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**SUBSIDIARY BODY FOR SCIENTIFIC AND TECHNOLOGICAL ADVICE**

**Twenty-first session**

**Buenos Aires, 6–14 December 2004**

**Item 4 of the provisional agenda**

**Scientific, technical and socio-economic aspects of mitigation of climate change**

**Views on the topics agreed at the twentieth session of the  
Subsidiary Body for Scientific and Technological Advice and on the workshop  
on mitigation to be held during its twenty-first session**

**Submissions from Parties**

**Addendum**

1. In addition to the nine submissions contained in document FCCC/SBSTA/2004/MISC.13, one further submission has been received (on 4 October 2004).
2. In accordance with the procedure for miscellaneous documents, this submission is attached and reproduced\* in the language in which it was received and without formal editing.

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SUBMISSION FROM JAPAN

**Submission by the Government of Japan**

**Views on Scientific, Technical and Socio-Economic Aspects of Impacts of, and Vulnerability and Adaptation to, Climate Change;  
and Scientific, Technical and Socio-Economic Aspects of Mitigation**

This submission is in response to FCCC/SBSTA/2004/L.13 and L.14. Japan welcomes this further opportunity to share the views on the agenda items on the scientific, technical and socio-economic aspects of impacts of, and vulnerability and adaptation to, climate change; and the scientific, technical and socio-economic aspects of mitigation.

Japan found that the SBSTA 20 in-session workshops on both agenda items were valuable processes. Parties submitted their views to formulate the workshop agenda, and as such the workshop provided an excellent opportunity to highlight the different views of Parties and to exchange concrete and practical information. Given the success of the aforementioned workshops, Japan fully supports the continuation of such practices. In Japan's view, the workshops need to concentrate on promoting mutual understanding among different parties. Parties need to identify a scope where different parties could share common interests so that they could work together pragmatically to exchange practical information. Japan has accumulated various experiences and knowledge in the following fields, and looks forward to actively participating in the future discussion with its expertise.

**I. Scientific, Technical and Socio-Economic Aspects of Impacts of, and Vulnerability and Adaptation to, Climate Change**

**1. Application of methods and tools, including regional models, for assessing impacts and vulnerability and adaptation**

Since adaptation means regional proactive measures to cope with the risk associated with the impacts of the climate change, adaptive measures must coincide with the region-specific characteristics borne out of geography, local climate and vulnerability. To allow such a fine-tuning, each country needs to identify the most vulnerable sector and the region and to conduct reliable assessments on impact and adaptive capacity so that it could estimate where the impact of the climate change becomes critical and severe for specific sector or region. At present, few impact assessments were conducted, and the resulting information is of limited availability. Therefore, first of all, Japan proposes that these few examples should be thoroughly examined to derive important lessons to be shared by the Parties. In addition, to increase examples of impact assessments, Japan proposes the following measures to be taken by the parties in different regions of the world:

- (1) Establishing databases on the essentials, such as the current and future climate data and climate scenarios, especially the regional climate scenarios.
- (2) Establishing methodologies (i.e. models) for impact and vulnerability assessment
- (3) Human resource development in the research area of the impact and vulnerability assessment
- (4) Sharing of resulting information with policy makers, and promote their understandings.

Japan stresses that it is important for Parties to share information and practices on how to implement the above measures. In light of this, Japan has engaged itself in activities such as Asia-Pacific Network for Global Change Research, Asia-Pacific Environmental Innovation Strategy Project, AP Seminar, IGES Seminar, GEO to name a few.

In addition, beyond the sharing of information on methodologies of assessments (e.g. models), Parties need to exchange views on the effective scope and limits of the modelling exercise, and on how adaptation policies could integrate the results of modelling exercise.

In implementing adaptation measures, Parties need to consider the lead-time necessary to develop and disseminate technology. This necessitates the Parties to share information about adaptation measures and technology as early as possible. At present, little information is available on adaptation-specific measures and technologies. In this case, it would be useful for Parties to start examining conventional practices in the areas such as disaster reduction, water-resource development and management, agriculture, health, finance and insurance, with the aim of examining if the insights gained from these sectors could be applicable to climate change. Since quantitative effect of adaptation measures remains mostly unknown and its estimated effects and available options vary with place and time, it is important for each country to refer such information whenever necessary.

## 2. Linkages between adaptation and sustainable development

Sustainable development is a common goal among nations. It is vital that adaptation measures are implemented in the context of the sustainable development. The strong linkage with the sustainable development will be a prerequisite for the social acceptance of adaptation measures at the national level, and will ensure the secure, sustainable and cost-effective implementation of the long-term adaptation policy, and as a result, it will allow a high performance of the adaptation policy. To promote the linkage, collecting, analysing and synthesizing good practices are necessary. So far these good practices are limited in number, and should be shared at the SBSTA in-session workshop. Japan understands that “Development and Climate Change Project” of the OECD is working on a similar project, and could be used as a useful reference.

Adaptation measures and mitigation measures are both indispensable for the sustainable development, and the quantity and quality of one measure affect the other. Therefore the global climate change can only be addressed by implementing both adaptation and mitigation measures as an integrated whole, and it is beneficial to share information about the relation between adaptation and mitigation. Integration of mitigation and adaptation is one of the cross-cutting themes in the Forth Assessment Report (AR4) of the IPCC. The crux of the discussion is on how to harmonize mitigation measures and adaptation measures that will be implemented at different time scale, and with different scope. Japan stresses that adaptation and mitigation measures should be synthetically examined from the sustainable development perspective, to explore possible win-win options.

## II. Scientific, Technical and Socio-Economic Aspects of Mitigation

### 1. Mitigation technology innovation, deployment and diffusion, including identification of and removal of barriers

To achieve the ultimate objective of the Convention, and to address the climate change, both the use of existing technology and the development of innovative technology and its dissemination are equally important. At present, some existing technologies are not widely used around the world yet, and the development of innovative technologies and its dissemination accompanies uncertainty and additional time. Considering the gap of the timing to introduce these technologies, Parties should tackle both the technologies in a well-balanced manner. Japan has always attached importance to the role of technology in addressing climate change, and it will continue to participate in the discussion in an active and constructive manner.

In designing infrastructures for technology development and its dissemination, cares should be taken to look at different requirements for each of them. Therefore information exchange about existing and innovative technologies should be enhanced in the area of both development and dissemination, in a manner which maximizes common interests of all countries. For the SBSTA 21 workshop, Japan proposes that it should concentrate on specific experiences of each country rather than general technological arguments. More precisely, the following two types of case studies are worth discussing: (1) Examination of the past technology development and dissemination (e.g. renewable energies, such as solar power, biomass, wind power, thermal generation plant, thermal recycle plants, etc.) and

identification of the driving force (e.g. technology development policy by the government, regulations, private sector initiatives, etc.).

- (2) The potential for the GHG emission reduction through future, innovative technology (e.g. hydrogen, carbon sequestration technology) and possible issues to be addressed in the development and utilization of the new technologies (e.g. consistency with other legal systems and international rules).

In the first category, how to integrate technologies and know-hows originally owned by developing countries into the discussion could be one focus.

## 2. Practical opportunities and solutions for mitigation that contribute to sustainable development

Many mitigation measures directly bring about sustainable development, and Parties should exploit such an opportunity. It is important to assemble and analyze past examples of sector-based (e.g. steel, cement, power etc.) mitigation policies that led to the sustainable development of a region. For example, mitigation measure through improved energy efficiency can develop industries, increase employment, and reduce air pollution. These examples may prove the model cases for further replication in other countries.

Japan's past experience shows that oil shock in 1973 provided an opportunity to implement energy saving policies through reforming product management system, and upgrading plant infrastructures to save energy, and as a result, it earned the double gains of reduction in energy costs, improvement in productivity and product quality, as well as of reduction of air pollutions. Japan also possesses an excellent range of renewable technologies, such as photovoltaic power generation, and has successfully disseminated such technologies. In the both areas of existing and new technologies, Japan has many exemplary cases to share with other Parties. Other informative project examples could include the independent and dispersed supply of renewable energy in regions where no grids were formerly available, or the acquisition of new supply of energy through conventional mitigation technology to capture methane emissions.

These are some of the win-win cases of mitigation and sustainable development. Similar examples could be collected for the reference by Parties so that they will help countries develop and select appropriate policies that will lead to sustainable development and mitigation in different countries.

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