別紙２補足資料

Annexes to Post 2010 targets (Proposal by Japan)

Elaborated description of Sub-target A

To invite the wider participation of various stakeholders in the conservation and sustainable use of biodiversity

(Means to achieve A1)

Promote participation of several entities into their coordinated efforts

<Example 5>

Promotion of mechanism to collaborate among various stakeholders
<Charitable trust Keidanren Nature Conservation Fund (KNCF)>

1. Mechanism

"Keidanren Nature Conservation Fund (KNCF)" was established in 1992 by Japan Business Federation (*Nippon Keidanren*), which consists of Japanese major companies, for the purpose of conducting various nature conservation projects in Japan and in the developing countries mainly in Asia and Pacific regions.

The sources of the fund are donations from member companies and individual citizens. The total amount of funding in the past 17 years is about 2.6 billion yen, 27 million US dollar, for 861 projects. The recent funding amount per year amounts to 20 million yen, 2.15 million US dollar. Each project costs as small as 3 million yen, 32,000 US dollar on average, covering a variety of projects.

As for activities to be financed, they first seek ideas from public and then go through fair and objective selection process every year. This direct way of sponsorship to individual project enables the fund donors to know the actual usage of the funding and assures them that the projects indeed benefit local groups. The merit of the funding can also be found in their flexibility that allows the funding to be spent for the personnel expenses.

2. Concrete projects

1) Projects in Asia and the Pacific regions

Examples :

- Planting trees which are suitable to the local natural condition, and providing trainings to local engineers, in Huangtu Plateau where desertification is serious(China)
- Planting mangroves for the purpose of recovering the abandoned ponds which were once used for the cultivation of shrimps to their natural states(Thailand)
- Conservation of orangutan in Indonesian Borneo Island and endemic species and ecosystem of Ecuadorian Galapagos Islands; For example, conservation of habitat, prevention of poaching, extermination of the alien

species.

- Improvement of the farming techniques to ensure both sustainability and improving of crop yields through rediscovering traditional rice growing techniques in the region and combining them with the Japanese rice growing technology(Vietnam)

2) Projects in Japan

Examples :

- Ecological research on rare species "Japanese dormouse" and research and development project on "animal path ways" that enable small animal to come and go safely between forests which are divided artificially by roads.
- Conservation of sea turtles through medical treatment of injured individuals which are caught in fishing nets by mistake, and conservation of sandy beach where eggs can be hatched safely.
- Restoration of *Satoyama* ecosystems and conservation of their habitats such as bait grounds for the purpose of reintroducing "Japanese crested ibis", which was once extinct and reproduced by human efforts.

(Means to achieve A2)

The provision of ecosystem services to urban citizens

<Example 6>

Restoration of habitat for wildlife

- Elaborated description

The habitats are provided to wildlife in urban areas, where residents can enjoy the nature. One way of achieving this is to transform old factory sites and landfilled off-shore sites into ecosystem-friendly urban parks by restoring natural environment.

Elaborated description of Sub-target B:

To establish mechanism to ensure harmonized approaches between ecosystem conservation and other human activities such as development and poverty alleviation

(Means to Achieve B2)

Promote Infrastructures Positive on Ecosystem

<Example 1>

River Projects creating habitats to wildlife

- Elaborated description

In the situation of necessary construction of river infrastructures, instead of using conventional methodologies of molding banks or shores with concrete materials, new methodologies are increasingly used to conserve, restore and create good conditions for wetland, wild plants so as to trigger nature's own dynamism and mechanism. These methodologies will contribute to the restoration and creation of natural habitats where wildlife breed, grow and live.

<Example 2>

The utilization of various environmental technologies for the purpose of water quality improvement in rivers and lakes

- Elaborated description

In order to improve water quality in rivers and lakes, various environmental technologies are being utilized, such as planting reeds and other aquatic plants, whose roots and stems can absorb nitrogen and phosphorous, in the route of running polluted water.

<Example 3>

Projects creating biodiversity-friendly environment in port area

- Elaborated description

1: Dredged soils and sands, which are by-products of port construction, are utilized for covering sludge on seabed and for creating tidal flat and seaweed bed. This methodology contributes to improving water/seabed quality as well as to providing good habitats for underwater wildlife.

2: On the occasion of replacing old seawalls, they are modified into bio-friendly structure to provide good habitat for underwater wildlife.

Elaborated description of Sub-target C

To increase the ratio of production that is managed in sustainable manner in agriculture, forestry, fisheries and other activities which utilize biological resources

(Means to achieve C1)

Promote agricultural production methods that reduce adverse impacts on ecosystems

<Example 1>

The extension of efficient and effective pests controlling methodologies that have positive effects on ecosystems

- Elaborated description

  In order to reduce the input of agricultural pesticide, methodologies suitable to specific crops and regions are identified and encouraged to be applied. For those who comply with the ordinance on the appropriate level of pesticide use, such methodologies are additionally recommended as 1) the pesticide use at the most appropriate timing relying on official forecast information of plant pests, and 2) the use of biological control (natural enemy, etc.) and physical control (colored sticky traps, etc.).

<Example 2>

Identifying and extension of other ecosystem–friendly farming methodologies such as organic farming

- Elaborated description

  In addition to the above mentioned measures, ecosystem-friendly farming includes, 1) organic farming methodologies with soil enriched by manure or compost, 2) effective use of manure from livestock, 3) proper disposal of used plastic and other types of waste, 4) efficient energy use for farming equipment and facilities.

<Example 3>

Certification and labeling of ecosystem-friendly farming

- Elaborated description

  Ecosystem-friendly farming would be promoted by certifying and labeling products or producers involved in such farming as described in Examples 1 and 2 above, when the criteria for such farming is well defined. These labeling would enhance the market value of these products.

  These labelings can be also used for farming which provide habitats to wildlife such as ibis, contributing to the promotion of farming and natural habitats.

(Means to achieve C2)

Provide habitats to wildlife in agricultural lands or its surrounding areas

<Example 1>

Creation of wetland and canals where animals live and move through in the areas surrounding paddy fields

- Elaborated description

  Ecosystem-network will be created and maintained by constructing rice paddy fields and waterways in such a manner as to have ecosystem-friendly effects. For example, waterway can be reconstructed to raise its surface level to that of surrounding paddy fields water so that carp can swim into the paddy field water where they lay eggs on water grasses.

(Means to achieve C4)

Promote sustainable fisheries production and conservation of fishing ground environment.

<Example 1>

The combination of appropriate conservation measures for sustainable fishery management depending on the resources status

1. For effective marine resource management, measures need to be implemented in response to specific situations of the fishery resources and types of fisheries. It is thus important to combine necessary measures, depending on the resources status to be accurately monitored. These measures include the following.
   1) Input-control measures (limiting the number or gross tonnage of vessels, and total number of fishing days, etc.)
   2) Output-Control measures (limiting the amount of fish catch by setting the Total Allowable Catch (TAC))
   3) Technical Control (limiting periods and area of fishing, restricting types of fishing gear/fishing methods, size regulation (restricting mesh size),etc.) depending on biological characteristics of the targeted resources)

2. Some of these measures are implemented in such a way as to be applied only to certain coastal areas or specifically set periods, for the purpose of conserving spawning fish or protecting sea grass/seaweed beds where young fish grow. These management measures could be identified as one form of “marine protected areas”.

3. These measures shall be basically implemented through official restriction under laws and regulations, and also be supplemented with the voluntary measures initiated by fishermen’s mutual consent.

Elaborated description of Sub-Target E

To promote the activities to conserve biological species and expand the areas to conserve ecosystems.

(Means to Achieve E1)

Expand the protected areas for terrestrial and marine ecosystems and strengthen the management therein in an appropriate manner, relying on the collaboration with local residents and other stakeholders for their management, as well as on the direct ownership and management by the governments.

<Example 1>

Designation of protected areas for terrestrial and marine ecosystems where management is operated in collaboration and cooperation with local residents and other various stakeholders

1. Challenge in the designation and management of protected areas

While the protected areas are required to expand its areas, many countries, especially developing countries, face the following challenges in their designating and managing the protected areas.

1) While local communities are not involved in the management, proper management cannot prevail into every corner of the park, resulting in so called "paper park" troubled by illegal logging and poaching.
2) Direct management by authorities would not be easily achieved due to the difficulties such as the lack of facilities and manpower as well as heavy burden of land acquisition.

2. The advantage of national park system in Japan

The national park system in Japan succeed in conserving and maintaining natural environment even without nationalizing all land properties, but by maintaining cooperation with stakeholders such as local residents, farmers and tourism industries who agree with restriction imposed by the government. The local residents and industries also contribute to the conserving natural environment by volunteering activities such as cleaning chores, providing tourism services and conserving secondary nature by way of engaging in the farming and logging.

Merits of this protection/management system are:

1) Broader range of areas can be designated as protected areas, including the regions already populated or used for the agriculture, forestry and fisheries, since land acquisition is not required for the designation of areas.

2) This system fits remarkably not only to preserve the area of primitive environment but to conserve the larger areas of environments surrounding the primitive ones. In addition, it can cover the secondary environment area, where human activities contribute to conserving nature while they keep involving daily activities.
3) Costs for protection and maintenance can be modest as:
   - Land acquisition fees paid by the government are not necessary.
   - Voluntary activities and cooperation of residents can be expected for park maintenance.

In designating and managing these protected areas, it is indispensible to coordinate interests of local residents and to seek understanding for the system, and for this purpose, park management authorities need to encourage local residents to participate and cooperate through frequent communications, explanation and promotion activities.

3. The wide use of the national park system in developing countries

In many developing countries, where priorities are placed on poverty alleviation and development purpose, designation of national parks cannot be supported if these undermine local interests and industries.

With these things considered, the Japan's national park system could be effective in developing countries to promote the widely designation and proper management of the national parks. This is due to the fact that the Japan's system is based upon understanding by local residents and coordination among related interests and that they can limit the cost of management to the modest level.

To withdraw the cooperation from local residents, management authorities need to take the most appropriate measures, depending on the different situations in each local area. Japan has experiences in that types of effort and is ready to send human resources who can assist in such experiences. Japan's assistance measures include technology transfer and training courses in bilateral framework.

(Means to Achieve E2)

Establishing connections between fragmented habitats of wildlife

<Example 1>

The river management using method to secure the connectivity of habitats

- Elaborated description

  For the purpose of ensuring the connectivity of the wildlife's environment for their breeding and growing in the upstream and downstream of river, dams and other constructed structures should be designed to be equipped with fishways to enable them to run up the water.

Elaborated description of Sub-target F

To establish the mechanism to sustainably benefit from the ecosystem services and to ensure its contribution to human well-being.

(Means to Achieve F3)

Further promote human activities that can both conserve ecosystem and enhance ecosystem services, example of which is the sustainable use of the secondary natural environment, paying respect to the cultural and spiritual elements that has contributed to conserving biodiversity

<Example 1>

The *Satoyama* Initiative

(Measures for the sustainable use and management of natural resources)

1. Aims and ways to advance the *Satoyama* Initiative

(1) Background

For the value of biodiversity, we need to not only preserve the natural environment that has remained in its wilderness but also conserve the human-influenced nature that has gradually been developed and maintained through long-term human interference such as sustainable way of farming and forestry.

Although the human-influenced nature has been maintained by traditionally respected way of management for generations, the continuation of these sustainable maintenance practices has been threatened and they are actually disappeared in some areas due to the recent changes such as urbanization, industrialization and increase/decrease of population in rural areas.

These types of phenomena can be found in various parts of the world, and we need to take measures to conserve these types of human-influenced nature by globally recognizing their value and need actions for this purpose.

(2) Proposed activities and targeted areas

1) To address the issues above, effective solution is to share information on sustainable use and management of natural resources in various regions of the world as well as to exchange views on recent challenges they face and ways to overcome it. It would also be desirable if the information sharing would lead to the coordinated actions among various local and national governments, international organizations and NGOs. The bilateral and multilateral ODA projects would be encouraged for the purpose of improving the situations. This is what we call the "*Satoyama* initiatives" that Japan would advocate, and we intend to invite international coordination and accelerate our efforts on the occasion of

COP10.

2) The targeted areas for this initiative are the areas with farmland, villages, adjacent woods and grassland, which have been formed and maintained through long-term human influence, and their features vary depending on its climatic, geographical, cultural and social conditions around the world.

For better understanding, it is worth mentioning that "*Satoyama*" is the Japanese term indicating mountains/forest (Yama) surrounding the villages (Sato).

(3) The way forward

In the preceding years, the basic concepts have been developed by way of case studies and preparatory meetings with participation of government officials and experts.

Our next plan at the occasion of COP10 is to establish partnership inviting national governments, international organizations and local authorities, not excluding other participants, for further promoting the *Satoyama* Initiatives.

After COP10, the partnership is expected to discuss specific actions and measures to promote the implementation of the initiative. The government of Japan, in cooperation with the United Nations University, will play a leading role in the partnership that includes the developing of a common strategy and the implementation of activities such as training courses.

2. Emphasized elements in the *Satoyama* Initiative

In collecting information on traditional way of resource management and recent efforts to address new challenges, which are to be applied in some other areas, the *Satoyama* initiative place its emphasis on the following three elements as basic concept.

1) The wisdom for living in harmony with nature

Natural resources for agriculture and forestry should be used and managed in such a sustainable manner as to ensure harmony between human being and nature.

For example, "Home Gardens" in South East Asia enables residents to enjoy the benefits of ecosystems through planting various kinds of trees and raising many types of farm animals. Behind the benefits of ecosystems we find that limited area of the garden is effectively allocated for most suitable types of plants, and that controlling sunshine and shade by different heights of trees would enable various types of fruits to be grown and harvested throughout a year.

This way of resource management can only be feasible with the full use of knowledge and wisdom that have long been nurtured through experience and findings on the characteristics of each plant and animal.

2) Integration of traditional ecological knowledge with modern science

While the wisdom for living in harmony with nature is based on the

knowledge accumulated in empirical and pragmatic manner, in many cases, it can possibly be improved, in adapting itself to natural and social conditions, by way of scientific methodologies.

For example, in some parts of Asian Steppes, local residents have been able to tell the extent of soil's deterioration by observing the types of plants grown there, and reflect this judgment into their planning for the pasturage and other use of the grass land. This traditional knowledge is scientifically justified today and has now become the established diagnosis method for soil condition, which is expectedly used for more systematic and organized land management in modern society.

Thus, the integration of traditional ecological knowledge with modern science can bring to us very effective production and management system that are adapted into the request of today's society.

3) Creation of a "New commons" (systems for communal management)

"Commons" is resource management system, which can be characterized as somewhere between management by "the public", which are states and local authorities, and that by "the private", namely, individuals. In today's frequently changing condition in social and economic terms, we need not only respect human-to-nature relation but also to maintain good relations among humans and effective social systems.

It is effective to create new commons where we allocate benefits and burden of ecosystem involving urban residents and private companies.

3. Expected effects of promoting the *Satoyama* Initiative

(1) The initiative is expected, through the establishing harmonious relationship with nature, to contribute to reducing the loss of biodiversity which is escalating worldwide, with dual effects of both conserving biodiversity in human-influenced nature and promoting sustainable use of natural resources.

(2) The initiative can possibly result in improvement of human welfare such as poverty alleviation through increased income by stable food production and pluralistic land use, or efficient use of fuels. The local tradition and culture can consequently be encouraged for living in harmony with nature.

Elaborated description of Sub-target H

To conduct full observation and analysis on the state of biodiversity and eco-systems at global scale and scientific justification so that they are well perceived and understood by general public.

(Means to achieve H1)

Accurate and comprehensive observation of the state of biodiversity

<Example 2>

Utilization of "Global Mapping Project"

- Elaborated description

Global Map is the digital geographic data sets (it consists of 8 layers) covering whole terrestrial areas of the globe with unified format and methodology. By superimposing several layers of geographical data, it visualizes the conditions and human usages of terrestrial areas that change over years. This contributes to better understanding of the challenges for each region in conserving the biodiversity, and Global Map can be utilized as basic data by governments in planning their measures to address them.

*Global Mapping Project was advocated by the government of Japan as the contribution from the survey and mapping sector toward the conservation of global environment, for the purpose of responding to the "Agenda 21" which was adopted at the Earth Summit in 1992. This project has participation of national mapping organizations of 180 countries and regions.

<Example 4>

Long-term periodic monitoring, such as national census on water environment

- Elaborated description

For the purpose of ensuring better conservation of river environment, the monitoring of fauna and flora in rivers and reservoirs is conducted in a periodical and standardized manner. The monitoring has continued since 1990, and the results of the survey are utilized for the understanding of the changes in species distribution and the management of vegetation in rivers (e.g. controlling alien species).

Restoration of habitats for wildlife in urban areas
～Providing opportunities for urban citizens to enjoy nature～ (A2 Ex.6)

Urban parks created in old factory sites, where city residents enjoy rare spot of greens

Corridors in the forest

Forest for wildlife in *Umeno-koji* Park（Kyoto City, 1996）

・Biotopes and corridors in the forest (pathways) are constructed
・Monitoring are conducted by universities, research institutes and citizens, and monitored data is reflected into its management

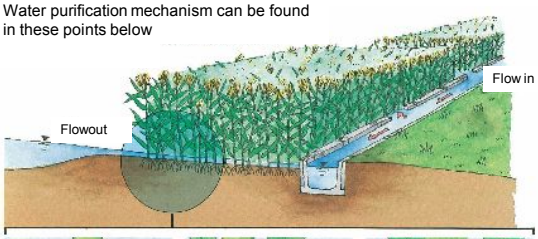
River projects creating habitats to wildlife (B2 Ex.1)

・Sheet piles were removed and natural banks were restored in tune with forests around.
・River banks were broadened as the result of the restoration

An example of nature-oriented river in Izumi River, Yokohama City

Aquatic plants for water purification in rivers and lakes (B2 Ex.2)

Water purification mechanism can be found in these points below



1) Roots of aquatic plants absorb phosphorus and nitrogen

2) Mud on riverbed denitrificates and adsorbs the excess nutrients

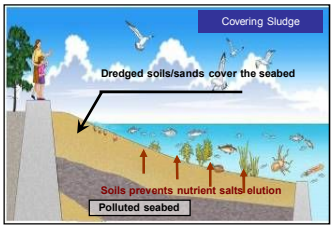
3) The nutrients settle on stems

Aquatic plants on shore have improved water quality in Lake Sanaru, Shizuoka Pref.

Improvement of sea environment using dredged soils (B2 Ex.3)

Covering sludge made from dredged soil

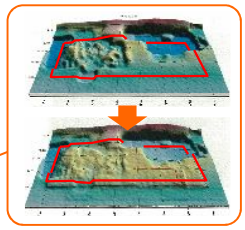
Dredged soils and sands, by-products of port construction, are used as covering sludge to recover and create good sea environment, as well as to restore tidal flats and seaweed beds.



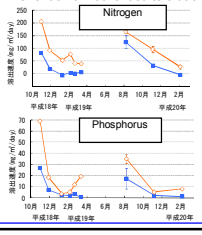
Water purified by covering sludge at Port Mikawa

Covering sludge used for water purification

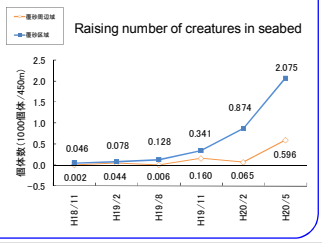
Dredged soils of good quality are used for covering sludge. A monitoring confirmed that nutrient salts in seabed have kept from eluting, resulting in the increased number of underwater creatures.



Prevention of nutrient salts elution



Raising number of creatures in seabed



Case study of bio-friendly seawalls (B2 Ex.3)

On the occasion of replacing old seawalls, modify them into ecosystem-friendly structure to provide good habitat for creatures.

At the seawall, environment education is conducted in cooperation with citizens and NPOs, watching wildlife and planting seagrass.

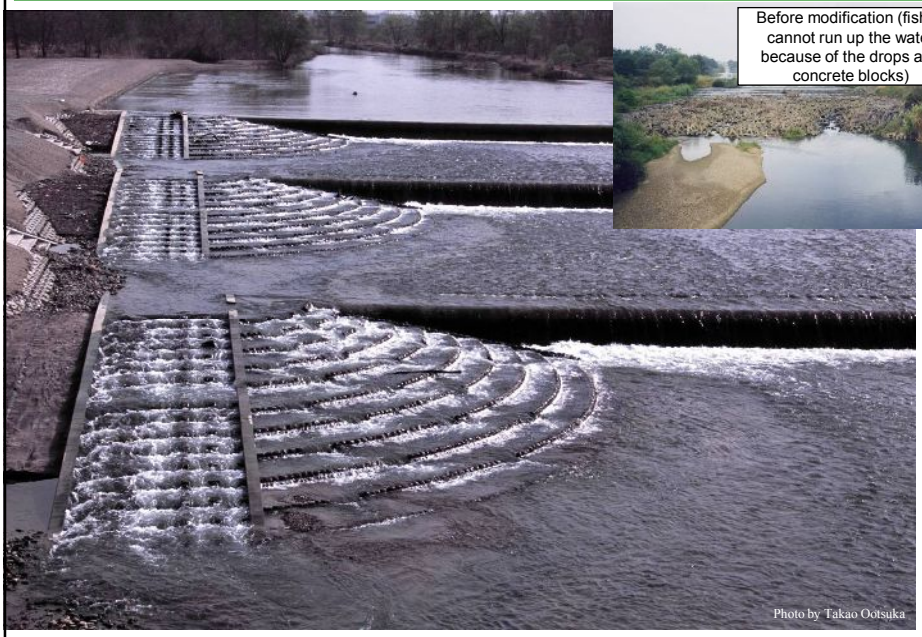
（横浜港湾空港技術調査事務所）

◇Creatures observed on monitoring

(Photos taken in February 2009. after one year from the modification)

More than **130** species are observed

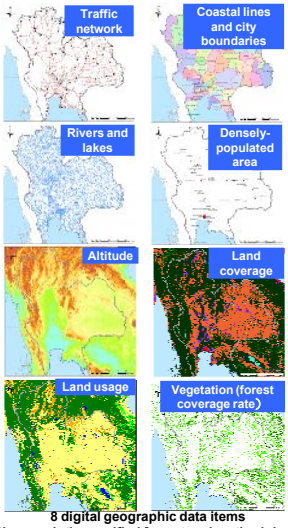
River management to secure the connectivity of habitats (E2 Ex. 1)



Secured connectivity by fishways in Mogami River

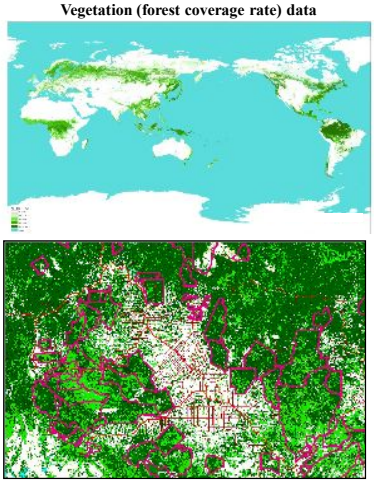
Global Map (H1 Ex.2)

Global Map is the digital geographic data sets (consists of 8 items) of the whole terrestrial area of the globe in unified format. It describes the secular changes of the globe by superimposing several layers of geographical data, contributes to understand the challenges in conservation of the biodiversity and can be utilized as basic data by the government in planning measures to address them.



8 digital geographic data items
＜1km resolution, unified format and methodology＞

Vegetation (forest coverage rate) data



Traffic network (roads)

Special areas (protected areas national parks, conservation areas)

Superimposed graphic of the vegetation data (forest coverage rate) and traffic network of Global Map, and special areas provided by geographical Survey Institute of Brazil (Rondonia State, Brazil)

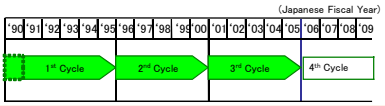
National Census on Water Environment (H1 Ex.4)

（1）Purposes
To collect basic data on habitats in river areas in a periodical and standardized manner

（2）Areas
Rivers and reservoirs managed by the national government

（3）Surveyed wildlifes
Fishes, benthic animals, plants, birds, amphibians, reptiles, mammals, land-dwelling insects, zooplankton and phytoplankton(only in reservoirs)

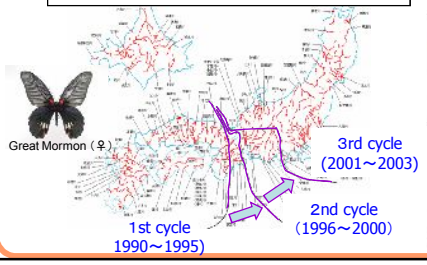
（4）Census cycle
- Started from 1990
- Each wildlife has been surveyed in 5-year cycle.
- The third cycle completed in 2005, and fourth cycle started in 2006.



（5）Application example

●The habitats of a butterfly, Great Mormon, are expanding into northern area.
- Originally inhabit the southern *Shikoku* and southern *Kyusyu* districts.
- The habitats are expanding toward the north from the first to the third cycle of the survey.

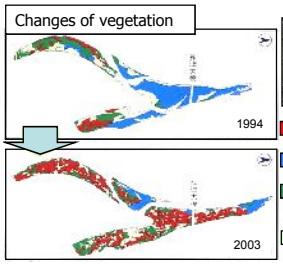
Changes of the northern limit of the rivers where Great Mormons were observed



●Alien species Monitoring

Counter measures were taken to prevent expansion of alien species.
- Bur cucumber communities expanded 4.5 times larger in 9 years in a reach of Inagawa river.
- Indigenous species, *Artemisia* and *Galium verum var. asiaticum* are threatened.

Changes of vegetation



: alien species(bur cucumber communities)
: native vegetation (*Artemisia indica var. maximowiczii*, etc.)
: native vegetation (*Phragmites australis, Miscanthus sacchariflorus*, etc.)
: other vegetations

◆ Sub-target A: To invite the wider participation of various stakeholders in the conservation and sustainable use of biodiversity

Challenge

Because the significance of biodiversity is not fully recognized, only some conservationists have been involved. It is not yet clear what types of action should be taken by business and consumers.

Means to achieve the Sub-Target

A1 : Participation, cooperation and activities by businesses, NGO etc.

A2 : Encourage local governments to take various measures

A4 : Promote Education for environment protection and sustainable development

A3 : Encourage residents and consumers to act

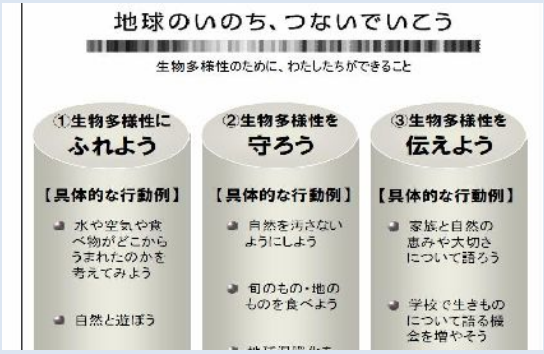
Concrete Measures

Guidelines for Private Sector Engagement in Biodiversity (Ministry of Ecology); Declaration of Biodiversity (Nippon Keidanren)

1) Waste/sewage treatment
2) Payment for forest tax
3) Rules of greening requirement

Biodiversity is included in such essential subjects as "society" and "science"

"The list of Actions" (Ministry of Environment)



Numerical Indicators

- The number of action plans formulated by business and NGOs
- Percentage of citizens who take actions in their daily lives to conserve biodiversity

◆Sub-target B: **To establish mechanism to ensure harmonized approaches between ecosystem conservation and other human activities such as development and poverty alleviation**

Challenges	Means to achieve the Sub-Target	Concrete Measures
Developing countries tend to focus on poverty alleviation	**B1 : Poverty alleviation with consideration to biodiversity and sustainable use of bio resources**	1) Harmonization between poverty alleviation under the UN Millennium Development Goals (MDGs) and biodiversity conservation under the CBD 2) Cooperation with develop-related international organizations (Ex.: UNDP)
Development projects affects biodiversity in many cases	**B2 : Promote infrastructures which have positive effect on ecosystem**	1) River projects creating habitats to wildlife 2) Use of various environment technologies for the purpose of water quality improvement in rivers and lakes 3) Projects creating biodiversity-friendly environment in ports
	B3 : Consideration to biodiversity in implementing development projects	1) Application of the Strategic Environmental Assessment (SEA) 2) Appropriate implementation of mitigation measures, including avoidance, reduction and compensation

◆ Sub-target C: To increase the ratio of production that is managed in sustainable manner in agriculture, forestry, fisheries and other activities which utilize biological resources

Challenges

- Agriculture, forestry and fisheries, which utilize natural resources , have direct impact on biodiversity.
- They closely relate to the poverty in developing countries.

Means to achieve the Sub-Target

C1 : Promote the agricultural production methods that reduces adverse impacts on ecosystems

C3 : Promote sustainable use of forest resources

C4 : Promote sustainable fisheries production and conservation of fishing ground environment

Concrete Measures

1) Farming with low-pesticide use
2) Certification and labeling of products from ecosystem-friendly farming
3) UNDP's "Green Commodity Supply Chain"

Example of certification by Toyooka City

1) Establishment and enforcement of the plans for forest management and conservation
2) Wide use of criteria for sustainable forest management
3) Taking measures to combat illegal logging

1) The combination of appropriate conservation measures depending on the resources status
2) Fisher's voluntary measures for water quality improvement in aquaculture
3) The conservation and restoration of seagrass/seaweed beds and tidal flats

Numerical Indicators

- The number of farmers who conduct ecosystem-friendly farming
- Total growing stock of forest resources, number and/or total areas of forests under the plans for forest management and conservation

◆Sub-target D : To take urgent measures against threats to biodiversity

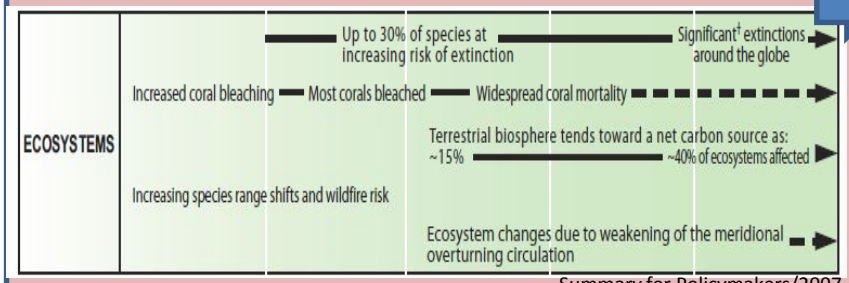
Challenges

Threats to biodiversity, such as invasive alien species, hazardous chemicals and climate change, still persist

Means to achieve the Sub-Target

D1 : Measures to address invasive alien species

D2 : Measures to address climate change on both " Mitigation" of and "adaptation



Summary for Policymakers/2007

D3 : Reduce the damaging effects of hazardous chemicals and other pollutants

D4 : Reduce threats to endangered species

Concrete Measures

1) Effective control on the route of invasive alien species
2) Management to alleviate the impact by existing invasive species

1) Prevention of ecosystem loss and degradation which results in the increased emission of CO2
2) utilization of biomass with due consideration of biodiversity
3) Conservation and restoration of fragile ecosystems / establishment of ecological networks
4) Collaboration with UN Framework Convention on Climate Change

Strengthened restriction of production, consumption and emission of hazardous chemicals

1) Prohibiting the collection, capture of, and the damage to, endangered species
2) implementation of the conservation breeding programs
3) Restriction on international/domestic trade in endangered species

Numerical indicators

The population of each endangered species, the number of protected species, the number of ex-situ conservation cases, total area of land for species protection, the number of species with conservation breeding programs formulated

◆Sub-Target E：To promote the activities to conserve biological species and expand the areas to conserve ecosystems.

Means to achieve the Sub-Target (E-1)

Expand the protected areas and strengthen the management therein, relying on the collaboration with local stakeholders.

Challenges

1) Public management is isolated from local residents, resulting in so-called “paper park” with illegal logging and poaching
2) Insufficient facilities and rangers, and difficulty of land acquisition

→ Management is not effective and protected areas are not easily expanded

Concrete Measures

To conserve and sustainably use natural resources in cooperation with local residents and industries

→ Broader protected areas are designated and management covers even remote areas

- National Park System in Japan -

Contribution of Japan: To provide Japanese long-established methods on park management based on experience

Numerical Indicators

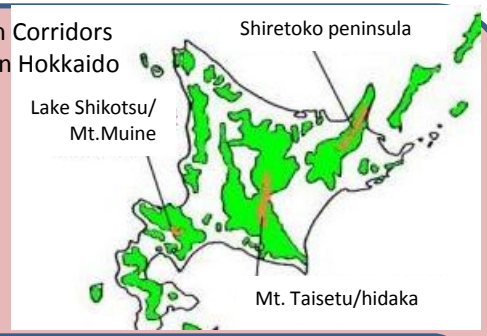
・Hectare and the number of protected areas, number of maintenance personnel per unit area
→ expansion and designation of protected areas

Ise-shima National Park, where the private sectors own more than 90% of the park

◆Sub-Target E：To promote the activities to conserve biological species and expand the areas to conserve ecosystems.

Means to achieve the Sub-Target (E-2)

Broaden conservation areas by establishing connection route between fragmented habitats of wildlife or by assigning protected areas into ecological networks.



Challenges

1) The seasonal migration of animals is not secured because of fragmentation in protected areas

2) Migration points for birds are threatened due to the loss or shrink of wetlands

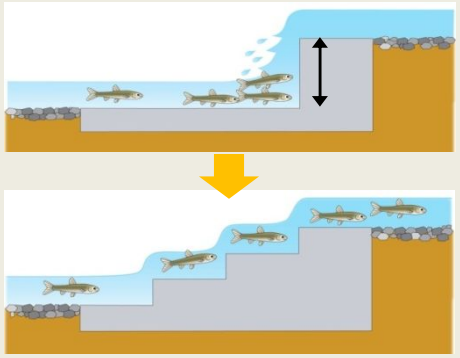
3) Difficulties for fish to swim up river due to river construction

Concrete Measures

Secure their migration paths with “Green Corridors”

“Fly-way plan” - securing stopover for birds in collaboration of related countries

Fish-ways to enable them to run up the water



Numerical Indicator

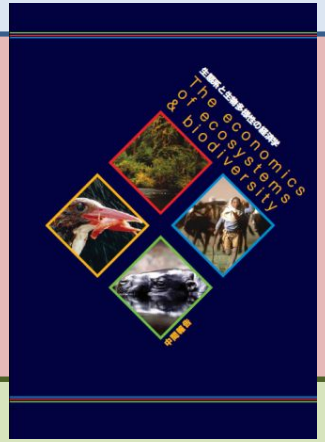
・Enhanced hectares of biosystem conservation/protective areas connected into networks

◆ Sub-target F: To establish the mechanism to sustainably benefit from the ecosystem services and to ensure its contribution to human well-being.

Challenges

Encourage the understandings for ecosystem services;
Review economic systems which contribute to sustainable ecosystem services;
Enhance activities to maintain ecosystem services

Means to achieve the Sub-Target	Concrete Measures
F1 : Endeavor to evaluate the values of ecosystem services, and enhance public understanding on those values, including spiritual and cultural ones which are difficult to quantify.	Develop methodology to evaluate economic value of ecosystem services, such as "The Economics of Ecosystem and Biodiversity (TEEB)"
F2 : Further examine and develop mechanisms for various stakeholders to cooperate and contribute to maintaining ecosystem services.	1) Payment mechanism for ecosystem services, such as local taxation and donations/contribution to be used for forest management 2) Voluntary activities by private companies and NPOs for the forest conservation
F3 : Further promote human activities that can conserve ecosystem services, paying respect to their cultural and spiritual elements	1) *Satoyama* initiatives 2) The promotion of "eco-tourism" and "green tourism"



Numerical Indicators

- Economic value of ecosystem services evaluated by TEEB
- The number and scale, i.e. total area and participants, of activities which achieve sustainable use of the secondary natural environment

◆ Sub-target G: To prepare systems to encourage more facilitated ABS (Access and Benefit Sharing) and protection of traditional knowledge

Challenges

1) Concern over misappropriation of genetic resources beyond borders

2) Less transparency on rules to access to bio-resources

3) Insufficient capacity necessary for the use and benefit sharing on genetic resources

Agreement on ABS International regime
(If agreed, it would be *mandatory*)

Means to achieve Sub-Target (G-1)

Measures to assist domestic implementation : to ensure measures required by the regime in developing countries

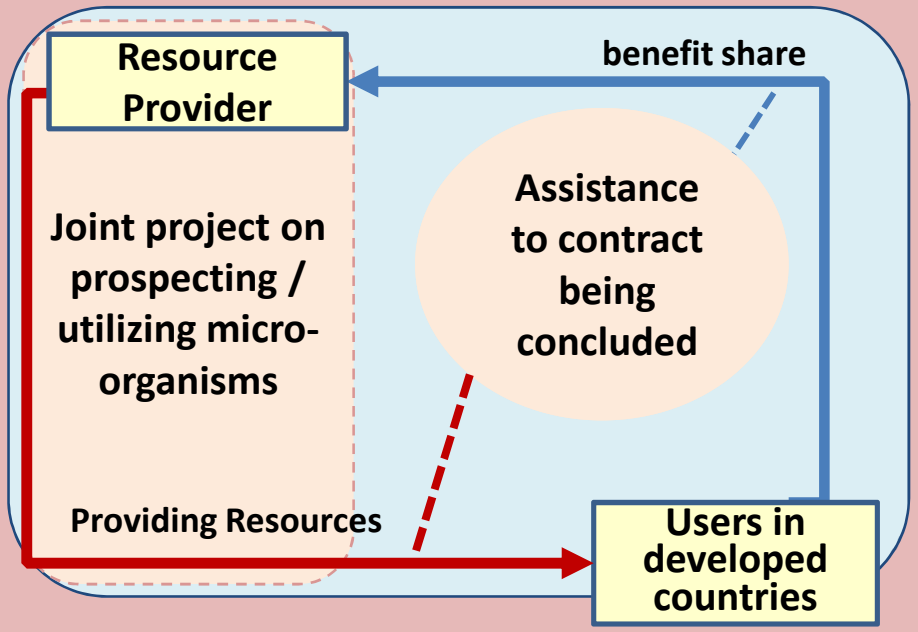
***Voluntary* actions in each party**

Means to achieve Sub-Target (G-2)

Encourage public awareness : to promote compliance with domestic legislations on ABS and contracts

Means to achieve Sub-Target (G-3)

Technical/research assistance and establishment of R&D facilities: to bring out potential values of genetic resources in developing countries



* Measures now implemented by Japan Bio-industry Association (JBA) and National Institute of Technology and Evaluation (NITE)

◆ **Sub-target H: To conduct full observation and analysis on the state of biodiversity and eco-systems at global scale and scientific justification so that they are well perceived and understood by general public**

Challenges

- The current status on biodiversity/ecosystem services
- Insufficient analysis/estimation based on scientific justification
- Needs for cooperation between policy and analysis

Means to achieve the Sub-Target

H1: Introduce the advanced monitoring methodologies and strengthen their implementation system to conduct accurate and comprehensive observation of the state of biodiversity, whose results are to be publicly shared

H2: Reflect the observation and analysis of the state of biodiversity and the evaluation of the ecosystem services to their policies

Numerical Indicators

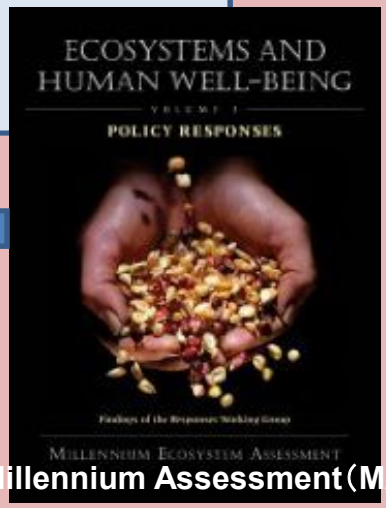
H3: Promote observation and analysis in the areas where such activities have been insufficient

Concrete Measures

1) GEO-BON
2) Global mapping
3) Introducing and enhancing various high-technology monitoring methods
4) Long-term monitoring on ecosystem
5) Human resource development
6) Monitoring by initiative of local residence

Enhanced interface between science and policy, such as IPBES

The development of monitoring techniques and the promotion of research activities in ocean areas



Millennium Assessment（MA）

◆ **Sub-target I: To provide financial and human resources as well as increase scientific and technical capacity in order to achieve the conservation and sustainable use of biodiversity**

Challenge

In addition to insufficient financial resources for bilateral ODA and GEF projects, attention should be given to the need to ensure efficiency and avoid duplication.

Japan's ODA

- **Forest conservation (Fire prevention, planting mangroves)**
- **Wetland management on catchment area and environment**
- **Facilitating observation/education network (ex. Biodiversity Center of Japan)**

GEF Projects

Four main objectives:

1) To conserve protected area (PA)s
2) To mainstream biodiversity
3) Action against the threats
   - i) Ensure biosafety
   - ii) Invasive alien species
4) To build capacity on access and benefit sharing (ABS)

Means to achieve the Sub-Target

I1: Enhance financial assistance by GEF and other financial organizations to developing countries by focusing on areas with strategic importance.

I2: Provide effective and efficient bilateral assistance to countries and regions which need international assistance for their ecosystem conservation.

“Means to achieve the Sub-Target”, “Examples of Measures” and “Numerical Indicators”

Means to achieve the Sub-Target

To be included in COP 10 decision among all parties, on condition that its implementation and application could be left to each country, region or organization, depending on their different situation.

Examples of Measures

Concrete examples of “Means to achieve the sub-target”, which can be categorized into the following three groupings.

These examples are also expected to be included in COP decision, to the extent that there will be supported by other parties:

(1) Measures encouraged to be taken by developed countries

(2) Measures that can be taken by developing countries with technical and financial assistances, and

(3) Measures encouraged to be taken by international organizations or NGOs.

Numerical Indicators

To be included in COP10 decision among all parties, on condition that, depending on the situation of each country, region or organization, they will be:

- Set as target indicator or
- Utilized to measure progress in achieving the targets