensively in the area of impact evaluation. She has also coled a book with the World Bank and the Asian Development Bank on the impact of climate change on Asian coastal mega cities. She holds Ph.D. in development economics from GRIPS, MPA from Princeton University, and EMBA from HEC Paris.

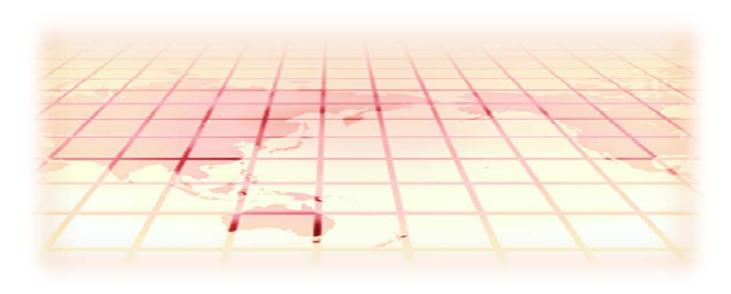
# Daisaku Higashi

Professor, Center for Global Education and Discovery, Sophia University

Also Facilitator of Breakout session, Group B



Dr. Daisaku Higashi was a program director of NHK and produced numerous documentaries, including "Rebuilding Iraq: Challenges of the United Nations" which was awarded silver medal from UN Correspondents Association in 2004. Then, he completed MA and Ph.D. of Political Science, the University of British Columbia in Canada. After he worked for United Nations Assistance Mission in Afghanistan as a Team Leader for Reconciliation in Kabul in 2010, he worked for the University of Tokyo as Associate Professor. He also served as Minister-Counsellor in the Permanent Mission of Japan to the UN, and transferred to a tenure position of Sophia University in 2016.



# **Breakout** session

# [Moderator of Breakout session, Group B]

# Kunihiko (Kuni) Shimada

CEO, KS International Strategies, Inc. Peace Mediator/ Negotiation Strategist/ Geo-political Risk Advisor,



Mr. Kuni Shimada has served as CEO of KS International Strategies, Inc. that provides its clients (governments, IGOs, global firms and educational institutes) with strategic advice and consulting on a wide range of areas, including the advice and consulting services on conflict mediation, negotiation and communications strategies, M&A, market entries, environmentally-friendly management as well as leadership training. Kuni has also worked on climate change negotiation for 20 years, including as a lead negotiator for the Japanese delegation.

# [Moderator of Breakout session, Group C]

# Jonathan Miller

Senior Visiting Fellow, Japan Institute of International Affairs (JIIA)



Mr. Jonathan Miller is a senior visiting fellow with the Japan Institute of International Affairs (JIIA) based in Tokyo, Japan. He is also a Distinguished Fellow with the Asia-Pacific Foundation of Canada. Additionally, he is the Director and co-founder of the Ottawa-based Council on International Policy and Senior Fellow on East Asia for the Asian Forum Japan, based in Tokyo. Miller previously spent nearly a decade working on economic and security issues related to Asia with the Canadian federal government and worked both with the foreign ministry and the security community. He regularly participates in track 1.5 and track 2 dialogues in the region.

# [Moderator of Breakout session, Group D]

# Ko Fujii

Founder and CEO, Makaira



Mr. Ko Fujii is the Founder and CEO of Makaira, a public affairs consultancy specializing in social and technological innovation policy. Prior to Makaira, Ko was the Head of Public Policy for Google in Japan, where he managed government relations during the Great East Japan Earthquake. Before Google, Ko worked for a global PR firm and Japan's Ministry of Education, Culture, Sports, Science and Technology. He holds various positions including Consulting Fellow at PHP Institute, Board Member of Information and Communications Policy Forum, Steering Committee Member of Hiroshima World Business Conference for World Peace, and Advisor to an NGO promoting international volunteerism.

# [Moderator of Breakout session, Group E]

# Yasushi Hibi

Vice President, Asia Policy and Managing Director, Conservation International



Mr. Yasushi Hibi has lead Conservation International's efforts to engage the Japanese government as well as the private sector in global conservation with particular focus on climate change, biodiversity conservation and sustainable natural capital management. Serves on Japanese Government committees on biodiversity, ODA, and Climate change policies, advises leading Japanese corporations on their sustainability strategies, and teaches part-time at Japanese universities. Specializes in environmental economics, international development cooperation, NGO-corporation partnerships, and corporate sustainability strategies. He holds Master's degree from Duke University on environmental economics and a B.S. from Konan University.

# Panel discussion 2

# [Moderator]

# Tomoaki Ishigaki

Director of Climate Change Division, International Cooperation Bureau, Ministry of Foreign Affairs of Japan



Mr. Tomoaki Ishigaki, Director of the Climate Change Division, has served for over 20 years in the Japanese Ministry of Foreign Affairs. He has undertaken various responsibilities in international trade, legal affairs, U.S.-Japan security policy, and non-proliferation and disarmament issues at the United Nations. He also worked as Counsellor of the Cabinet Legislation Bureau (2010 – 2013) and Executive Assistant to Prime Minister Abe's Economic and Fiscal Policy Advisor (2006 – 2007). He currently oversees Japan's climate change policy and works closely with wide-ranging stakeholders on international rule-making as well as climate finance. He is a graduate of Amherst College and studied law at the University of Tokyo before joining the Ministry. He has written a number of articles on international law and disarmament affairs, and taught at Japanese universities on these subjects.

# [Panelists]

# Fetoloai Yandall-Alama

Assistant Chief Executive Officer for the Planning and Urban Management Agency,

Ministry of Natural Resources and Environment, Samoa



Before the current position, Ms. Fetoloai Yandall-Alama has held many roles in the Ministry of Natural Resources and Environment over fifteen years in Environmental Planning, Sustainable Development, Water Sector and Project Coordination. She is currently responsible for the regulation of all developments in Samoa; urban and rural spatial planning frameworks; and administers three key projects funded by World Bank (Pilot Program for Climate Resilience), UNDP (Enhancing Resilience of Coastal Communities of Samoa), and NZ (Apia Waterfront Development Project). She has undergraduate degree in Social Sciences (University of Waikato), PGDiploma and Masters (University of the South Pacific in Fiji).

# Sudhiani Pratiwi

Deputy Director, Climate Change and Environmental Quality,

Directorate for Environmental Affairs, Ministry of National Development Planning Indonesia



Dr. Sudhiani Pratiwi received her Doctorate degree from Bogor Institute for Agriculture (IPB). Her research focuses on Community Participation and Conflict Resolution over natural resource management in national park. Now, she is working as Deputy Director for Climate Change and Environmental Quality in National Development Planning Agency (Bappenas). She had been appointed as a member of delegation from Republic of Indonesia to the various international agreement such as Open Working Group on Sustainable Development (OWG on SDGs); United Nations Conference on Sustainable Development (UNCSD)/Rio+20; and Conference of The Parties (COP) of UNCBD and UNFCCC.

# Sally Yozell

Senior Associate & Director, Environmental Security Program,

The Stimson Center



Ms. Sally Yozell is the Director of the Stimson Center's Environmental Security Program, where she leads the Center's work examining the links between environmental crime, resource scarcity, climate change, and global security issues, with a focus on combatting illegal unreported and unregulated (IUU) fishing, wildlife trafficking, climate change and ocean risk. Prior to joining Stimson, Sally was a Senior Advisor to Secretary of State John Kerry where she provided advice and technical expertise to advance US policies related to ocean, climate, and wildlife protection. Previously, Sally also served as Director of Policy and Deputy Assistant Secretary at the National Oceanic and Atmospheric Administration.

# Koji Dairaku

Senior Researcher.

National Research Institute for Earth Science and Disaster Resilience (NIED)



Dr. Koji Dairaku is an expert on Hydrometeorology, vulnerability and adaptation to climate change in water hazard. He is also the Leader of Climate scenarios working group of the Social Implementation Program on Climate Change Adaptation Technology (SI-CAT) and Leader of Coordinated Regional climate Downscaling Experiment (CORDEX) Asia Empirical-statistical downscaling (ESD) group. Prior to joining NIED, he was a field leader of Urban-Area Field of Research Program on Climate Change Adaptation (RECCA). He holds a Ph.D. of Engineering (Hydrometeorology) from University of Tokyo and has also published various research papers and books.

# Miho Kurosaki

Head of Japan and Korea Research, Bloomberg New Energy Finance

Also Facilitator of Breakout session, Group C



Ms. Miho Kurosaki leads analysis and research on energy industry in Japan and Korea. The team covers topics including impact of the energy market liberalization, new downstream business models and the future of electrified transport. She served as a committee member of climate change advisory panel for Japan Ministry of Foreign Affairs. Before BNEF, she developed Bloomberg's Environmental, Social and Governance (ESG) analytics platform as Bloomberg's senior ESG analyst. She also worked for a London based environmental research firm as an analyst covering environmental risks in portfolio management. She holds an MSc in Environmental Technology from Imperial College London and a BA in Economics from Keio University.



# International Conference on Climate Change and Fragility in the Asia-Pacific Region

# <u>List of Participants (Organizations in alphabetical order)</u>

<b></b>	T	
adelphi	AGC Inc.	ASEAN Green Justice Network
Asia Pacific Initiative (AP Initiative)	Australian Embassy Tokyo	Baker & McKenzie
Bloomberg New Energy Finance	British Embassy Tokyo	Chiyoda Corporation
City of Yokohama	Clingendael / Planetary Security Initiative	Conservation International Japan
CWS Japan/ ADRRN	Daiwa House Industry Co., Ltd.	Deutsche Bundesbank
ELIIY Power Co., Ltd.	Embassy of Brazil in Tokyo	Embassy of Canada to Japan
Embassy of Italy to Japan	Embassy of Republic of South Africa	Embassy of Russia in Japan
Embassy of the Federal Republic of Germany	Embassy of the Republic of Singapore in Tokyo	Embassy of the United States to Japan
Ernst & Young ShinNihon LLC	Financial Services Agency (FSA)	Food and Agriculture Organization of the United Nations (FAO)
French Embassy	Fujitsu Ltd.	Global Environmental Forum
Global Green Growth Institute (GGGI)	Government Pension Investment Fund	Institute for Global Environmental Strategies (IGES)
International Centre for Water Hazard and Risk Management (ICHARM), Public Works Research Institute (PWRI)	International Organization for Migration (IOM)	InterRisk
Japan Business Publishing Co., Ltd.	Japan Institute of International Affairs (JIIA)	Japan International Cooperation Agency (JICA)
JGC Corporation	Josai International University	Keidanren (Japan Business Federation)
Keidanren Committee on Nature Conservation	Kikkoman Corporation	Kiko Network
Kokusai Kogyo Co., Ltd.	KS International Strategies, Inc.	Kyodo News
LIXIL Corporation	Makaira	Mathyos Advisory
Ministry of Defense, Japan	Ministry of Economy, Fiji	Ministry of Economy, Trade and Industry, Japan

Ministry of Foreign Affairs of Japan	Ministry of Foreign Affairs, Indonesia	Ministry of Labour and Social Welfare / Secretariat of National Disaster Prevention and Control Committee, Lao PDR
Ministry of National Development Planning, Indonesia	Ministry of Natural Resources and Environment, Samoa	Ministry of Natural Resources and Environmental, Thailand
Ministry of the Environment, Japan	Mitsubishi Chemical Holdings Corporation	Mitsubishi Hitachi Power Systems, Ltd.
Mitsubishi UFJ Morgan Stanley Securities Co., Ltd.	Mitsui & Global Strategic Studies Institute	Mitsui Norin Co., Ltd.
National Agriculture and Food Research Organization (NARO)	National Institute for Environmental Studies, Japan (NIES)	National Research Institute for Earth Science and Disaster Resilience (NIED)
Nikkei Inc.	Nippon Sheet Glass Co., Ltd.	Nissay Asset Management Corporation
Nomura Real Estate Holdings, Inc.	NTT Facilities, Inc.	Office DeMI
Organization for Landscape and Urban Green Infrastructure	ORIX Corporation	Overseas Environmental Cooperation Center, Japan (OECC)
Panasonic Corporation	Remote Sensing Technology Center of Japan (RESTEC)	Resona Bank, Ltd.
Ricoh Co., Ltd.	Sasakawa Peace Foundation	Shizen Energy Inc.
Solar Frontier K.K	Sompo Holdings, Inc.	Sompo Japan Nipponkoa Insurance, Inc.
Sophia University	SusCon Japan	The Asahi Shimbun
The Canon Institute for Flobal Studies (CIGS)	The Center for Climate and Security (CCS)	The Japan Gas Association
The Mainichi Newspapers	The Stimson Center	The University of Tokyo
Tokyo Gas Co., Ltd.	United Nations High Commissioner for Refugees (UNHCR)	United Nations University
World Bank	WWF Japan	XSOL Co., Ltd.

## Breakout session — ENIA (Southeast Asia) roles and scenario background

This document will guide you through the ENIA scenario. For this scenario you will be assigned to a Role Team. Each Role Team has a certain objective and set of relationships. It is your job to determine your objective and actions at each step of the scenario.

Two items merit your attention. First, the scenario will move quickly. You may not have time to think through all the issues. This is part of the experience. Simply do the best with the time you have. Second, all members of the Role Teams are expected to contribute equally. Expect to be "cold-called" by the Facilitator. When this happens, share the essence of the conversation within your Role Team.

#### The Role Teams are:

- Nakamito Onsite operations include the electronics plant manager & operations manager, as well as communications (responsible for communicating to internal and external stakeholders) and human resources. The operations manager has responsibility for contingency operations and business continuity.
- Nakamito Tokyo Headquarters (HQ) makes decisions about the long-term strategy for the company, and gives guidance to Onsite operations. It also manages Investor Relations.
- Investors have an interest in the commercial success of Nakamito, including the new plant in ENIA. They will call for accountability of each actor to this goal.
- The Host government of ENIA has responsibility for the stability, safety, and livelihoods of the people and the economic viability of the country. With regard to climate change, the government is responsible for tracking and communicating weather data, ensuring preparedness and resilience, communications up to and during a crisis, and ensuring the safety of all citizens.
- The Japanese Embassy looks out for the interests of Japanese citizens & businesses in ENIA.

#### **ENIA Scenario**: background

- Scenario takes place in 2025.
- Scenario opens one month after an unprecedented cyclone event/torrential rain in Southeast Asian country ENIA.
- Nakamito Corporation is a Japanese manufacturer of critical components for electronics. Its flagship plant is in the coastal manufacturing town of Vonat, ENIA.
- The decision to invest there was based on logistics (clustering of supply chains) and a tax holiday (exemption) from the host government. The company promised to create 800+ local jobs. Cyclical business means surge production is necessary certain times of the year.
- Nakamito has hired 658 employees, of which 20 are Japanese nationals (below the level promised). In order to lower labor costs, the factory operator hired nearly 200 migrant workers.
- To date, the shortfall in promised local jobs has not been publicly raised.
- Nakamito plant is close to the seaport so components can be shipped by road to port. It
  is in an industrial park. A map will be provided.
- Once not considered vulnerable to flooding, the industrial zone has flooded in recent storms.
- The plant was built to Japanese specifications.
- Both the plant and the seawall were reinforced after heavy flooding two years ago (in 2023). The repairs slowed operations at Nakamito. Nonetheless, a heavy storm one month ago breached the seawall and damaged parts of the plant. Management is concerned that repairs will further slow operations just as they are gearing up for the high demand season. Nakamito just announced it will resume the operation of the plant as investors started asking questions about the prospect of the business to the HQ.
- ENIA's internally displaced people affected by extreme climate conditions have been arriving in Vonat. There have also been migrants arriving from other climate-affected countries. This has resulted in a 20% increase in population in the city. Many migrants live in informal settlements and are willing to take up jobs with lower wages than local workers. These factors, and the ethnic differences between the local and migrant populations, have exacerbated tensions between the two groups.

## Breakout session — HARIA (Pacific Island) roles and scenario background

This document will guide you through the HARIA scenario. For this scenario you will be assigned to a Role Team. Each Role Team has a certain objective and set of relationships. It is your job to determine your objective and actions at each step of the scenario.

Two items merit your attention. First, the scenario will move quickly. You may not have time to think through all the issues. This is part of the experience. Simply do the best with the time you have. Second, all members of the Role Teams are expected to contribute equally. Expect to be "cold-called" by the Facilitator. When this happens, share the essence of the conversation within your Role Team.

#### The Role Teams are:

- The Serene Sunbeam Onsite operations include the resort manager & operations manager of the Serene Sunbeam Resort. You are responsible for operations, maintenance, safety, and human relations for the resort. The operations manager also has responsibility for contingency operations and business continuity.
- Serene Sunbeam Resort Tokyo Headquarters (HQ) makes decisions about the long-term strategy for the company, and gives guidance to Onsite operations. It also manages Investor Relations.
- Investors have an interest in the commercial success of the Serene Sunbeam Resort. They will call for accountability of each actor to this goal.
- The Host government of HARIA has responsibility for the stability, safety, and livelihoods of the people and the economic viability of the country. With regard to climate change, the government is responsible for tracking and communicating weather data, ensuring preparedness and resilience, communications up to and during a crisis, and ensuring safety of all citizens.
- > <u>Japanese Embassy</u> looks out for the interests of Japanese citizens & businesses in HARIA.

#### HARIA Scenario: background

- Scenario takes place in 2025.
- The government of Pacific Island Country HARIA consider the impacts of climate change to be one of the major threats to their security and economic development. In pursuit of economic sustainability, the government promoted environmentally friendly tourism and offered tax incentives and benefits to the overseas tourism industry as well as investors. The airport has been upgraded and the number of tourists has increased since 2020. It now serves as a hub for flights from major Asian countries to several Pacific Island nations.
- In response to the call from HARIA's leadership, several middle-sized Japanese companies formed a joint venture with local and international hotelier, built a small scale high-end resort, *The Serene Sunbeam Resort (SSR)*, and made a popular tourist destination. The resort hosts an annual sailing regatta, which grows in popularity and brings in more tourists. It also offers sailing and boat tours during the rest of the year.
- In the meantime, the onset of climate change has increased the strength of storms and increased damage to local tourism industry. In 2022 an early cyclone cut the holiday season short, resulting in a 20% loss of revenue for the year and the equivalent of 3 years' revenue in costs to repair storm damage. Cyclone frequency and intensity are projected to increase in this part of the Pacific, and observed changes indicate that this trend is already pronounced.
- After the improvement of its airport and surge in tourism industry, HARIA started to attract economic migrants from other Pacific Island countries who were also being impacted by climate impacts including sea level rise, storms, ocean acidification. Informal settlements in the capital area have grown by 40% compared to three years ago. The government has responded with some quickly-built temporary structures with limited basic services provision, but they only partially meet the need.
- Since early days of independence, HARIA has faced serious challenges of improving its infrastructure to provide freshwater to its increasing population. Various domestic and international efforts were made to overcome the constant shortage of freshwater supply. However, the pace of urbanization overtook all these efforts, resulting in constant call by the government to conserve water, and occasional rationing. Some critics warned that the improvement of the airport and other infrastructure as well as the establishment of highend resorts (with a large number of foreign tourists) only aggravates the situation. The existing freshwater supply is facing the risk of salinization.
- Coastal residents of HARIA engage in fishing at a small or subsistence level scale. However, the government gains significant revenue from leasing fishing rights in their exclusive economic zone to large foreign fishing companies. A growing concern is that climate change and over-catch by the offshore fisheries have made small-scale coastal fishery more difficult. Some scientists also attribute the drop in the coastal catch to rising ocean temperatures and acidity as well as the bleaching of coral reefs. There is also some criticism that the increase in tourism has contributed to the deterioration of the environment, despite its claim of being eco-friendly.