

# Achieving and sustaining harmony between humans and nature.

# 03 With Belief

These initiatives are our belief

It is an important goal for the international community that all countries including developing countries are able to realize a sustainable society by achieving a balance between environmental conservation and development. Consequently, this is an important area of international cooperation for JICA. In order to achieve "balance between human activities and the natural environment" we adopt three approaches in our activities.



Digging up tree roots and measuring the amount of carbon stock in the soil.

## Amazonian forests

Carbon dioxide emissions resulting from forest degradation and deforestation are said to account for around 20% of overall greenhouse gas emissions. Introduction of sustainable forest management to contain deforestation, and to reduce carbon dioxide emissions from the forest are urgently needed. With the "Carbon Dynamics of Amazonian Forest" project, studies on the current status of carbon absorption and emission in the world's largest rainforest, and development of technology to analyze forest information (area, tree species, and carbon stock, etc.), are expected to contribute to sustainable forest management serving as a measure against climate change.



## Forest

### 1 Sustainable Forest Management

Manage forests in a healthy state to restore and maintain the diverse functions of the forests.



## People

### 2 Sustainable Use of Natural Resources by the Community

Enable local residents to voluntarily maintain and restore natural resources as part of their livelihood.



Planting trees with residents to protect the slopes.

## Nepalese villages in precipitous terrain

In Nepal, in addition to precipitous terrain, haphazard deforestation driven by poverty triggers soil erosion and slope failure. The subsequent decrease in land productivity creates a vicious circle. Under the "Participatory Watershed Management and Local Governance" project, local residents are enabled to plan and implement natural resource management by themselves with cooperation from the local government. The project is expected to improve the resident's livelihoods and conserve both the forest and soil.

### 3 Biodiversity Conservation

## Biodiversity Conservation

The protection of living creatures and their natural environment.



## Living Creatures

## Ugandan wetlands

The wetlands, which constitute about 13% of Ugandan land, not only harbor an immense wealth of biodiversity, but also provide drinking water and a source of livelihood for many local residents.

Under the "National Wetlands Management Project", wetlands are scientifically classified for use, protection and management. In this manner, biodiversity conservation and sustainable use of wetlands is promoted.

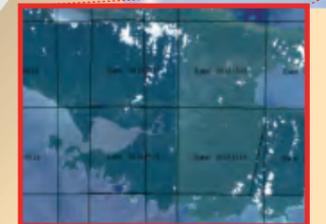


Removing water from swampy areas.



Drying swampy areas for pasturing.

## climate change countermeasures



To address the issue of climate change, attention is being focused on controlling deforestation and forest degradation in tropical rainforests. Measuring the carbon dioxide absorbed by the forest will promote the importance of forests. Under "Capacity Development on Forest Resource Monitoring for Addressing Climate Change in Papua New Guinea", a monitoring system is being developed across a vast expanse of Papua New Guinea forest, with the use of satellite images, GIS and human resources.

# 04 With Hope

Case studies of nature conservation activities

## We apply a variety of assistance schemes to deal with various issues facing developing countries.

The background and set of problems faced by developing countries differs as does their assistance requirements. JICA studies the current status, considers the types of assistance most appropriate, and strategically deploys multiple assistance schemes utilizing Japan's knowledge, technology, and funding.

### CASE STUDY 2

## Addressing issues common to a particular region

Sometimes, several countries with similar natural environments have similar problems across borders. In order to address issues common to a particular region, JICA provides assistance that is effective and expandable, so that assistance provided to one region can be disseminated to other countries, promoting cooperation across borders.

#### ● Conservation of the second largest rainforest in the world

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The Congo River area contains the world's second largest rainforest after the Amazon, but rapid deforestation is feared due to development. Advisers are sent to the Central African Forests Commission (an international organization) to promote sustainable forest management and ecosystem conservation, while forestry officials from countries around the Congo River are provided with training in Japan to promote communication and human resource development.



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### CASE STUDY 1

## Comprehensive forest conservation through multiple assistance schemes

While local residents in many developing countries rely on the forests for their livelihood, deforestation and forest degradation are taking place to meet the surging timber demands of a growing economy and increasing population. Comprehensive support for the forestry sector is needed to deal with the situation. JICA combines technical cooperation for capacity building with the financial assistance of ODA loans and grants, in an effort to achieve both forest conservation and poverty reduction, as well as working towards climate change countermeasures.

#### ● Local communities protect the forest

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In Laos, JICA provides multi-level assistance through two technical cooperation projects. One of these is planning of a national strategy to reduce poverty through improvements in the forestry sector. The other is on-the-ground activities' such as the introduction of alternative livelihoods to limit resident's excessive use of the forest. Also, in order to support REDD-plus\* implementation', grant aids are providing the facilities and equipment as well as developing the human resources required to collect and evaluate information on the forest's role in preventing climate change.

\*Refer to P.2 of this leaflet.

#### ● Human resource development for joint management

2

In India, the administration and local residents work together to plant trees and manage forests. This "Joint Forest Management" approach is partially financed by ODA loans, and is combined with measures to improve residents' livelihoods and maintain biodiversity. The project aims for synergistic results through the capacity building of on-site forestry officers, as well as training programs for state officials as part of a technical cooperation project.



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Photos 1 2 : Laos

### CASE STUDY 3

## Utilization of scientific knowledge

In order to promote conservation in developing countries, we need to keep scientifically up-to-date and apply this knowledge according to specific local circumstances. In addition, human resources need to be developed so that research work can be undertaken locally. JICA puts into practice "science and technology cooperation" which gives back what has been gained through the joint research of Japan and the recipient country.

#### ● Conserving the ecosystem with gorillas

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Wild gorillas live in Gabon's national parks. Expectations are high for ecosystem conservation through ecotourism with the participation of residents. Kyoto University and the Gabon Tropical Ecology Research Institute are working together to deepen scientific knowledge of tropical forest ecosystems and amphibian control through their ecological studies. Environmental education and human resource development are also provided for local residents based on such scientific findings.



Chieko Arida

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#### ● Evaluation of CO<sub>2</sub> using satellites

Peat is widespread throughout Indonesia, releasing vast amounts of carbon dioxide through fires each year. This is a matter of urgency from a climate control point of view. Japanese research institutions, such as Hokkaido University and a number of Indonesian research institutions are working together in the development of integrated carbon management systems to detect fire through the use of satellites and by developing fire prediction models and evaluation systems.

Peat: Plant residues decompose under anaerobic condition in high groundwater areas. They accumulate over thousands of years to form the organic soil known as peat.



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### CASE STUDY 4

## Support for diverse regions and ecosystems

JICA's support includes the cooperation with citizens in various regions and ecosystems in addition to those mentioned above.

#### ● Oceania / Protecting the oceans

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JICA assists coral reef conservation in Palau by utilizing a facility built through grant aid and implementing a technical cooperation project to improve monitoring capacity.

#### ● Middle East / Protecting the wetlands

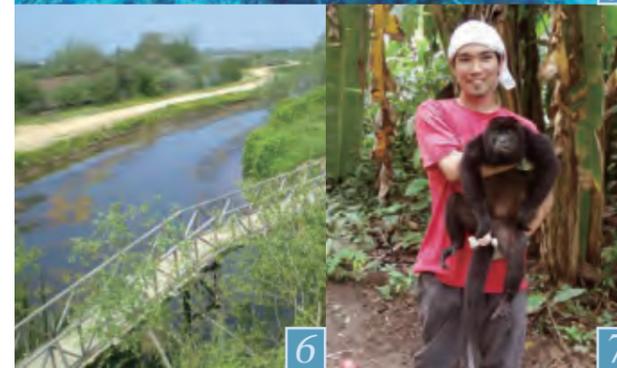
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In the Iranian wetlands registered under the Ramsar Convention, JICA carries out a technical cooperation project, formulating a wetland management system through the setting up of a wetland management committee, ecotourism development, and so on.

#### ● Latin America / Activities of Cooperation Volunteers

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In Costa Rica, Japan Overseas Cooperation Volunteers (JOCV) work to prevent illegal hunting and road accidents of wild animals in national parks by carrying out ecological surveys and field studies of accidents. They also facilitate environmental education programs with local NGOs.



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### JICA's 3 Assistance schemes

#### JICA

##### Technical cooperation



For human resources development and formation of administrative systems of developing countries, technical cooperation involves the dispatch of experts, provision of necessary equipment and training of developing country personnel in Japan.

##### Loan aid



Loan aid supports developing countries above a certain income level by providing low-interest, long-term and concessional funds (in Japanese yen) to finance their development efforts.

##### Grant aid



Grant aid is the provision of funds to developing countries below a certain income level, without the obligation of repayment. Grant aid is used for improving basic infrastructure, and obtaining equipment and medicines.

##### Other activities

- Citizen Participatory Cooperation
- Disaster relief

Other activities include Citizen Participatory Cooperation (dispatching volunteers, supporting development education, JICA partnership program) and disaster relief.

Photo: Yuji Shinoda

# 05 With You

We want you to know more

JICA is right beside you working towards a society that is in harmony with nature.



## Question.1 For beginners

Q Which bird still exists on the planet?



A **①Crested ibis** **HOT TOPICS!** The crested ibis lives mainly in East Asia. They are on the verge of extinction due to loss of habitat from human-led environmental destruction. The protection of the crested ibis is considered an example of how an improved ecosystem can have a positive effect on biodiversity. Under "Environment Construction at Co-existent Areas of Human Beings and Crested Ibis" in China, JICA experts instructs organic farming methods and offers education programs on the importance of the crested ibis. This is an example of a project where the participants are local residents, an important key in biodiversity conservation.

## Question.2 Intermediate level

Q What do the following products have in common?



A **All are made from NTFP, forest products from developing countries.** **HOT TOPICS!** Non-timber forest products refer to forest products other than timber, such as bark and sap, fruits, mushrooms, small animals and insects. There are a variety of products made from NTFP; some soap contains shea butter; drip coffee is made from coffee beans; and tires are made from rubber. JICA ensures that local residents who previously made a living through logging can now secure a livelihood in NTFP trade and continue to benefit from the forest in a sustainable manner.

## Question.3 Intermediate level

Q Logging is not the only cause of deforestation. Wildfire is said to account for 6 to 14 million hectares of forest loss annually. Which of the following triggers wildfire?

- ①Slash and burn farming
- ②Planned burns for land development
- ③Naturally triggered forest fires
- ④Tobacco and bonfires

A **All of the above** **HOT TOPICS!** ①:Decreased productivity of agricultural land caused by shorter cycles in traditional slash and burn cultivation encourages the burning of more forest to expand agricultural land. ②:To save on logging costs, sometimes the forest is burned to open up new land for agriculture. This can lead to wildfires that damage neighboring forests. ③:Lightning and friction of trees in heavy winds can cause wildfires. ④:Mismanagement of cigarette butts and bonfires cause fires. Smoldering fires often goes unnoticed and spread quickly.

## Question.4 Advanced level

Q Connect related items between Groups A and B

Group A: ①Cinchona (plant), ②Star anise, ③Halcyon

Group B: ④Malaria, ⑤Bullet train, ⑥New strains of influenza

A **HOT TOPICS!** Cinchona is an herb from the South American Andes region, the bark of which contains quinine a remedy for malaria, one of the dreaded illnesses of (sub) tropical regions. Oseltamivir, a remedy for influenza, is made from components extracted from the Star anise used in Chinese and other cuisine. The 500-series bullet train took its design from the shape of a halcyon's bill, a feature that reduces aerial resistance so the noise is contained when it enters a tunnel. These are good examples of applying what's around us to the field of science and medicine.

## For more information

1 Access JICA website.   <http://www.jica.go.jp/english/>

2 Search "natural environment" in JICA website.   [http://www.jica.go.jp/english/operations/thematic\\_issues/environment/](http://www.jica.go.jp/english/operations/thematic_issues/environment/)

Overview [http://www.jica.go.jp/english/operations/thematic\\_issues/environment/overview.html](http://www.jica.go.jp/english/operations/thematic_issues/environment/overview.html)

JICA Activities [http://www.jica.go.jp/english/operations/thematic\\_issues/environment/activity.html](http://www.jica.go.jp/english/operations/thematic_issues/environment/activity.html)

View works of JICA on natural environment conservation with multi-media learning materials, produced by JICA. <http://jica-net.jica.go.jp/lib2/07PRDM009/about.html>

For further information, please refer to one of our publications such as JICA's World. <http://www.jica.go.jp/english/publications/j-world/index.html>