

## **JICA's Inputs to the Post-2015 Framework For Disaster Risk Reduction (Post Hyogo Framework for Action)**

### **Summary of key points of the national consultation on Post HFA:**

#### **- Effectiveness of DRR Investment:**

Discussions reiterated that DRR investment is essential in order to achieve sustainable development, including economic growth and poverty reduction. JICA developed a Dynamic Stochastic General Equilibrium (DSGE) model to simulate impacts on 1) economic growth under long-term disaster risk with or without DRR investment, and on 2) the Gini coefficient in consequence of DRR investment. The purpose of this model is to quantitatively demonstrate that DRR investment is essential to achieve sustainable development, and to make a compelling explanation that there is definite co-relation between DRR and sustainable development. In the discussion, participants shared their views on the draft model for its refinement and potential use. JICA will launch the economic model version 1.0 at the side event "Economics of Disaster Risk Reduction", GPDRR on 21<sup>st</sup> May 2013. They will also distribute a 20-page brochure containing the structure of the model. The model is named DR2AD Model (hereinafter referred as DR2AD: /di: ræd/), which stands for "Disaster Risk Reduction investment Accounts for Development", with hope that this Model can bridge the aforementioned gap and contribute to the discussions of both the HFA2 and the Post-2015 Development Agenda.

#### **- The necessity of incorporating DRR into development :**

Reviewing the experience of the Japanese Government revealed their efforts to incorporate a viewpoint of DRR into various development plans and projects, and invest in DRR strategically in order to protect human life against disasters. Such efforts have enabled Japan to decrease disaster-related mortality and develop economic sustainably. On the other hand, the analysis of past JICA projects proved that various JICA projects incorporating a viewpoint of DRR have contributed to reducing disaster risk and ensuring sustainable development.

On the basis of such experiences of the Japanese government and JICA, it is recognized that a policy on "incorporating DRR into development in all sectors" should be promoted strategically by JICA as a responsible member of the international community.

In the meetings, JICA presented a draft hand book on incorporating DRR into development to the participating experts. Finally, reflecting on the inputs received through the discussions from the participants, JICA produced a draft of a 100-page "Handbook on incorporating DRR into development" (in Japanese) for JICA staff members to explain necessary strategies and

measures to transform the policy on DRR into concrete actions. In addition, JICA proposes to perform Disaster Risk Assessment (DRA) which aims to analyze and measure possible disaster risk before implementing projects. If negative impact is estimated, a necessary (and/or alternative) measure with cost should be considered in the planning phase. Through such efforts, JICA aims to reduce disaster risk in development and, ensure its sustainability.

## **Introduction:**

Disasters and development correlate in a sense that both mortality and economic loss risk are heavily concentrated in developing countries, and disasters disproportionately affect the poor within these countries. Disasters have persistent, long-term negative impacts on poverty and human development that undermine the achievement of the Millennium Development Goals (MDGs). On the other hand, Hyogo Framework for Action and MDGs are formulated without properly taking into account the correlation of the two issues. JICA considers this as one of the bottle necks that prevents integration of disaster risk reduction in all development policies and investment programs.

Since Japan is one of the most disaster-prone countries, Japanese government and people have struggled with various disaster risks and have invested in DRR. Such efforts for incorporating DRR into development have led Japan's economic development.

Against backdrop, together with a team of experts and academia, JICA set up an advisory committee and held a series of meetings (between November 2012 and March 2013) as the National Consultation of the post HFA in Japan to provide inputs to the global discussion on the post HFA. The meetings examined the effectiveness of DRR investment for economic growth and lessons learnt from past disasters.

## **Participation:**

The National Consultation of the post HFA was carried out with active participation of about 40 participants, or advisory committee members, including representatives from government, academic, national and international organizations, as well as JICA staff members (a list of participants is provided in Annex).

## **Brief Summary of each meeting:**

### 1. The First meeting (13:00 to 16:00 on 21<sup>st</sup> November, 2012)

Firstly, advisory members shared current global discussions and their perspective on mainstreaming DRR. Such sharing process contributed to the recognition of the necessity of mainstreaming DRR into development by all participants. Secondly, JICA showed a preliminary examination for an economic model that aimed to verify the effectiveness of DRR investment for economic growth. Through the discussions, participants exchanged their opinions on the

improvement of the model and shared some points to be considered in development of the model.

## 2. The Second meeting (14:00 to 16:30 on 9<sup>th</sup> January 2013)

At the meeting, JICA presented the analysis of past experiences in Japan. Discussions revealed the following points: Japan, as a disaster-prone country, invested in DRR and reinforced DRR approaches; such efforts have enabled Japan to decrease disaster-related mortality and develop its economic sustainably.

For example, up until the second half of 1950s, numerous large-scale typhoons and earthquakes caused extensive damage and thousands of casualties. The first significant turning point in strengthening the disaster management system came as a result of the immense damage caused by the Ise-wan Typhoon in 1959. The total casualties and missing persons exceeded 5,000. It led to the enactment of the Disaster Countermeasures Basic Act in 1961, which formulated a comprehensive and strategic disaster management system. Based on the Act, Central Disaster Management Council, which comprised private sector as well as government organizations, produced the Basic Disaster Management Plan. On the basis of this plan, all the Ministries related to disaster management each produced a Disaster Management Operation Plan and invested in DRR with a multidisciplinary approach. Since then, the Japanese government has made efforts to incorporate a viewpoint of DRR into various development plans and projects, and invest in DRR strategically in order to protect human life against disasters. After that JICA showed a first draft of economic model to examine the effectiveness of DRR investment. Based on the discussions over the model, they shared some points to be improved.

## 3. The Third meeting (14:00 to 16:30 on 27<sup>th</sup> February 2013)

On the basis of the past meetings, JICA explained a Dynamic Stochastic General Equilibrium (DSGE) model, which was developed to simulate impacts on 1) economic growth under long-term disaster risk with or without DRR investment, and on 2) the Gini coefficient in consequence of DRR investment. The purpose of this model is to quantitatively demonstrate that DRR investment is essential to achieve sustainable development, and to make a compelling explanation that there is definite co-relation between DRR and sustainable development. Participants exchanged their opinions on the model and finally accepted it as a first edition. Some advisory members also suggested that the model should be evolved through further examinations.

Additionally, JICA presented a draft of a 100-page "Handbook on incorporating DRR into development" (in Japanese) for JICA staff. It was produced based on the past meetings. Advisory members commented on the handbook and JICA made the necessary improvement. Finally, JICA proposed implementation of Disaster Risk Assessment in all JICA projects to reduce disaster risk as well as ensure sustainability.

**Annex: List of Attendance** - The First Advisory Committee:

| No    | Name                      | Area of Expertise  | Affiliation  |
|-------|---------------------------|--|--|
| Date: | 13:00-16 : 00 21/Nov/2012 |  |  |
| 1     | Satoru NISHIKAWA          | Leader, Advisory Committee                                   | Director, Auditing, Office, Japan Water Agency   |
| 2     | Shaw RAJIB                | Member(Nonstructural Measure), Advisory Committee            | Associate Professor, Graduate School of Global Environmental Studies, Kyoto University |
| 3     | Tomoo INOUE               | Member(Analysis of experience in Japan ), Advisory Committee | The River Bureau of the Ministry of Land, Infrastructure, Transport and Tourism, Japan |
| 4     | Yuki MATSUOKA             | Member(post HFA ), Advisory Committee                        | Head, UNISDR Hyogo Office  |
| 5     | Masami FUWA               |  | Director, Global Environment Department, JICA  |
| 6     | Kimio TAKEYA              |  | Global Environment Department, JICA  |
| 7     | Minoru MIYASAKA           |  | Global Environment Department, JICA  |
| 8     | Yusuke AMANO              |  | Global Environment Department, JICA  |
| 9     | Noriaki NAGATOMO          |  | Global Environment Department, JICA  |
| 10    | Shiro NAKASONE            |  | Global Environment Department, JICA  |
| 11    | Kota KATSUMATA            |  | Global Environment Department, JICA  |
| 12    | Kazuki KAIYA              |  | Global Environment Department, JICA  |
| 13    | Nozomu YAMASHITA          |  | Global Environment Department, JICA  |
| 14    | Junko MIMAKI              |  | Global Environment Department, JICA  |
| 15    | Tomoya KIKUTA             |  | Global Environment Department, JICA  |
| 16    | Hideaki MATSUMOTO         |  | Global Environment Department, JICA  |
| 17    | Yuriko DOI                |  | Global Environment Department, JICA  |
| 18    | Megumi TUKIZOE            |  | Global Environment Department, JICA  |
| 19    | Hiideki SAWADA            |  | Global Environment Department, JICA  |
| 20    | Jun MURAKAMI              |  | Global Environment Department, JICA  |
| 21    | Shoji HASEGAWA            |  | Global Environment Department, JICA  |
| 22    | Norihito YONEBAYASHI      |  | Global Environment Department, JICA  |
| 23    | Kozo NAGAMI               |  | Global Environment Department, JICA  |
| 24    | Yukinari HOSOKAWA         |  | Global Environment Department, JICA  |
| 25    | Toshiyuki SHIMANO         |  | Global Environment Department, JICA  |
| 26    | Ryutaro MUROTANI          |  | JICA Research Institute  |
| 27    | Suguru MIYAZAKI           |  | JICA Research Institute  |
| 28    | Go SHIMADA                |  | JICA Research Institute  |
| 29    | Masahiro TAWA             |  | Operations Strategy Department, JICA   |
| 30    | Hiromi NAI                |  | Operations Strategy Department, JICA   |
| 31    | Haruo YOKOYAMA            |  | Japan Institute of country-ology and Environment                                       |
| 32    | Katsumi WAKUGAWA          |  | Japan Institute of country-ology and Environment                                       |
| 33    | Toshihiro SONODA          |  | Japan Institute of country-ology and Environment                                       |
| 34    | Tetsuya OKAYASU           |  | Japan Institute of country-ology and Environment                                       |
| 35    | Hiroyuki TAKAMATSU        |  | Pacific Consultants Co., Ltd   |
| 36    | Hiroyuki WADA             |  | Pacific Consultants Co., Ltd   |

The Second Advisory Committee:

| Date: | 14:00-16:30 9/Jan/2013 |   |  |
|-------|------------------------|---|--|
| No    | Name                   | Area of Expertise   | Affiliation  |
| 1     | Satoru NISHIKAWA       | Leader, Advisory Committee                                  | Director, Auditing, Office, Japan Water Agency   |
| 2     | Tomoo INOUE            | Member(Analysis of experience in Japan), Advisory Committee | The River Bureau of the Ministry of Land, Infrastructure, Transport and Tourism of Japan |
| 3     | Fumihiko IMAMURA       | Member(Structural Measure), Advisory Committee              | Professor, Department of Civil and Environmental Engineering                             |
| 4     | Yasuyuki SAWADA        | Member(Economics), Advisory Committee                       | Professor, Faculty of Economics, Tokyo University  |
| 5     | Shaw RAJIB             | Member (Nonstructural Measure), Advisory Committee          | Associate Professor, Graduate School of Global Environmental Studies, Kyoto University   |
| 6     | Yuki MATSUOKA          | Member (post HFA), Advisory Committee                       | Head, UNISDR Hyogo Office  |
| 7     | Kiyoshi NATORI         | Member (Disaster Preparedness in Asia), Advisory Committee  | Director General, ADRC   |
| 8     | Masami FUWA            |   | Director, Global Environment Department, JICA  |
| 9     | Minoru MIYASAKA        |   | Global Environment Department, JICA  |
| 10    | Kimio TAKEYA           |   | Global Environment Department, JICA  |
| 11    | Shiro NAKASONE         |   | Global Environment Department, JICA  |
| 12    | Kota KATSUMATA         |   | Global Environment Department, JICA  |
| 13    | Kazuki KAIYA           |   | Global Environment Department, JICA  |
| 14    | Nozomu YAMASHITA       |   | Global Environment Department, JICA  |
| 15    | Junko MIMAKI           |   | Global Environment Department, JICA  |
| 16    | Tomoya KIKUTA          |   | Global Environment Department, JICA  |
| 17    | Hideaki MATSUMOTO      |   | Global Environment Department, JICA  |
| 18    | Yuriko DOI             |   | Global Environment Department, JICA  |
| 19    | Megumi TUKIZOE         |   | Global Environment Department, JICA  |
| 20    | Hiideki SAWADA         |   | Global Environment Department, JICA  |
| 21    | Jun MURAKAMI           |   | Global Environment Department, JICA  |
| 22    | Shoji HASEGAWA         |   | Global Environment Department, JICA  |
| 23    | Norihito YONEBAYASHI   |   | Global Environment Department, JICA  |
| 24    | Kozo NAGAMI            |   | Global Environment Department, JICA  |
| 25    | Yukinari HOSOKAWA      |   | Global Environment Department, JICA  |
| 26    | Toshiyuki SHIMANO      |   | Global Environment Department, JICA  |
| 27    | Masahiro TAWA          |   | Operations Strategy Department, JICA   |
| 28    | Hiromi NAI             |   | Operations Strategy Department, JICA   |
| 29    | Ryutaro MUROTANI       |   | JICA Research Institute  |
| 30    | Suguru MIYAZAKI        |   | JICA Research Institute  |
| 31    | Go SHIMADA             |   | JICA Research Institute  |
| 32    | Haruo YOKOYAMA         |   | Japan Institute of country-ology and Environment   |
| 33    | Katsumi WAKUGAWA       |   | Japan Institute of country-ology and Environment   |
| 34    | Toshihiro SONODA       |   | Japan Institute of country-ology and Environment   |
| 35    | Rika NAGAI             |   | Japan Institute of country-ology and Environment   |
| 36    | Masato OKABE           |   | Japan Institute of country-ology and Environment   |
| 37    | Hiroyuki TAKAMATSU     |   | Pacific Consultants Co., Ltd   |
| 38    | Hiroyuki WADA          |   | Pacific Consultants Co., Ltd   |

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| 39 | Kazuhiko YOKOCHI |  | International Cooperation Bureau, Ministry of Foreign Affairs of Japan |
| 40 | Kei INOUE        |  | Cabinet Office, Government of Japan                                    |

### The Third Advisory Committee

| Date: | 14:00-16:30          | 27/Feb/2013  |  |
|-------|----------------------|--|--|
| No    | Name                 | Area of Expertise  | Affiliation  |
| 1     | Satoru NISHIKAWA     | Leader, Advisory Committee   | Director, Auditing Office, Japan Water Agency  |
| 2     | Shaw RAJIB           | Member (Nonstructural Measure), Advisory Committee                       | Associate Professor, Graduate School of Global Environmental Studies, Kyoto University |
| 3     | Katsuhito Miyake     | Member (Analysis experience in developing countries), Advisory Committee | Senior Specialist, GFDRR   |
| 4     | Yuki MATSUOKA        | Member (post HFA), Advisory Committee                                    | Head, UNISDR Hyogo Office  |
| 5     | Fumihiko IMAMURA     | Member (Structural Measure), Advisory Committee                          | Professor, Department of Civil and Environmental Engineering                           |
| 6     | Kunihiro YAMAUCHI    |  | Global Environment Department, JICA  |
| 7     | Kimio TAKEYA         |  | Global Environment Department, JICA  |
| 8     | Yusuke AMANO         |  | Global Environment Department, JICA  |
| 9     | Noriaki NAGATOMO     |  | Global Environment Department, JICA  |
| 10    | Shiro NAKASONE       |  | Global Environment Department, JICA  |
| 11    | Kota KATSUMATA       |  | Global Environment Department, JICA  |
| 12    | Kazuki KAIYA         |  | Global Environment Department, JICA  |
| 13    | Nozomu YAMASHITA     |  | Global Environment Department, JICA  |
| 14    | Junko MIMAKI         |  | Global Environment Department, JICA  |
| 15    | Tomoya KIKUTA        |  | Global Environment Department, JICA  |
| 16    | Hideaki MATSUMOTO    |  | Global Environment Department, JICA  |
| 17    | Yuriko DOI           |  | Global Environment Department, JICA  |
| 18    | Megumi TUKIZOE       |  | Global Environment Department, JICA  |
| 19    | Hiideki SAWADA       |  | Global Environment Department, JICA  |
| 20    | Jun MURAKAMI         |  | Global Environment Department, JICA  |
| 21    | Shoji HASEGAWA       |  | Global Environment Department, JICA  |
| 22    | Norihito YONEBAYASHI |  | Global Environment Department, JICA  |
| 23    | Kozo NAGAMI          |  | Global Environment Department, JICA  |
| 24    | Yukinari HOSOKAWA    |  | Global Environment Department, JICA  |
| 25    | Toshiyuki SHIMANO    |  | Global Environment Department, JICA  |
| 26    | Masahiro TAWA        |  | Operations Strategy Department, JICA   |
| 27    | Hiromi NAI           |  | Operations Strategy Department, JICA   |
| 28    | Atsushi KARIMATA     |  | International Cooperation Bureau, Ministry of Foreign Affairs of Japan                 |
| 29    | Kazuhiko YOKOCHI     |  | International Cooperation Bureau, Ministry of Foreign Affairs of Japan                 |
| 30    | Kei INOUE            |  | Cabinet Office, Government of Japan  |
| 31    | Haruo YOKOYAMA       |  | Japan Institute of country-ology and Environment                                       |
| 32    | Katsumi WAKUGAWA     |  | Japan Institute of country-ology and Environment                                       |
| 33    | Toshihiro SONODA     |  | Japan Institute of country-ology and Environment                                       |

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|----|-----------------------|--|--|
| 34 | Tetsuya OKAYASU       |  | Japan Institute of country-ology and Environment |
| 35 | Hiroyuki<br>TAKAMATSU |  | Pacific Consultants Co., Ltd                     |
| 36 | Hiroyuki WADA         |  | Pacific Consultants Co., Ltd                     |