

Grant for Global Sustainability

United Nations University
Financed by Ministry of Education, Culture, Sports,
Science and Technology, Japan

“Enhancement of urban disaster resilience through activities of local participatory platform”

(参加型プラットフォームの活動による都市の災害レジリエンスの向上)

Interim Report

Project implementation period: August 2015 to March 2018
Reporting period: August 2015 to September 2016

Project leader: Dr. Kenji OKAZAKI (岡崎健二)

Position: Professor

Affiliation: Global Environmental Architecture,

Graduate School of Global Environmental Studies, Kyoto University

Implementing organization: Graduate School of Global Environmental Studies

Project accepted in FY 2015

1. Outline of the Project Implementation

① Objective and Project Outline

Catastrophic natural disasters have been occurring frequently over the world in recent years, killing hundreds of thousands of people. Urban disaster risk is also on the rise due to rapid urban growth and due to vulnerable buildings and infrastructure. Hence, the enhancement of urban resilience against natural disasters is one of the urgent and important global issues. This project is implemented in Kathmandu, Nepal, and Yangon, Myanmar, which are prone and vulnerable to natural disasters, particularly earthquakes, aiming to enhance the resilience of the cities against natural disasters through capacity building of the local stakeholders. Kathmandu tackles earthquake disasters while Yangon tackles earthquake and cyclone disasters. Based on the results of these pilot projects, a universal model for urban resilience enhancement will be developed. The goals of the project are to contribute to the 2030 Agenda for Sustainable Development, to attain effective and robust science-policy interfaces at the local level, and to contribute to the Sendai Framework for Disaster Risk Reduction 2015-2030, adopted during the 2015 UN World Conference on Disaster Risk Reduction (WCDRR). The project will be conducted from September 2015 to March 2018 for two years and seven months, with the Grant for Global Sustainability (GGS) initiated by the United Nations University (UNU), Tokyo, Japan.

② Progress with Respect to the Original Implementation Plan

The project leader and some researchers visited Yangon from 10 to 12 September and Kathmandu from 6 to 10 October to discuss with the key experts and possible counterparts and identified the participating organizations from the two cities. A memorandum of understanding (MOU) was concluded between GSGES and the local counterpart organizations in the two cities to clarify the role and responsibilities of the participating parties. MOU with Kathmandu was concluded on 22 January 2016 and MOU with Yangon on 12 February 2016. The international kick-off conference was organized in Kathmandu from 21 to 23 January 2016 and in Yangon from 16 to 19 March 2016 to launch the pilot project in the two cities and to initiate discussion on the establishment of local participatory platforms needed for the enhancement of urban disaster resilience.

③ Mid-term Progress and Achievements

All municipalities involved in the GGS Project were able to conduct the target three local platform workshops for the period ending in August 2016. All the workshops were well attended, with the number of participants ranging from 35 to 108 per workshop. The cities made sure that different groups of stakeholders, including women and children, were represented in the workshops. As the activities of the workshops, the participants learned disaster risks, purpose of the GGS Project, and participated in trainings and town watching.

There are a total of nine joint research teams: five in Myanmar and four in Nepal. The Japanese researchers and international experts have been imparting their knowledge to the municipalities, NGOs, and universities in Kathmandu and Yangon. In general, project implementation has been smooth despite some delays in the establishment of the local platforms and in the start of the joint research activities of some teams. It is expected that by the end of 2016, project activities will be completed as scheduled.

2. Progress of Project Implementation

① Background and Objectives

Catastrophic natural disasters have been occurring frequently over the world in recent years, killing hundreds of thousands of people. Urban disaster risk is also on the rise due to rapid urban growth and vulnerable buildings and infrastructure. As the level of disaster resilience of a city can be defined as a total of physical vulnerability and capacity of all stakeholders, all the stakeholders should build up their capacity jointly to improve hard and soft measures in order to enhance the resilience of the city.

This project aims to enhance resilience of cities against natural disasters through capacity buildings of stakeholders in a city. The pilot projects are conducted in two selected cities from Asia, which is prone to various severe disasters, namely, Kathmandu (Nepal) and Yangon (Myanmar). Kathmandu will target earthquake disasters, trying to assess ongoing recovery and reconstruction activities after the 2015 Gorkha Earthquake, and reflect the findings of the project to these activities to “Build Back Better”. Yangon is targeting earthquake and cyclone disasters. The project is conducted for nearly three years. It is expected that through the project activities all the stakeholders will be able to better understand the risks and probable damages caused by natural disasters as their own problems to be tackled, and will be motivated or be willing to take appropriate actions for disaster reduction by themselves. In this way, the resilience of the pilot cities will be enhanced.

② Implementation Methodology

Firstly, pilot projects are conducted in Kathmandu and Yangon. The two cities establish a local platform where stakeholders work and discuss together to understand and assess the disaster risk of the city, estimate probable damages, propose policies, and make action plans. Some local projects for disaster education and community-based disaster management are also implemented. In order to facilitate these activities, local counterpart organizations are selected from local governments, universities, and NGOs. The municipality manages the platform, while the university and NGO give technical advices to the platform, and are assigned to implement projects for disaster education and community-based disaster management projects. The local counterpart organizations receive technical support from Japanese experts and receive financial assistance to cover part of actual expenses as a seed money. In addition, the local universities and NGOs and Japanese researchers conduct some joint researches to support the enhancement of urban disaster resilience.

Secondly, a universal model for urban resilience enhancement will be developed using a multi-disciplinary approach, i.e., through a combination of engineering approach and political/social approach, based on the experiences of the pilot projects and the joint researches in the two cities. The model will describe how to conduct similar projects to enhance the resilience against various natural disasters. The model will be freely available with archived data on the web. The participating international organizations and experts will encourage other cities in the world to utilize the model through their international network. The pilot cities are also expected to transfer their experiences to other cities in the country and neighboring countries. In order to disseminate the findings of the project and exchange information, international conferences will be held twice during the project, at the beginning and the end of the three year project.

Table 1. Schedule of the activities

Planned Activities	2015 FY (Aug. 2015 - Mar. 2016)	2016 FY (Apr. 2016 - Mar. 2017)	2017 FY (Apr. 2017 - Mar. 2018)
1. Conducting Pilot Project in each city			
(1) Kick-off meeting to establish a local platform	←→★★ Kick off meeting		
(2) Conduct risk assessment and damage estimate of earthquakes		←→	
(3) Make disaster reduction policies and action plan		←→	←→
(4) Research on specific topics		←→	←→
2. Establishing a general model for increasing urban disaster resilience			
(1) Extracting general methods for establishment of the general model		←→	←→
(2) Establishment of the general model			←→
3. Information/data sharing and networking			
	★ Kick off international meeting		★ Closing international conference

The project is being conducted by the Graduate School of Global Environmental Studies (GSGES), Kyoto University, in collaboration with some Japanese researchers from other institutions. Japanese researchers conduct some specific researches in cooperation with the local academicians at inter-disciplinary basis, combining engineering, sociology and humanities. For risk assessment and damage estimate of earthquakes and capacity development, the Global Earthquake Model (GEM) Foundation is assisting the two pilot cities jointly. The GEM Foundation is a public-private partnership that drives a global collaborative effort to develop high-quality resources for assessment of earthquake risk and to facilitate their application for risk management. The tools, data, and methods of GEM can be applied to the pilot cities.

③ Progress with Respect to the Original Implementation Plan

A. Identification of the Participating Organizations

Local counterparts

The project leader and some researchers visited Yangon from 10 to 12 September and Kathmandu from 6 to 10 October to discuss with the key experts and possible counterparts and identified the participating organizations from the two cities as follows:

Kathmandu

- Lalitpur Sub-Metropolitan City Office (LSMC) and Karyabinayak Municipality Office (KM)
- Center for Disaster Studies (CDS), Institute of Engineering (IOE), Tribhuvan University
- National Society for Earthquake Technology-Nepal (NSET)

Yangon

- Yangon City Development Committee (YCDC)
- Faculty of Engineering, Yangon Technological University (YTU)
- Myanmar Engineering Society (MES)

Japanese researchers

Participating researchers from Japan were identified as follows:

GSGES

- Kenji Okazaki (Prof.): Project Leader
- Junji Kiyono (Prof.), Aiko Furukawa (Assoc. Prof.): Urban seismic risk assessment
- Rajib Shaw (former Professor of GSGES, now the Executive Director of the Integrated Research on Disaster Risk (IRDR) Program based in Beijing), Koichi Shiwaku (Researcher): Disaster education and action plan
- Kenji Okazaki (Prof.), Hirohide Kobayashi (Assoc. Prof.): Housing safety and risk perception
- Makoto Usami (Prof.): Social fairness of policies and action plans

Others

- Kazuyoshi Nishijima (Assoc. Prof., Disaster Prevention Research Institute (DPRI), Kyoto University) and Seitaro Tajiri (Assoc. Prof., Graduate School of Engineering, University of Tokyo): Practical seismic diagnosis methods reflecting variation in building quality

International experts

GEM Foundation

- Carlos Villacis (Regional Project Manager and Strategy Coordinator)
- Christopher Burton (Social Vulnerability and Integrated Risk Coordinator)

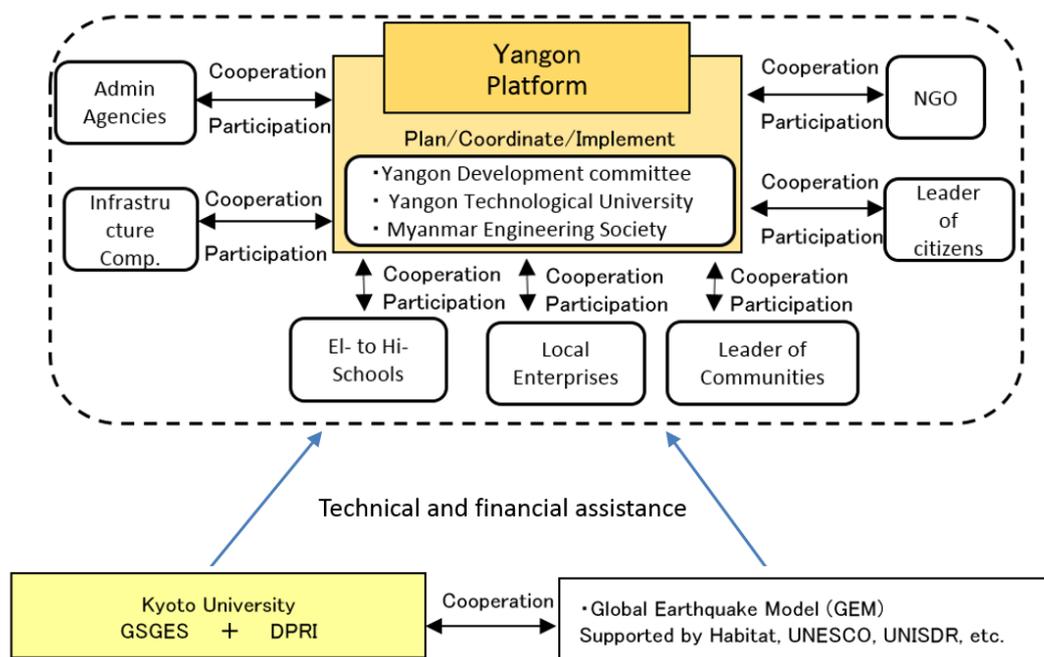


Figure 1. Participating organizations and the established structure (Yangon)

B. Conclusion of MOU

A memorandum of understanding (MOU) was concluded between GSGES and the local counterpart organizations in the two cities to clarify the role and responsibilities of the participating parties. MOU with Kathmandu was concluded on 22 January 2016 and MOU with Yangon on 12 February 2016. The role and responsibilities of the participating parties are provided in MOU as follows:

Municipalities:

- Establish and manage a participatory platform
- Develop the earthquake damage estimate and the action plan

University:

- Provide scientific and technical advice to municipalities
- Conduct joint researches with the Japanese researchers

NGO:

- Provide technical and practical advice to the municipalities
- Conduct community-based projects

GSGES

- Provide technical advice and financial assistance as grant

C. International Kick-off Conference

The international kick-off conference was organized in Kathmandu from 21 to 23 January 2016 and in Yangon from 16 to 19 March 2016 to launch the pilot project in the two cities and to initiate discussion on the establishment of local participatory platforms needed for the enhancement of urban disaster resilience and to conduct a field survey for the international participants. The international kick-off conference reports are in **Annex 1** (Kathmandu) and **Annex 2** (Yangon).



Figure 2. Kick-off conference in Kathmandu in January 2016 (left) and in Yangon in March

After the discussion among the local stakeholders during and after the kick-off conference, the following has been decided regarding the local platform and the pilot areas within the cities.

Table 2. Targeted areas for the local platform

Kathmandu, Nepal		
Lalitpur Sub-Metropolitan City	Ward No. 16	The existing DRR Committee of Ward No. 16 is used as the platform.
Karyabinayak Municipality	Khokana Village Development Committee (VDC)	A municipal-level local platform and VDC-level platform are established.
Yangon, Myanmar		
Pazundaung Township	No. 2 Ward	The existing Disaster Management Committee (DMC) at the ward level is used as the platform.
Tamwe Township	Byane Kwet Thit Ward	

D. Collaboration between the two cities

In order to promote collaboration between Kathmandu and Yangon, three experts of Yangon were invited to the kick-off conference in Kathmandu and two experts of Kathmandu were invited to the kick-off conference in Yangon. In addition, one Yangon expert was invited to participate in the GEM training workshop, which was held for two days in October 2015 in Pavia, Italy.

④ Mid-term Progress and Achievements

A. Local Platform Activities

All municipalities involved in the GGS Project were able to conduct the target three local platform workshops for the period ending in August 2016. All the workshops were well attended, with the number of participants ranging from 35 to 108 per workshop. The cities made sure that different groups of stakeholders, including women and children, were represented in the workshops.



Figure 3. Resilience Performance Scorecard workshop in Kathmandu in May 2016 (left) and town-watching workshop in Yangon in July

Table 3. Local platform workshops

	Karyabinayak, Nepal	Lalitpur, Nepal	Yangon, Myanmar
First Workshop	22 January 2016 Hotel Himalaya, Lalitpur 73 participants Kick-off conference		18 March 2016 MES Building 80 participants Kick-off conference
Second Workshop	18 May 2016 Clock Building, Bhaisepati 76 participants Introduction of GGS Project; Resilience Scorecard workshop	19 May 2016 Ashok Hall, Patan 108 participants (Ward 16) Introduction of GGS Project; Resilience Scorecard workshop	22 June 2016 Explanation about GGS Project and joint research; selection of pilot wards
Third Workshop	8-12 August 2016 Karyabinayaka Municipality Meeting Hall 35 participants (DMC members only) CBDRM training	5 August 2016 Dhapagal, Lalitpur 90 participants (Ward 16) Identifying community vulnerabilities and capacities	15 July 2016 Yangon City Hall / 2 wards Various presentations (a.m.) and town-watching (p.m.)

The Interim Report of Karyabinayak Municipality, Lalitpur Sub-Metropolitan City, and Yangon City Development Committee (YCDC) showing the details of the workshops they conducted can be found in **Annex 3**, **Annex 4**, and **Annex 7**, respectively. These Interim Reports include the list of local platform members and the tentative schedule of local platform activities until March 2018.

The Interim Report of the two NGOs supporting the local platforms, NSET in Nepal and MES in Yangon, are in **Annex 5** and **Annex 8**. These reports show the technical and practical assistance the NGOs provided to the municipalities.

B. Joint Research Activities

During and after the kick-off conferences, the Japanese researchers and local experts discussed the research topics and elaborated on how the research should be conducted. They also identified the local joint research participants such as professors, students, and government officers. There are a total of nine joint research teams (five in Myanmar and four in Nepal) covering five research topics.

The joint research team on **urban seismic risk assessment** (led by Prof. Junji Kiyono and Assoc. Prof. Aiko Furukawa) will draw damage index curves with and without reinforcement in Kathmandu based on collected data. In Yangon, fragility curves for local structure will be constructed. Prof. Kiyono attended both kick-off conferences in Kathmandu and Yangon and met with local members of his team. He also met with his team members in Yangon and in Kathmandu on separate occasions in June.

The joint research team on **practical structural performance diagnosis methods reflecting variation in construction quality** (led by Assoc. Prof. Kazuyoshi Nishijima and Assoc. Prof. Seitaro Tajiri) will develop an approach to assess connections of structural elements and effects of construction quality as well as develop a simplified method to evaluate local technology to reinforce the structural performance. Their research will be conducted in Yangon only. Prof. Nishijima and Prof. Tajiri attended the kick-off conference in Yangon. Prof. Nishijima and one of his doctoral students conducted a preliminary survey on construction quality at selected constructions sites in Yangon in July.

The joint research team on **disaster education and action plan** (led by Dr. Rajib Shaw and Dr. Koichi Shiwaku) are applying assessment tools such as the Climate Disaster Resilience Index (CDRI) and School Disaster Resilience Assessment (SDRA) in the pilot wards in Kathmandu and Yangon. They are investigating how to engage communities and schools in developing school-centered disaster resilience action plans. Both Dr. Shaw and Dr. Shiwaku attended the kick-off conference in Kathmandu. Their team was able to conduct surveys and interviews in February and in August in Kathmandu and in March and in July in Yangon.

The joint research team on **risk perception and housing safety** (led by Prof. Kenji Okazaki and Assoc. Prof. Hirohide Kobayashi) aims to better understand the earthquake risk perception of people and their lifestyles in order to develop policies and strategies to motivate people to construct and maintain safer buildings. In Kathmandu, the team will investigate how the houses and communities have been reconstructed after 2015 Gorkha Earthquake. Both

Prof. Okazaki and Prof. Kobayashi attended the kick-off conference in Kathmandu while Prof. Okazaki attended the kick-off conference in Yangon. The team had conducted a pre-survey in Kathmandu in May and a pre-survey in Yangon in July.



Figure 4. Risk perception and housing safety pre-survey in Kathmandu in May 2016 (left) and in Yangon in July

The joint research team on **social fairness of policies and action plans** (led by Prof. Makoto Usami) will conduct normative analysis of measurement problems concerning stakeholders' needs and will study justice in distributing goods and services among people who might have conflicting. Prof. Usami had attended the kick-off conference in both Kathmandu and Yangon as well as met with his team members in Yangon in July.

An Interim Report has been prepared for each of the five research topics. These reports are in **Annexes 10 to 14**. The Interim Report of the two local universities, Tribhuvan University in Nepal and YTU in Myanmar, are in **Annex 6** and **Annex 9**, respectively. The list of members of the joint research teams are in **Annex 15** (Nepal) and **Annex 16** (Myanmar).

In general, project implementation has been smooth despite some delays in the establishment of the local platforms and in the start of the joint research activities of some teams. Establishing and maintaining local platforms and joint research teams take time for the members to coalesce and work smoothly with each other. It is expected that by the end of 2016, project activities will be completed as scheduled.

⑤ Status of Knowledge Transfer to Counterparts

The Japanese researchers and international experts have been imparting their knowledge to the municipalities, NGOs, and universities in Kathmandu and Yangon. For example, Japanese researchers had demonstrated to local counterparts how to properly conduct surveys and interviews and emphasized the importance of high-quality primary data. In the case of the joint research on risk perception and housing safety, the members of the Japan team checked the answers to the completed pre-survey questionnaires and provided feedback to the local university students on how to correctly record responses and how to elicit more detailed answers from the respondents through the use of examples or by asking follow-up questions. In terms of preparing house drawings, Japanese researchers showed the local university professors and students how to use the laser measuring device. They will later be provided instructions and feedback on house drawings rendered in AutoCAD, to help them improve their proficiency in the use of the design software. In the other joint research topics, the local counterparts are exposed to the updated theories and methodologies being followed by the Japanese researchers.

Briefing and de-briefing meetings are frequently held by the joint research teams to explain the tasks to be carried out and to review if the tasks had indeed been performed properly. The local counterparts are given opportunities to share their knowledge and opinion or to ask questions.

The local counterparts mentioned that the joint research topics were new to them and that they were interested to be involved in the joint research because they wanted to learn more and because they believed that the topics would be useful in their own research and work.

The international experts also transferred knowledge to the local counterparts. By learning from GEM, NSET is already able to conduct the Resilience Performance Scorecard workshop by itself. What GEM may need to do next in the future is to help the NGOs and municipalities on how to analyze data and write a report. These skills will be

helpful and useful to the NGOs and municipalities, not just for the GGS Project but also for their other current as well as future projects. GEM had also previously offered to provide online training to the local counterparts in Yangon on the use of the GEM tools in earthquake risk assessment.

Both Japanese and international experts shared their experiences from previous similar projects (e.g., RADIUS) and from disaster risk management in Japan to the local counterparts during the workshops or in conversations. In return, the Japanese researchers and international experts get to know more about the situation in Nepal and Myanmar from the local project partners. The GGS Project allows all the participants to learn from each other.

⑥ Unforeseen Circumstances

Organizing workshops has been challenging due to the busy schedule of the participating organizations. For example, June and July are extremely busy months in Nepal as government offices are closing the fiscal year and preparing for the next one. In Nepal there are also several other post-2015 Gorkha Earthquake projects involving the GGS Project partner organizations there. For example, Lalitpur is involved in a JICA project on preparing a build back better recovery plan. Our GGS Project focal person is now handling all DRM-related projects in Lalitpur so it is very challenging for him to meet with local platform members and organize workshops with them.

Recently, the 2016 Chauk Earthquake on August 24 in Myanmar which damaged nearly 400 pagodas in the ancient city of Bagan had preoccupied our partner NGO in Yangon. MES has been very busy in the earthquake damage assessment. There was a three-week delay in the submission of the Interim Report of the participating organizations based in Yangon. On the other hand, however, the earthquake was a wake-up call for earthquake disaster risk management for the people of Yangon.

The participation of the Japanese researchers in local platform workshops has also been hindered by the tight schedule of classes and meetings in the university. Not all Japanese researchers have been able to visit Kathmandu and Yangon as often as recommended.

The political situation in Nepal and Myanmar had changed since the GGS Project had started. Myanmar elected a new president on 15 March 2016 (just before the kick-off conference in Yangon) while Nepal's prime minister resigned on 24 July 2016. The kick-off conference in Yangon could not have been organized earlier because of the anticipated political change in Myanmar, causing a slight delay in the start of the local platform and joint research activities.

3. How to Proceed and Future Outlook

In the Interim Report of most of the participating organizations, a schedule of their activities until March 2018 has been included. These activities are summarized in **Annex 17** (Local Platform Activities) and in **Annex 18** (Joint Research Activities).

The local platforms will be focusing on completing their risk assessment from October 2016 to March 2017. There will be three local platform workshops in each of the pilot wards during this period. Then from April 2017 to March 2018, the local platforms will be preparing in a participatory manner their disaster resilience action plan based on the risk assessment result.

Activities of the joint research teams are on-going. Many of the teams are currently planning their data-gathering activities. Several teams are scheduled to visit Nepal and Myanmar in October, November, and December 2016. The joint research teams on **risk perception and housing safety** will have their full survey in Yangon from 19 to 22 October and in Kathmandu from 22 to 25 November. At least 100 households will be surveyed in each of the target wards. The joint research team on **urban seismic risk assessment** will conduct a field survey to collect data in Kathmandu from 2 to 6 December. Their local counterparts at Tribhuvan University are now obtaining the tensile strength of typical masonry bricks in order for the team to conduct the numerical analysis of a masonry building. The joint research team on **practical structural performance diagnosis methods reflecting variation in construction quality** will be conducting a survey in Yangon in the latter half of December to identify and select construction sites to monitor until the first half of 2017. In the second half of 2017, the construction quality will be assessed. A revised manual for inspection of construction quality will be prepared. The joint research team on **disaster education and action plan**, which started earlier than the other teams, is now analyzing data gathered from surveys and interviews conducted in February and in August in Kathmandu and in March and in July in Yangon. The joint research team on **social fairness of policies and action plans** will be collecting data for the normative analysis of distributive and discursive issues in the context of the local platform activities in Kathmandu and Yangon.

Team members will attend local platform meetings and workshops to observe participants' discursive patterns, collect demographic and cultural data, and develop a normative model of distribution and consensus building.

It is expected that, with the learning curve, organizing the succeeding local platform and joint research activities will be smoother than during the first reporting period.

4. Project Implementation Challenges and How to Overcome Them

As mentioned earlier, conflicting schedules is a major concern in the implementation of local platform activities and joint research activities. Through the use of a master calendar showing the activities until March 2018, we expect better attendance from everyone involved in the project, including the ward residents and partner organizations.

Learning from lessons from the first three workshops conducted in each municipality, the local platforms and supporting organizations can now anticipate the optimal duration of the workshops. For example, in both Karyabinayak and Lalitpur, the number of participants drastically dwindled in the afternoon when the workshop was whole-day long.

An issue had also been raised that the amount of the conditional grant is too small for implementing local platform projects. The municipalities are encouraged to secure additional funds from other sources and to implement projects at the ward level only, not municipality-wide. This is a concern that will have to be tackled by the local platform members repeatedly in the next few months.

There is also some apprehension that short-term projects such as this GGS Project will only come up with action plans with no further support for the actual implementation of the action plans. For example, in Lalitpur, several action plans had been prepared in the past with assistance from Red Cross and from Oxfam. After the previous projects ended, the municipality was left on its own to act on the action plans. In the end, very little was implemented. There should be discussions among local platform members and supporting organizations regarding the preparation and implementation of the action plans during and after the implementation period of the GGS Project. This is why this project is trying to enhance the capacity of stakeholders and the feeling of "ownership" of the project.

5. Application and Dissemination of the Results

As only one year has passed since the initiation of the project, we do not have much project results yet. However, through the collaboration to establish the local platform in the two pilot cities and through the activities of the local platform for about half a year, the stakeholders are better understanding the disaster risk in their communities. It is expected that they will understand what will be happening in case of a disaster, by the end of FY 2016, and they will be able to understand what kinds of actions should be taken to reduce disasters. Through the project, it is expected that the stakeholders will develop an Action Plan and some of the activities in the Action Plan will be implemented. Collaboration among local governments, universities, and NGOs, which are strengthened by the project, will definitely promote such activities.

By the end of the project in March 2018, the universal model to enhance urban resilience against disasters will be developed and it will be available on the Internet. It is expected that other cities will try to apply the model with assistance from international organizations. The pilot cities are also expected to transfer their experiences to other cities in their country.

6. Contribution toward the realization of SDGs, toward Japan's increased presence, etc.

This GGS Project will contribute to the realization of the Sustainable Development Goals (SDGs), particularly **Goal 4** (*Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all*), **Goal 11** (*Make cities and human settlements inclusive, safe, resilient and sustainable*), and **Goal 17** (*Strengthen the means of implementation and revitalize the Global Partnership for Sustainable Development*). Some of the local platform and joint research activities will involve the promotion of safe and resilient housing through the participatory planning and management of human settlements with the aim of helping reduce the number of deaths and injuries due to earthquakes and cyclones. Through this GGS Project, organizations based in Japan and Italy are assisting cities in Nepal and Myanmar in preparing disaster resilience action plans.

The GGS Project will also contribute to the implementation of the Sendai Framework for Disaster Risk Reduction 2015–2030 (SFDRR), particularly in **Priority 1** (*Understanding disaster risk*) and **Priority 2** (*Strengthening disaster risk governance to manage disaster risk*). The GGS Project will promote the collection, analysis, and use of risk data and information, as well as facilitate the assessment of vulnerability, capacity, and exposure of the pilot wards in Kathmandu and Yangon. By working with the municipalities, the GGS Project can build the disaster risk management (DRM) capacity of government officials through sharing experiences, lessons learned, and good practices and through training and research. Local participatory platforms are established to promote and improve dialogue and cooperation among government officials, residents, NGOs, university researchers, and other stakeholders in order to facilitate effective decision-making in DRM.

The GGS Project will also contribute to the “Human Security”, which the Japanese Government is taking lead in promoting. Protecting human lives from disasters is one of the most important issues under “Human Security”.

The GGS Project is contributing to Japan’s increased presence in Nepal and Myanmar and will complement efforts made by JICA and the embassies of Japan in the two countries as well as those of the Japanese civil society organizations. The joint research component will be helping the professors and students in the partner local universities and will hopefully encourage them to be interested and to be engaged in research conducted by and in Japanese universities, such as Kyoto University.

7. Project Outreach

At this point, the GGS Project has not yet produced any research papers or research presentations as the local platform activities and joint research activities are just gaining momentum. However, Prof. Okazaki introduced this project in his keynote speech and paper of “For Safer Houses and Resilient Communities” at the 6th International Conference on Science and Engineering at YTC on 13 December 2015.

So far, most of the announcements and news about the GGS Project are on the website of the partner organizations, such as the following:

- International kick-off conference in Kathmandu
NSET website: <http://www.nset.org.np/nset2012/index.php/event/eventdetail/eventid-309>
GSGES website: http://www2.ges.kyoto-u.ac.jp/wp-content/uploads/2016/03/SNL_No13.pdf
- Third local platform workshop in Yangon on 15 July 2016 was covered by Myanmar Radio and Television (MRTV). A copy of the news segment can be viewed using this link:
<https://www.facebook.com/mrtvwebmediaportal/videos/1139106822801809/>
- Reports of the activities of the joint research on risk perception and housing safety are uploaded to the website of the Global Environmental Architecture Laboratory headed by Prof. Okazaki:
<http://www.gea-lab.ges.kyoto-u.ac.jp/news.html>
- The GGS Project has a dedicated website for sharing updates and announcements:
<https://ggsurbanresilience.wordpress.com/>

List of Annexes

- Annex 1 International Kick-off Conference Report (Nepal)
- Annex 2 International Kick-off Conference Report (Myanmar)
- Annex 3 Interim Activity Report of Karyabinayak Municipality
- Annex 4 Interim Activity Report of Lalitpur Sub-Metropolitan City (LSMC)
- Annex 5 Interim Activity Report of National Society for Earthquake Technology – Nepal (NSET)
- Annex 6 Interim Activity Report of Center for Disaster Studies (CDS)
- Annex 7 Interim Activity Report of Yangon City Development Committee (YCDC)
- Annex 8 Interim Activity Report of Myanmar Engineering Society (MES)
- Annex 9 Interim Activity Report of Yangon Technological University (YTU)
- Annex 10 Interim Activity Report of the Joint Research Team on Urban Seismic Risk Assessment
- Annex 11 Interim Activity Report of the Joint Research Team on Disaster Education
- Annex 12 Interim Activity Report of the Joint Research Team on Structural Performance Diagnosis
- Annex 13 Interim Activity Report of the Joint Research Team on Risk Perception and Housing Safety
- Annex 14 Interim Activity Report of the Joint Research Team on Social Fairness of Action Plans
- Annex 15 List of Joint Research Team Members (Nepal)
- Annex 16 List of Joint Research Team Members (Myanmar)
- Annex 17 GGS Project Activity Calendar (Local Platform Activities)
- Annex 18 GGS Project Activity Calendar (Joint Research Activities)