Climate Diplomacy

CLIMATE SECURITY IN JAPAN
DISCUSSION PAPER

CLIMATE AND FRAGILITY RISKS IN JAPANESE DEVELOPMENT COOPERATION: IMPLICATIONS OF ADAPTATION AND PEACE-BUILDING EXPERIENCES

MIKIO ISHIWATARI[1], JANUARY 2017

Human security will be progressively threatened by climate change, consequently development cooperation agencies such as JICA need to adopt approaches to strengthen resilience to climate-fragility risks. Currently, JICA's approaches to climate change adaptation and peacebuilding are not connected enough. There is a need for integrating assessments of climate risk and peacebuilding impacts as well as science, engineering and socio-economic approaches. Furthermore, to address climate-fragility risks more broadly, Japan can build on its long history and extensive experience, for example in the water sector and disaster risk reduction.

Background

Climate change is one of the key global security challenges of the 21st century. Its impacts are 'threat multipliers' that will increase state fragility, fuel social unrest and potentially result in violent conflict. Existing state fragility is simultaneously hampering efforts at adaptation, particularly among vulnerable populations. This threatens to lock many societies into 'fragility traps'.

Japan as part of the Group of 7 (G7) has recognized the resulting challenges for sustainable economic development, peace and stability. In April 2016, under the Japanese G7 presidency and following up the independent report "A New Climate for Peace: Taking Action on Climate and Fragility Risks" commissioned by G7 members, the foreign ministers of the G7 reiterated their commitment to prioritize prevention of climate-fragility risks including taking steps to integrate climate-fragility considerations across their national governments.

[1] Dr. Mikio Ishiwatari is Senior Advisor in Disaster Management and Water Resources Management at the Japan International Cooperation Agency (JICA)

supported by:

Federal Foreign Office

IGES Institute for Global Environmental Strategies

adelphi

Against this background, adelphi has partnered with the Institute for Global Environmental Strategies (IGES) to facilitate a broader discussion on climate-fragility risks in Japan and reflect and discuss the findings of the G7 report and its implications and relevance for Japan. As a first step, adelphi and IGES jointly organized two expert workshops in June 2016. The first workshop took place on June 14, 2016 and brought together 31 Japanese and international experts as well as government representatives. It was followed by a workshop on June 16, 2016 with 15 participants from Japanese civil society and a symposium at the 8th International Forum for Sustainable Asia and the Pacific in Yokohama on July 12, 2016 with over 100 participants. These events focused on identifying climate-fragility risks for Japan and the region and ways to address these risks.

In addition, adelphi and IGES are jointly publishing a series of five policy papers on climate-fragility risks in Japan. These short papers focus on different issues to contextualize the global discourse on the topic and show its relevance for Japan. The papers are available in English and Japanese.

This paper focuses on Japanese development cooperation and approaches for managing climate-fragility risks. It examines what issues the Japanese development agency is facing in managing these risks, in particular in water-related sectors, and what approaches the agency could adopt.

Climate change and human security

Climate change poses risks to human security through various processes, such as reducing access to natural resources, undermining livelihoods, compromising culture and identity, and increasing migration (Adger et al. 2014; Barnett and Adger 2007; Ruettinger et al. 2015). The US government regards confronting climate change as a national security issue (White House 2015). Fragile and conflict-affected countries, which have limited capacity and governance to respond to various risks in development, are especially vulnerable to the effects of climate change (Buhaug 2010).

For example, many people rely on rain-fed agriculture for their livelihoods in developing countries, where water resource facilities are not well developed. Rain-fed agriculture is easily affected by climate change, increasing food insecurity and loss of livelihoods. In addition, climate change will increase flood volumes in major rivers in South Asia and South-East Asia, and available water will decrease in major rivers in conflict-affected countries in the Middle East (Magome et al. 2015; Jiménez Cisneros et al. 2014). These water deficits could have major implications for human security (Adger et. al 2014). Since human security will be progressively threatened as the climate changes, development assistance agencies need to adopt approaches to strengthen resilience to climate-fragility risks.

JICA approaches in the areas of climate change adaptation and peacebuilding

While JICA is actively supporting developing countries to resolve issues in both climate change adaptation and peacebuilding, the agency does not necessarily deal with these areas in an integrated manner. JICA's approaches in the two sectors seem to not always be interlinked.

Climate change: JICA recognizes that climate change is an imminent global threat endangering human security, for example through worsening natural disasters and decreasing water resources. Priority activities in this area are (i) promotion of urban development and infrastructure investment to achieve low-carbon societies resilient to climate change, (ii) integrated management of risks related to climate change, and (iii) improvement of policies and institutions in developing countries (JICA 2016).

Climate change adaptation measures must be planned and implemented taking into account predictions of the impacts of climate change while dealing with a certain amount of uncertainty. To inform its

work on climate change adaptation, JICA uses a vulnerability and risk assessment methodology that is undertaken through the following steps (JICA 2011b):

(i) Risk and sensitivity assessment: (a) assessing current climate risks, (b) predicting change in climate and socio-economic conditions and (c) assessing sensitivity to climate change
(ii) Capacity assessment: assessing adaptation capacity in institutions, infrastructures, information management, etc.
(iii) Vulnerability assessment

At the moment, JICA is predicting the impacts of climate change using scientific and engineering approaches, for example to forecast the availability of water resources or flood damage. However, the agency does not focus on the security risks caused by these water shortage or floods in conflict-affected areas, such as livelihood insecurity or other economic impacts. In general, JICA's activities in this sector are not directly linked to security issues, such as peacebuilding and conflict prevention. For example, JICA conducted precipitation forecasts taking into account climate change for flood management projects in Sri Lanka, but did not use this analysis for other projects including rehabilitation programmes in conflict-affected areas.

Peacebuilding: Priority activities in this area of JICA's operations include (i) social capital, (ii) economic recovery, (iii) governance functions and (iv) security enhancement (JICA 2008). These activities are generally not related to managing climate risks. JICA developed a Peace Building Needs and Impact Assessment to inform its peacebuilding projects and incorporate considerations on conflict prevention into other projects (JICA 2011b). Backgrounds and root causes of conflicts are analysed from political, governance, security, economic and social perspectives. However, these analyses rarely cover fragility risks posed by climate change.

What approach should be taken?

As shown, JICA is currently taking different approaches to managing climate-fragility risks. To manage climate-fragility risks in a more integrated manner, JICA could start with the following areas:

Integrated assessment of climate risk and peacebuilding impacts: The different assessment methodologies used in climate change adaptation and peacebuilding should be integrated to formulate and implement projects for managing climate-fragility risks. This includes developing new integrated assessment methodologies that take into account climate change impacts and fragility and conflict risks.

Combination of scientific knowledge and socio-economic activities: By integrating these assessments, climate vulnerability assessments would be broadened to include political, social and economic risks that are currently often not included. Peacebuilding needs and impact assessments would benefit from including scientific predictions of the impacts of climate change and the climate-fragility risks that these impacts might exacerbate. Climate impact predictions based on scientific and engineering knowledge would be especially relevant for formulating the socio-economic activities of peacebuilding projects.

One example to illustrate these points is a JICA project to build capacities for drought management in the northern area of Kenya, a fragile and conflict-affected area which houses a large Somali refugee population (JICA 2015). The project aims at strengthening communities' capacities to manage droughts through constructing community-based infrastructures, improving livelihoods and conducting training programmes. At the same time, JICA supported Kenya to formulate a nationwide master plan of water resources management. This master plan examined water availability under a changing climate and

proposed water infrastructures and other non-infrastructure-related measures. However, the analysis that was part of the nationwide master plan was not used for project activities in northern Kenya. While the project could improve measures to manage existing drought risks, capacity development could also have been used to manage climate-fragility risks from a long-term perspective.

Capacity building: Well-functioning institutions are key to managing climate-fragility risks. For example, in the water sector, climate change could have potentially destabilizing effects in river basins and may aggravate political tensions. Water allocation and institutional mechanisms play crucial roles in mitigating tensions over shared water (Dinar et al. 2015). This means that institutions need to develop their capacity to respond to a changing climate at the same time as responding to multiple social, economic and political pressures. This would include better monitoring capacities, for example to collect disaster information and hydro-meteorological data by installing equipment and strengthening staff capacity, and enhancing capacities to forecast extreme events and analyze climate change impacts. In trans-boundary situations, sharing information on water demand and supply, including sharing upstream development plans that may impact downstream communities and countries, through an intergovernmental institutional mechanism is crucial. In addition, this would also include sharing this information among different institutions and organizations in river basins and establishing coordinating mechanisms among these institutions and organizations (Ishiwatari 2010).

Japanese experience in managing climate and fragility risks

There is a wealth of Japanese experience that is useful for informing the institutional mechanisms to manage climate-fragility risks . This section outlines examples and experiences from the water sector and disaster risk reduction that illustrate the wealth of experience Japan could use to support building resilience against climate-fragility risks both within and outside Japan.

Mechanisms of managing water have been established across the world depending on cultural, social, economic and political conditions in each area. Although Japan does not share any water resources with its neighbours, it has significant experience in developing and allocating water during periods of high economic growth that can provide good practices for developing mechanisms of water allocation and conflict prevention around shared waters in an Asian context. Also, community-based activities against flooding have a long history in Japan. These experiences are good practices for disaster risk reduction that could be shared with other Asian countries.

Japan has developed a system of water rights based on customary practices of water management over almost 2000 years. Water for agriculture, which developed over the last millennium, is protected as a customary right for local communities even in the modern period starting in the late 19 century. Customary rights today still account for about one-third of total volume of water use (Murase 2003). As the nation developed, the system of water rights evolved to respond to new demands for hydropower generation and urban water supply. Since most river water was used for agriculture before the modern period, new water resources for hydropower generation and urban water supply were developed by constructing dams and other water infrastructure.

Japan is resolving water disputes during droughts based on its culture and customs, not market principles (Ministry of Land, Infrastructure, Transport, and Tourism, Japan 2006). The Japanese River Law stipulates that water users must respect water use of other users during droughts. Drought conciliation is conducted based on a spirit of mutual concessions. Water users create river basin commissions, decide on water allocation and restrict their intake volumes on a consensus basis in each river basin. The water users formulate rules on how to restrict water usage during droughts. These rules vary by river basin according to local conditions and historical backgrounds.

For example, all water users equally reduce water intake volume following the same ratio in the Tonegawa River in the Tokyo Metropolitan area and in the Yodogawa River in the Osaka Metropolitan area. New water developments are given lower priority over old customary water rights for agriculture in the Yoshinogawa River, which has repeatedly suffered from severe droughts. Domestic water use is given priority over agricultural and industrial water in other river basins (Murase et al. 2004).

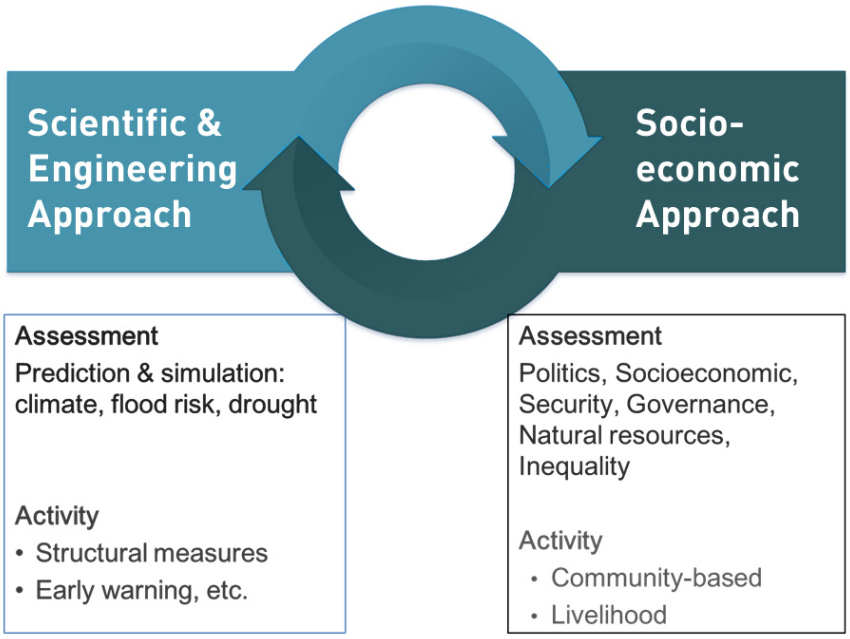
Community-based organizations (CBOs) have been managing disasters in their communities in Japan for centuries. For example, following the Great East Japan earthquake in 2011, community-based fire corps saved countless lives. The organizations conducted various activities, such as searching and rescuing victims, closing tsunami gates, monitoring tsunamis, assisting evacuation, firefighting and operating evacuation shelters. Some 250 volunteer members of the fire corps are dead or still missing.

Each community has developed various countermeasures against floods through its on-site activities. Flood fighting organizations for example reinforce river banks and assist evacuations during floods. Indigenous knowledge of flood fighting has been transferred from generation to generation (Ishiwatari 2012).

Conclusions

JICA has strengths in science and engineering for climate impact prediction and infrastructure development, community-based activities and capacity development; and it can use these strengths in an integrated manner to manage climate and fragility risks. The agency needs to develop integrated assessment methodologies for climate change forecasting and peacebuilding impacts and needs assessments and approaches to integrate these assessments into activities based on scientific, engineering and socio-economic approaches. International cooperation among development partners is expected to develop the methodologies.

Since institutional arrangements are required to mitigate tensions, allocate resources and reduce disaster risks, JICA should also support capacity development from a long-term perspective. Japan's long experience in water management and disaster risk reduction rooted in its cultural and historical background could be useful for countries in the Asian and Pacific region.



References

Adger, W.N., J.M. Pulhin, J. Barnett, G.D. Dabelko, G.K. Hovelsrud, M. Levy, Ú. Oswald Spring, and C.H. Vogel (2014) Human security. In: *Climate Change 2014: Impacts, Adaptation, and Vulnerability. Part A: Global and Sectoral Aspects. Contribution of Working Group II to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change*, Cambridge University Press: Cambridge and New York, 755-791.

Buhaug, H., Gleditsch, N. P., & Theisen, O. M. (2010). *Implications of climate change for armed conflict*. World Bank: Washington DC.

Barnett J. and Adger W. N. (2007) Climate Change, Human security and violent conflict, *Political Geography* 26 639-655

Dinar, S., Katz, D., De Stefano, L., & Blankespoor, B. (2015). Climate change, conflict, and cooperation: Global analysis of the effectiveness of international river treaties in addressing water variability. *Political Geography*, 45, 55-66.

Ishiwatari M (2010) Integrated management of urban flooding for climate change adaptation in developing countries, In *Climate Change Adaptation and Disaster Risk Reduction: Issues and Challenges*, Emerald Group Publishing Limited

Ishiwatari M (2012) Government roles in Community-based disaster Risk reduction, In *Community-Based Disaster Risk Reduction,* Emerald Group Publishing Limited

Community

Japan International Cooperation Agency (JICA) (2011a) *Thematic Guidelines on Peacebuilding*, JICA: Tokyo

JICA(2008) Manual for Peacebuilding Needs and Impact Assessment, JICA: Tokyo

JICA (2011b) *Climate Finance Impact Tool for Adaptation*, JICA:Tokyo

JICA (2015) *The project for enhancing community resilience against drought in northern Kenya : final report*, JICA: Tokyo

JICA (2016) *Position Paper in Climate Change*, JICA: Tokyo.

Jiménez Cisneros, B.E., T. Oki, N.W. Arnell, G. Benito, J.G. Cogley, P. Döll, T. Jiang, and S.S. Mwakalila, (2014) *Freshwater resources*. In: Climate Change 2014: Impacts, Adaptation, and Vulnerability. Part A: Global and Sectoral Aspects. Contribution of Working Group II to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change, Cambridge University Press: Cambridge and New York. 229-269.

Magome J., M.A. Gusyev, A. Hasegawa, and K. Takeuchi (2015) River discharge simulation of a distributed hydrological model on global scale for the hazard quantification, *21st International Congress on Modelling and Simulation*, Gold Coast.

Ministry of Land, Infrastructure, Transport, and Tourism, Japan (2006) *Water Resources Policy: Approach of Water Resource Management Plan* (in Japanese), MLIT: Tokyo.

Murase, M., (2003) A Review of Water Rights in Japan, In *International Conference on Hydrology and Water Resources in Asia Pacific Region 2003*, 1127-1132.

Murase, M., Nakamura, A., Inomata, J., & Kawasaki, H. (2004). Systematic Review of Water Management during Drought in Japan. In *International Conference on Hydrology and Water Resources in Asia Pacific Region 2004*, 881-889.

Rüttinger L., Smith D., Stang G., Tänzler D., and Vivekananda J., (2015) *A New Climate for Peace: Taking Action on Climate and Fragility Risks*, adelphi, International Alert, Woodrow Wilson International Center for Scholars, European Union Institute for Security Studies.

White House (2015) *US national security strategy*. White House: Washington DC.

Authors: Mikio Ishiwatari, Japan International Cooperation Agency

Design: Steffen Kalauch and adelphi

adelphi
Alt-Moabit 91
10559 Berlin
Germany
T: + 49 30 89 000 68-0
F: + 49 30 89 000 68-10
E: office@adelphi.de
I: www.adelphi.de

The climate diplomacy initiative is supported by a grant from the German Federal Foreign Office.
The findings, interpretations and conclusions expressed in this work do not necessarily reflect the views of JICA.