

JICA Global Agenda for No. 17 Natural Environment Conservation



Japan International Cooperation Agency (JICA) works toward the achievement of the Sustainable Development Goals (SDGs).

1. Objectives

(1) Objective of the Global Agenda

JICA aims to support partner countries in their efforts to conserve the natural environment and pursue the sustainable use of natural resources in line with the international environmental frameworks for socio-economic development, and to enable future generations to enjoy various services from the natural environment.

(2) Objectives of Development Scenarios (“Clusters”)

The following two clusters are established in the Global Agenda 'Natural Environment Conservation'.

1) Sustainable Natural Resource Management on Land

By 2030, the structures of more than 40 central/local government institutions responsible for terrestrial nature conservation will be strengthened and 10,000 administrative officers, etc. will be trained. (Related to SDG 15)

2) Sustainable Natural Resource Management in Coastal Areas

By 2030, the structures of more than 8 central/local government institutions responsible for coastal nature conservation will be strengthened and 2,000 administrative officers, etc. will be trained. (Related to SDG 14)

This will contribute to promote the conservation of the natural environment (ecosystems) including biodiversity and the sustainable use of natural resources, and as a result contributing to climate change action (SDG 13) in targeted areas, with the ultimate aim of achieving a sustainable society.

2. Current Situation, Analysis of Issues and Reasons for Setting Objectives

(1) Current Situation and Analysis

Importance of Conservation and Restoration of the Natural Environment

People's livelihoods, economies, and societies have been built on the various benefits (ecosystem services) they receive from the rich natural environment. Ecosystem services can be divided into four categories: (i) provisioning services such as food and

water, (ii) regulating services such as climate control, water source recharge¹, and natural disaster reduction, (iii) cultural services such as recreation and objects of worship, and (iv) supporting services that form the basis of ecosystems, such as wildlife habitats and soil². A healthy natural environment provides these multifaceted services (benefits) and is essential for human survival and good quality of life. The rapid increase in human activity, however, is leading to a large-scale and rapid degradation of the natural environment, which is having various impacts on our lives through climate change, desertification, and biodiversity loss. With further population growth and increased demand for natural resources, energy, and other resources expected in the future, the degradation of the natural environment will become increasingly serious. If the degradation surpasses the capacity of the global environment to naturally recover, as has been deemed possible, irreversible changes with serious impacts on people's lives will follow³. To ensure the sustainable development of society, it is imperative to maintain and restore the resilience of the natural environment by preventing its further degradation.

Current State of Natural Environmental Degradation

The state of natural environmental degradation will be summarized as below, using three major categories of ecosystems A) Forests, B) Wetlands and C) Coastal Areas.

- **Forests:** Forests cover approximately 30% of the world's terrestrial area (4 billion ha), are home to approximately 80% of terrestrial species, and provide various functions, such as water source recharge and carbon fixation, that heighten the urgency and priority of their conservation. Nonetheless, approximately 420 million hectares of forest have been lost in the 30 years between 1990 and 2020. Although the rate of global decline has slowed in recent years due to large-scale afforestation in temperate and high-latitude countries, the rate of deforestation remains high in tropical forests in Africa and South America. On an annual average basis, the past decade has seen a global loss of approximately 11 million hectares of forest⁴.

¹ The ability of forests and other structures to store precipitation, equalise the volume of water flowing into rivers, mitigate flooding, and stabilise river flows. In addition, the rain water is purified as it passes through the soil. (From the Forestry Agency webpage)

² Classification according to the Millennium Ecosystem Assessment (2001-2005), an assessment called for by the UN. Note that 'The Economics of Ecosystems and Biodiversity (TEEB)' reported at COP10 (2010) of the Convention on Biological Diversity (CBD) uses the term 'habitat services' and 'ecosystem functions' instead of "supporting services."

³Climate change', 'biosphere integrity', 'land use change (deforestation)', and 'bio-geoscientific cycles', all of which are thought to have reached levels beyond the boundaries of safe human activity. Johan Rockström, Mattias Klum (2015), Big World Small Planet - Abundance within Planetary Boundaries, Yale University Press

⁴ From FRA 2020 (FAO report, 2020). New plantations and other increases are not taken into account in

The impacts resulting from deforestation and degradation are manifold. Carbon dioxide emissions originating from land use, land-use change and forestry account for approximately 11% of annual global greenhouse gas emissions⁵ and have a significant impact on climate change. There are also concerns that the degradation of forests will weaken their water source recharge and land conservation functions, etc., and increase the risk of disasters such as floods and landslides due to heavy rainfalls caused by climate change. In poor areas of developing countries, the areas that depend most heavily on natural resources, moreover, deforestation and forest degradation cause shortages in the supplies of food, fuelwood, and other materials derived from forests, which in turn increases poverty and poses problems linked to human security.

- Wetlands: Wetlands form a complex environment made up of water and terrestrial areas. Most wetlands are highly productive and nurture unique flora and fauna, which makes them a valuable ecosystem for biodiversity conservation.

Like forests, however, wetland environments have changed significantly, mainly due to changes in land use. Their area continues to decline as a result, leading to a loss of valuable biodiversity: only 13% of the wetlands that existed in 1700 remained as of 2000, and the declining trend has accelerated in recent years. The future of biodiversity is an issue of great concern. Peatland is said to store nearly twice as much carbon as the world's forests store above ground. There is concern that peatlands in the tropics are drying out due to drainage for oil palm and forestry plantation use and the resulting fires, which increase the amount of carbon dioxide and other greenhouse gases released into the atmosphere.

- Coastal Areas: In addition to providing marine products and other benefits such as marine leisure, the oceans contribute significantly to climate stability and material cycles (for example, as sinks for carbon dioxide). Coastal areas serve a particularly important function as productive ecosystems that sustain highly diverse species due to the inflow of nutrients from sources such as land and fresh water. The mangrove forests in coastal areas in tropical and subtropical regions, for example, provide shelter for young fish and serve as a habitat for

the estimation for the average annual decrease in area over the past 10 years.

⁵ From the IPCC Special Report 'Special Report on Climate Change and Land'. The figures are calculated after offsetting CO₂ absorption through afforestation and other means. Note that if emissions from agriculture are added to forestry and land use, they account for approximately 23% of total emissions.

widely diverse organisms and as a source of fisheries resources. They are also known to mitigate natural disasters such as typhoon surges. On a per unit area basis, moreover, mangrove forests are reported to have a much greater carbon storage capacity than terrestrial tropical forests⁶.

However, the decline and degradation of the natural environment is also evident in coastal areas. Over the last three decades, for example, the area of mangrove forests has declined by about 1 million hectares, or about 7% of the world's total, due to conversion to shrimp farms and other uses in Asia alone, and another 12% has been lost in other regions. In addition to mangrove forests, coral reefs and seagrass beds have also been degraded. The decline and degradation of these coastal ecosystems has damaged their ability to provide sustainable livelihoods for coastal communities and to mitigate natural disasters such as tidal waves, storm surges, and tsunamis.

This degradation of the terrestrial and marine natural environment has led to biodiversity loss at a rate unprecedented in human history. According to the reported evidence, biodiversity is being lost at a rate never before seen due to the degradation of the natural environment on land and in the sea⁷. Averaging out the totals, about 25% of the world's flora and fauna, or an estimated one million species, are now endangered. Many of these species could become extinct within the next few decades if no action is taken to remove the threats to biodiversity.

(2) Issue Analysis

1) Direct and Indirect Factors Degrading the Natural Environment

The direct causes of natural environmental degradation include changes in land/sea use, over-extraction of biological resources, climate, and pollution. All of these causes stem from a complex interplay of background indirect factors such as population growth, changing modes of production and consumption, economic expansion, and governance.

Developing countries have also ratified various international conventions on nature conservation, and efforts are being made to promote the conservation and sustainable use of the natural environment, with government departments at the core. The complex interplay of direct and indirect factors described below, however, makes it difficult for government to take effective measures to prevent the decline and degradation of the natural environment.

⁶ Donato, D. et al. (2011) Mangroves among the most carbon-rich forests in the tropics, *Nature Geoscience* 4(5): 293-297

⁷ 'Global Assessment of Biodiversity and Ecosystem Services' (IPBES: Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services, 2019).

- Forests: Direct causes of deforestation and forest degradation vary from country to country and region, including land use change due to commercial agriculture, subsistence agriculture, pastoralism, etc., illegal logging for timber, excessive firewood and charcoal extraction, forest fires, mining, and infrastructure development such as road construction without adequate environmental and social assessment. Underlying these direct factors are socio-economic factors such as the expansion of economic activities that largely disregard the value of ecosystem services, and political and administrative trends such as inappropriate land tenure systems and weak institutions and administrative structures. In response to these factors, it will be necessary to strengthen measures to enable the establishment and management of protected areas through scientific ecosystem service assessment and appropriate administrative processes, and the sustainable use of forest resources in harmony with agriculture and land development.

- Wetlands: Many wetlands are affected by a complex of direct factors, such as groundwater pollution and water quantity reduction due to agricultural activities and irrigation and drainage projects, pollution from urban drainage, sediment inflow and deposition due to deforestation in catchment areas, and over-extraction of fisheries resources. These issues will need to be addressed more broadly in an integrated and catchment-wide manner. Further, the drying (drainage) of peatlands for agricultural activities is said to lead to the release of greenhouse gases. As there are no accurate data on the distribution or amounts of greenhouse gases released from peatland drainage, these data will have to be accurately identified to inform conservation measures.

- Coastal Areas: The natural environment in coastal areas, including the mangroves, has been altered by over-extraction of fisheries resources and coastal development such as land reclamation, revetment, the construction of aquaculture ponds, and the promotion of tourism. The degradation of coral reefs and seagrass beds is mainly caused by the inflow of sediment and sewage from rivers and other sources due to agriculture and urban development on land, and by the rise in seawater temperature. Integrated management to address these issues needs to be strengthened through collaboration across multiple sectors, including fisheries and tourism.

(3) Reasons for Setting the Objective of the Global Agenda

Unless the value of ecosystem services is assessed and properly integrated into economic and social systems, there is often a trade-off between human economic

activity and the conservation of the natural environment. It can be challenging, however, to make quantitative assessments of the value of the ecosystem services provided by the natural environment, or to accurately assess and predict the future impacts of the degradation of the natural environment. These challenges also contribute to the low effectiveness of policy, planning, and implementation in many countries. It will also be challenging to establish a sustainable financial mechanism for nature conservation and to secure sufficient funds for action. While the urgent need to conserve the natural environment by curbing the reduction and degradation of forest resources and biodiversity is recognized globally, these various challenges have blunted the effects of the actions taken.

To address these issues, the current status of the natural environment and the factors underlying its loss and degradation should be analyzed scientifically. Further, policy objectives and targets need to be set from a medium- to long-term perspective, and the measures taken must be based on concrete plans. For this, the capacity for monitoring environmental risks and institutional mechanisms (environmental governance) will have to be strengthened. Further, a collaborative management system among key stakeholders, including local communities, needs to be established. From a financial standpoint, countries must have the capacity to identify the economic and social benefits of the natural environment, ensure policy priorities, and secure the necessary financial resources.

In many partner countries, the lack of national budgets often makes it challenging to allocate sufficient funds to the sector. As such, strategies to make effective use of multilateral funds associated with international environment treaties to complement national efforts become all the more important. Policy capacity, planning capacity, and scientific data are all keys to accessing potential funds.

In cases where degradation partly stems from the unsustainable use of resources, such as excessive harvesting of fuelwood and overgrazing, by local people, concrete measures informed by local conditions and needs will be essential. Alternative livelihood improvement measures to encourage behavioral change could be effective in such cases, as could measures to raise awareness on conservation and the sustainable use of the natural environment.

Partner countries often face challenges in nature conservation when formulating policies and plans, planning and implementing measures based on scientific information, managing measures collaboratively with local communities, and securing external funds. In light of this, the main focus of this Global Agenda is to strengthen the capacity of central and local administrative departments in charge of nature conservation.

(4) Framework for International Initiatives

The Convention on Biological Diversity (CBD), the United Nations Framework Convention on Climate Change (UNFCCC), and the United Nations Convention to Combat Desertification in Those Countries Experiencing Serious Drought and/or Desertification, Particularly in Africa (UNCCD), a trio of conventions Japan has also ratified (the Rio 3 Conventions⁸), are representative frameworks for international efforts to combat the decline and degradation of the natural environment. The World Heritage Convention and Ramsar Convention, another two, designate and register areas and ensure the protection and conservation of ecosystems. Various international agreements/targets, such as the UN Decade for Ecosystem Restoration and the UN Strategy for Forests (UNSPF), have been established alongside these conventions.

The Convention on Biological Diversity calls for countries to promote the establishment of institutions and guidelines for the conservation of biodiversity and the protection of ecosystems. In response, developed countries are expected to cooperate in providing assistance to developing countries. In the evaluation of the "Aichi Targets", the CBD has pointed out that the actions taken in various fields, including the expansion of initiatives for biodiversity conservation and restoration to all levels, need to be coordinated rather than addressed separately.⁹ Discussions on the post-Aichi Targets are now intensifying in preparation for COP15 phase 2 in 2022.

The Paris Agreement, the new post-2020 legal framework adopted by the United Nations Framework Convention on Climate Change (UNFCCC) at COP21 (2015), requires all participating countries, including developing countries, to make efforts to reduce emissions. 'Reducing emissions from deforestation and forest degradation and the role of conservation, sustainable management of forests and enhancement of forest carbon stocks in developing countries' (REDD+¹⁰), an effective and cost-effective climate change mitigation measure to reduce greenhouse gas emissions, meanwhile, provides a basis for central and local governments to monitor forest dynamics in order to enable implementation in developing countries as a means to reduce deforestation and forest degradation. A number of international organizations and countries provide support for data collection and development, monitoring capacity building, etc. The Paris Agreement also cites the need for ecosystem considerations in climate change adaptation measures

⁸ Three conventions launched for signature at the 1992 UN Conference on Environment and Development (UNCED, Rio Earth Summit).

⁹ From the Global Biodiversity Overview 5th edition (GBO5) (September 2020).

¹⁰ 'Reducing emissions from deforestation and forest degradation and the role of conservation, sustainable management of forests and enhancement of forest carbon stocks in developing countries': an international mechanism by which developed countries receive financial support (e.g., financial assistance) to developing countries when the latter reduce greenhouse gas emissions by reducing deforestation and forest degradation, or maintain or increase carbon stocks through forest conservation.

and recommends ecosystem-based approaches to disaster prevention and mitigation, including forest-based approaches.

At the Leaders' Summit on Climate Change (2021), the G7 countries shared their goals for achieving the target of limiting the temperature increase from the industrial revolution to 1.5°C by 2050, including the goal of decarbonization by 2050. While the decarbonization goal specifically calls for a shift to clean energy and the promotion of technological innovation, the goal is not expected to be achievable by those means alone. The G7 countries have emphasized the need to take Nature-based Solutions (NbS). The NbS encompass not only climate change mitigation measures, but also highly synergistic approaches that simultaneously address multiple social and environmental challenges by utilizing multifaceted ecosystem services, such as securing food and water security and reducing natural disaster risks. Particularly in the developing countries unable to secure sufficient funds for infrastructure development, the NbS effectively contribute to not only climate change mitigation, but also, sustainable development. The private sector has also shown a growing interest in the NbS from the perspectives of both corporate social responsibility (CSR) and environmental business practices in general (e.g., ESG investment and emissions trading), and the need for cooperation with public institutions from the private sector is likewise increasing.

The UNFCCC COP26 held in November 2021 adopted the decisions relating to Article 6 of the Paris Agreement, which had been on the continuing agenda, were agreed upon and the rulebook was completed. The following agreements, among others, have been announced: the Glasgow Leaders' Declaration on Forests and Land Use, which aims to halt deforestation and land degradation and move towards recovery by 2030; the Joint Statement of the 'Forest, Agriculture and Commodities Trade Dialogue' on addressing agricultural products as a driver of deforestation; and the 2021-2025 The Global Forest Financing Pledge, which will provide more than USD 12 billion in funding.

The Convention to Combat Desertification stipulates that countries (especially African countries) and regions facing severe drought or desertification should develop and implement action plans to combat desertification, and that the developed Parties should support their efforts. At present, about 9% of the world's drylands¹¹ have been identified as desertification hotspots where the lives and livelihoods of local people are adversely affected by reduced agricultural productivity, biodiversity loss, and groundwater depletion due to soil degradation and other factors.¹² Efforts are being made to improve the situation under the new Strategic Framework for 2018-2030 adopted at the UNCCD COP13 in 2013.

¹¹ Drylands cover about 46% of the world's land area and are home to 3 billion people.

¹² IPCC Special Report: Special Report on Climate Change and Land (2019).

(5) Policy Focus of the Japanese Government

Japan's Outline of Development Cooperation (February 2015) sets out 'building a sustainable and resilient international society through tackling global challenges' as a priority policy and issue, and states that efforts should be made to combat climate change, prevent disasters, conserve biodiversity, and promote the sustainable use of resources in forests, etc.

Turning to climate change countermeasures, the Plan for Global Warming Countermeasures (approved by the Cabinet in 2016) states that REDD+ will be actively promoted through public-private partnerships while making use of Japan's knowledge and technology. Meanwhile, the Climate Change Adaptation Plan (approved by the Cabinet in 2018) states that developing countries generally lack the adaptive capacity to cope with the effects of climate change, and that Japan will use its experience and technologies to support the implementation of adaptation measures in diverse fields such as forest conservation and forestry, nature and ecosystems. At the aforementioned UNFCCC COP26, Prime Minister Kishida expressed Japan's determination to make concerted efforts to tackle climate change and pledged Japan's commitment to providing about 240 million USD in support of the forest sector.

In addition, the National Biodiversity Strategy 2012-2020 (approved by the Cabinet in 2012) cites the need to promote international cooperation in conservation and the sustainable use of the world's biodiversity from a global perspective, and the key importance of supporting developing countries through international cooperation in the field of biodiversity and international financial mechanisms, etc. Supports for capacity building in developing countries and the sustainable conservation of secondary natural environments based on the Satoyama Initiative¹³ are currently being discussed for the formulation of the next National Biodiversity Strategy.

3. Significance of Japan and JICA's Engagement

The degradation of the natural environment is a serious human security issue for partner countries, where many deprived areas depend on the natural environment and are vulnerable to changes in it. Environmental degradation threatens human lives and livelihoods through the depletion and contamination of resources such as food and water,

¹³ An international framework aiming to 'create a society in harmony with nature' through the sustainable maintenance and reconstruction of secondary natural areas such as 'Satoyama' for the conservation of biodiversity and the improvement of human well-being. Jointly proposed by the Ministry of the Environment and the United Nations University Institute of Advanced Studies on Sustainability.

loss of production infrastructure, and the occurrence of natural disasters. At the same time, it transcends national borders as a driver of climate change and other changes that significantly affect the development of countries and the lives of people around the world, including Japan.

For Japan, a country that relies on imports for many of its resources such as food and timber, it is in the national interest to cooperate with partner countries in sustainable land use and forest conservation in consideration of the natural environment. With regard to forest conservation, the most pressing issue, in particular, Japan can contribute to partner countries with the following knowledge.

(1) Knowledge on Forest Conservation

Japan is a country rich in forests, boasting the third highest forest coverage among OECD countries. In the past, however, aggressive development without due consideration for the natural environment weakened the regulating function of local ecosystems, heightened the risk of natural disasters, and caused frequent floods and other damage to human life and property.

Japan's forest coverage dropped to about 50% by the middle of the Edo period (in the 18th century) due to excessive use of timber, which depleted timber resources and heightened the risk of serious flood and landslide disasters. From the latter half of the Edo period onwards, however, Japan shifted from the use of natural forests only for felling and timber extraction to a more sustainable forestry industry. Afforestation was promoted through the establishment of cooperative relationships between forest landowners (Shogunates and clans) and farmers, the customary users of the forests.

Later, with the enactment of the Forest Act and other related systems and technological advances from the Meiji era onwards, forests began to recover. Though devastated during and immediately after World War II, Japan's forests have now recovered to about 70% of total land area, which is their original level.

Through these efforts, Japan has accumulated knowledge on the practices required for sustainable forest management, such as forest resource surveys, forest planning, the Protection Forest system, forest conservation works, and improved species. In recent years, efforts have also been made for advanced processing and utilization of wood and use of forest spaces such as forest bathing. Japan's experience in cultivating a culture of living in harmony with nature through the sustainable use of natural resources in secondary natural areas known as 'Satoyama' has been effective in addressing natural resource conservation from the standpoint of indigenous peoples and customary forest users in partner countries, many of whom depend on natural resources.

In addition, Japan's precise and highly accurate techniques for monitoring forests and other natural environments have been highly appreciated by host governments and other donor communities.

The ability to provide on-the-ground impact-generating cooperation in forest and natural resource management based on knowledge, skills, and lessons learned is a major strength of bilateral donors (compared to international organizations). Furthermore, JICA has been cooperating on forest conservation through agroforestry and farmer-to-farmer extension, based on the view that sustainable agricultural methods and the proactive participation of local people are important for sustainable natural resource management, including in arid and semi-arid areas.

Japan's earth observation Satellite DAICHI-2, the only satellite currently releasing observation data of L-band radar, is the most suitable for monitoring forests. The monitoring function is very effective for forests in tropical regions, as the radar can observe changes on the ground without being affected by cloud cover. By using such advanced satellite technologies in collaboration with JAXA and other Japanese institutions, JICA conducts technical cooperation projects for forest inventory and forest monitoring, including JICA-JAXA Tropical Forest Early Warning System (JJ-FAST).

Under the slogan of 'Forests can Change the World', JICA conducts projects for policy framework reform and forest governance enhancement, including measures to combat illegal logging. Taking advantage of these characteristics, JICA will enhance collaboration with other technologies and will promote the use of such advanced technologies in the world.

(2) Knowledge on the Conservation of Wetlands and Coastal Areas

The world's wetlands and coastal areas are rich in biodiversity, and such ecosystem plays important roles from the perspectives of improving fisheries resources and the livelihoods of local people, disaster prevention and mitigation, carbon sequestration, etc. Japan's experiences in the conservation and management of its natural coastal ecosystems can contribute to the conservation of wetlands and coastal areas globally.

Japan stretches a wide distance from north to south. The country's topography spans from coastlands to mountainous regions surpassing altitudes of 3,000 m, and its climate ranges from subtropical to subarctic. The Japanese coastline runs for approximately 33,900 km, with coastal areas containing diverse ecosystems such as mangrove forests, coral reefs, and seagrass beds. Approximately 400 Natural Parks (including National Parks) have been designated for these natural features throughout the country. Altogether, these parks welcome about 900 million visits annually as exemplars of excellent practices in protecting and promoting the use of nature. Among them, Marine Parks have been designated in 143 locations in 98 districts of 15 national parks across the country¹⁴ (total area of 55,088.3 ha). With regard to wetlands, efforts are being made

¹⁴ As of end of March 2020. From the Ministry of Environment webpage.
https://www.env.go.jp/park/doc/data/national/np_6.pdf

to protect and ensure the wise use¹⁵ of the 52 Ramsar wetlands distributed throughout Japan to ensure that they are maintained as important habitats for migratory bird, etc. The Nature Parks have been designated in densely populated and limited areas of Japan in accordance with a system¹⁶ to designate areas that meet certain requirements as parks, regardless of land ownership. The parks are managed in collaboration with a wide range of stakeholders and others, including park managers, local authorities, and private operators. While national and other authorities may have ownership rights over protected areas in nature reserves in partner countries, indigenous and local people in the vicinity have traditionally used the natural resources in those protected areas, and collaboration with local stakeholders is often necessary. As such, the experiences, institutions, and technologies for park management in Japan can significantly contribute to the promotion of the conservation and sustainable use of protected areas and natural resources. JICA's cooperation related to nature conservation to date have been built on experiences of technical transfer and human resource development, always giving importance of adapting to local conditions. Such cooperation programs make up JICA's unique repertoire of experience and asset, that guides us to the realization of JICA's vision 'Leading the world with trust'.

4. Scenarios Contributing to Objectives of the Global Agenda, and Clusters

(1) Basic Principles and Approaches of the Global Agenda

This Global Agenda aims to develop the capacity of central and local government institutions responsible for nature conservation to identify and conserve the nature to be conserved and sustainably used for economic and social development, so that future generations can enjoy ecosystem services.

(2) Targets for Development Scenarios (Clusters)

1) Cluster Structure

¹⁵ The concept, as stated in Article 2 of the Ramsar Convention, is the sustainable use of wetlands for the benefit of humanity, while maintaining the wetland ecosystem.¹⁶ It is called regional nature park and has been adopted in the UK, Italy, South Korea, etc., as well as Japan. In the USA, Canada, and other countries, on the other hand, the authorities have ownership of the nature parks and can manage them (including the setting of regulations, etc.) without collaborating with local residents.

¹⁶ It is called regional nature park and has been adopted in the UK, Italy, South Korea, etc., as well as Japan. In the USA, Canada, and other countries, on the other hand, the authorities have ownership of the nature parks and can manage them (including the setting of regulations, etc.) without collaborating with local residents.

Two clusters are identified in the Global Agenda "Natural Environment Conservation".

- A) "Sustainable Natural Resource Management on Land": focusing on nature conservation for forests (tropical forests, arid and semi-arid lands, etc.) and wetlands (lakes and marshes) in terrestrial areas (SDG 15)
- B) "Sustainable Natural Resource Management in Coastal Areas", as nature conservation in the coastal zone (SDG 14)

This will promote the conservation and sustainable use of natural resources (ecosystems) in each region and contribute to biodiversity conservation. Through these efforts, the initiative will also help combat climate change (SDG 13) toward the ultimate goal of realizing a sustainable society.

2) Overview of Clusters

A) Basic Approach to Cooperation:

Natural environments/ecosystems, especially those whose degradation has significant impacts on ecosystem services at either/or both the global and regional levels, are priority targets in this Global Agenda.

In the global context, priority is given to areas of high importance in terms of carbon storage, such as tropical forests, peatland and blue carbon, and to natural environments of high biodiversity, such as biodiversity hotspots. In the regional context, priority is given to vulnerable areas with high dependence on natural resources and areas where natural disasters such as landslides and wildfires cause loss of human life and property. In order to prevent the degradation of those natural environments, the following a) to d) will be addressed in concert, as befits the situation in each country and region.

a) Effective Policy and Planning:

To achieve double benefit of nature conservation and economic development, it is important to formulate policy framework taking into account of the circumstances of various sectors. Such policy framework needs to be developed at the national level and implemented at the local level. This makes it essential to strengthen the capacity of central and local governments, mainly by providing policy support to the central governments and planning-and-implementation support to the local governments based on the central policies.

Since the degradation of the natural environment, including forests, is mainly caused by land use changes for development, and since measures to deal with this degradation require harmonization with other sectors such as agriculture, fisheries, and tourism, etc., a multi-sectoral approach will be undertaken through technical advisors / technical cooperation. The relevant

administrative experience of Japan should also be taken into account. Experiences and lessons learned from project implementation will derive greater impact and scale-up by feeding back to central / local government policy framework.

b) Development of a Scientific-based Information Infrastructure for Monitoring and Evaluation:

An essential step, for identifying and conserving natural assets that should be protected, is to objectively assess the value and current status of ecosystem services using a monitoring system for collecting basic data on biodiversity and natural resources and conservation efforts. Yet many countries, especially the least developed countries, lack sufficient basic data on natural resources. In addition, to respond to UNFCCC requirement for Result-based Payment (RbP) for REDD+, institutional capacity to prepare reliable scientific data is insufficient¹⁷. It is therefore important to address the development of the scientific information infrastructure¹⁸ and capacity development for the monitoring of SDGs indicators.

c) Demonstration and Modeling Based on Local Conditions:

In order to make policies and plans at the central level realistic and effective in line with local realities, countermeasures are examined and demonstrated, mainly at the local field level, and modelled and institutionalized in a scale-up-ready manner. Based on the analysis, high performance countermeasures will be identified, and emphasis will be placed on capacity development for government administrators, forest officers/nature conservation officers, and extension staffs to implement and demonstrate them in the field. Furthermore, in many countries, indigenous peoples and customary user communities live in the areas to be conserved and managed, the project will also utilize traditional local knowledge and proceed on the basis of a collaborative approach with the local communities, aiming for appropriate conservation of the natural environment in each area. In addition, the project will establish and strengthen the management of protected areas, and work with diverse sectors such as agriculture, education, and tourism to provide alternative livelihood options for local community through agroforestry, non-timber forest products, eco-tourism, and conduct environmental education activities.

d) Securing Resources and Innovation for Scaling Up Programs:

Lack of financial resources and implementation structures are the

¹⁷ In the REDD+ framework, funds are provided for forest conservation and other initiatives based on the results of CO₂ emission reductions and absorption increases.

¹⁸ For projects with strong ecosystem conservation components, this includes setting biodiversity indicators, etc.

challenges to achieve international and national policy frameworks. Sustainability and scale-up are often challenges as well in JICA's cooperation. For this reason, JICA seeks collaboration with external funds such as the multilateral GCF¹⁹ and CAFI²⁰, or to conduct yen loans, regional cooperation and triangular cooperation as exit strategy for sustainability and scale-up.

JICA also seeks collaboration with active bilateral and multilateral donors in the sector such as Norway, the German International Cooperation Agency (GIZ), UNESCO, the United Nations Environment Programme (UNEP), the Food and Agriculture Organization of the United Nations (FAO), the United Nations Development Program (UNDP), the World Bank Forest Carbon Partnership Fund (FCPF), and the International Tropical Timber Organization (ITTO), as well as private institutions (CSR and ESG investments) and international/national NGOs to ensure mutual complementarity and scale-up.

B) Key Initiatives for Each Ecosystem

a) Sustainable Natural Resource Management on Land

Work in three ecosystem: i) Tropical forests, ii) Arid and semi-arid lands, and iii) Wetlands (lakes and marshes).

i) Tropical Forests

Preventing deforestation and degradation is a priority activity in tropical forests, where primary forests are rich in rare and endemic species and have large carbon stocks. As the causes of deforestation and degradation vary from region to region, the cooperation will be adapted to local conditions. In cases where the main causes of deforestation and forest degradation are land use change, such as agricultural land clearing and pastoralism (e.g., in South-East Asia and the Amazon), cooperation will be provided to introduce REDD+ and strengthen the management of protected areas where forest conservation is linked to economic incentives, and to introduce alternative livelihoods based on the sustainable use of natural resources in surrounding areas. In cases where the land-use change is due to illegal logging, etc. (e.g., in the Amazon), monitoring will be carried out using satellite technology to help strengthen enforcement. In forest reserves where encroachment

¹⁹ The Green Climate Fund (GCF) is a multilateral fund entrusted with administering a system of financing under the United Nations Framework Convention on Climate Change (UNFCCC) to help developing countries reduce greenhouse gas emissions (mitigation) and cope with the effects of climate change (adaptation).

²⁰ 'Central Africa Forests Initiative', 2017, funded to the tune of about USD 4 million and now scaling up.

and over-consumption of natural resources by local people through small-scale agriculture is observed (e.g., in the Congo Basin), measures to improve the forest reserve management capacity will be implemented alongside alternative livelihood improvement measures to encourage local people to change their behaviour. As a next step after preventing deforestation and degradation, cooperation in afforestation and other activities will be implemented by selecting tree species that are suitable for the local environments.

ii) Arid and Semi-arid Lands, etc.

In arid and semi-arid areas where forests have been deforested and degraded due to excessive use of firewood and charcoal, overgrazing, etc. and where vegetation loss and soil degradation are concerns, cooperation is provided in forest restoration through afforestation with drought-resistant tree species, etc. and in introduction of agroforestry for improving alternative livelihoods. In other areas vulnerable to natural disasters caused by climate change, including temperate forests, measures such as grassland management and soil conservation will be taken to curb soil degradation, along with Eco-DRR and Ecosystem-based Adaptation approaches.

iii) Wetlands (Lakes and Marshes)

In lake and marsh ecosystems, ecological degradation is progressing due to a combination of factors, including land-use change and reduced water inflows due to irrigation and drainage, water pollution through incoming rivers, sediment inflow, and the excessive extraction of fisheries resources. Cooperation in ecosystem conservation and restoration will therefore be implemented through the establishment of an integrated management system at the basin landscape level (across multiple sectors), the formulation and implementation of conservation plans, adaptive management based on scientific data through wetland ecosystem monitoring²¹, livelihood enhancement measures compatible with environmental conservation, and public awareness-raising among surrounding populations. In peatlands, conservation-related initiatives will also be promoted through the development of peatland mapping and groundwater level estimation models, which will form the basis and foundation for peatland

²¹ A management approach that acknowledges the uncertainty of future projections in planning and manages plans by reviewing and revising them from time to time through continuous monitoring evaluation and verification.

assessment.

b) Sustainable Natural Resource Management in Coastal Areas

Set targets for coastal ecosystems (e.g., mangroves, coral reefs) that are exposed to direct factors such as non-sustainable resource extraction, land reclamation, aquaculture pond development and other sea-use changes, water pollution, and climate change.

In addition, as coastal ecosystems are degraded by sediment inflow, pollution, and land reclamation, etc, it will be necessary to establish an integrated management system involving stakeholders not only in coastal areas but also in land areas, and to develop and implement conservation plans, ecosystem restoration through mangrove planting, sustainable coastal fisheries and aquaculture, tourism for community livelihood improvement, and to carry out awareness-raising and educational activities. Adaptation to climate change is a top priority in small island states in particular, as healthy and resilient coastal ecosystems are lifelines for island's residents, which can be called as natural sea wall.

Ecosystem	Main Target Area	Main natural environmental degradation factors	Main measures
 Sustainable Natural Resource Management on Land			
Tropical forest	Congo Basin, Southeast Asia, South Asia, Oceania, Amazon	Land use change (Commercial / subsistence agriculture, pastoralism), wood and charcoal extraction, illegal logging, forest fires	Prevention of deforestation and forest degradation (REDD+, combat illegal logging, livelihood improvement, development of forest fire information systems) <div style="border: 1px solid black; padding: 2px;">Protected area management</div> (Protected area management, livelihood improvement, Ecotourism, environmental education) <div style="border: 1px solid black; padding: 2px;">Reforestation and afforestation</div>
Arid, semi-Arid, etc.	Eastern and Southern Africa, Central	Land use change (Subsistence agriculture),	Prevention of deforestation and forest degradation (Development of forest fire information systems, forest conservation

	Asia, Balkans	firewood and charcoal extraction, overgrazing, forest fires	works as Eco-DRR) <u>Reforestation and afforestation</u> (Afforestation, Agro-forestry, livelihood improvement) Preventing Soil degradation (Soil conservation, pastoral and grassland management)
Wetlands (lakes, marshes)	The whole world	Land use change (plantations), reduced water inflows, pollution, sediment inflow and deposition	<u>Protected area management</u> (Protected area management, livelihood improvement, Ecotourism, environmental education) <u>Watershed conservation management</u> (Prevention of Sediment inflow through forest conservation works, etc., fertilizer management in upstream areas) <u>Conservation of Peatland</u>



Sustainable Natural Resource Management in Coastal Areas

Mangroves, coral reefs.	Island countries and tropical regions	Inflow of Sediment, collection of mangroves for firewood and charcoal, changes in use of sea areas (Conversion to land for agricultural use, construction of aquaculture ponds, etc.) Climate change (sea water temperature rise, sea level rise)	<u>Protected area management</u> (Protected area management, livelihood improvement, Ecotourism, environmental education) <u>Watershed conservation management</u> (Prevention of sediment inflow through forest conservation works, etc.) <u>Sustainable Resource Use</u> (Conservation and restoration of mangrove forests and coral reefs, etc., sustainable coastal fisheries and aquaculture)
-------------------------	---------------------------------------	--	---

5. Strategic Approaches for the Global Agenda and Clusters

(1) National Stakeholders' Inclusion Policy²²

With the growing interest in the SDGs and ESG investment in Japan, an increasing number of private companies, NGOs, and other stakeholders who have traditionally worked in the field of nature conservation are interested in offsetting emissions and expanding CSR activities related to ecosystem conservation in developing countries. This trend is expected to be accelerated through the Japanese Government's 'Carbon-neutral by 2050' declaration (Prime Minister Suga, October 2020). In addition, as agricultural land conversion and illegal logging have been factors in deforestation, investors are increasingly interested in how private companies that procure such products are addressing forest-related issues upstream in the supply chain of agricultural, forestry and livestock products, and how they are considering the natural environment. For this reason, JICA will also provide information on international trends related to forests, biodiversity conservation, and REDD+, and seek to strengthen cooperation between JICA projects and private sector initiatives.

1) Sustainable Natural Resource Management on Land

Private companies (companies interested in offsetting carbon, forestry-related companies, drinking water companies, tourism-related companies, etc.), research institutions, and other organisations are invited to participate in the activities of partner countries through the 'Japan Public-Private Platform for Forest-based Solutions', which serves as a joint secretariat with the Forestry and Forest Products Research Institute of the National Institute of Forestry Research and Development (FFPRI)²³ and JICA. The initiative will be promoted through the exchange of information and measures coordinated with carbon offsetting activities overseas, taking into account of the CSR and carbon neutral actions of NGOs and private companies.

2) Sustainable Natural Resource Management in Coastal Areas

The initiative will be promoted in cooperation with private sector interested in coastal ecosystem conservation (fisheries-related companies, tourism-related companies and companies interested in emissions trading, etc.), NGOs, and research

²²For more information on collaboration with international stakeholders, see "4. Resources for scaling up projects" in "4. Scenarios for contributing to the Global Agenda Objectives" in "Basic Approach" in "4.

²³'REDD+ Platform', established in 2014 together with the Forestry and Forest Products Research Institute and used by 90 participating companies and organizations, expired in December 2020. 'Japan Public-Private Platform for Forest Based Solutions' was established as a successor, not only to REDD+ but also to a wide range of other forest-related initiatives and plans in June 2021.

institutions. In collaboration with these stakeholders, information exchange on mangroves will be promoted through the 'Private Sector Collaboration Platform for Mangrove Conservation (tentative)'.

(2) Use of Digital Innovation

To manage forests and other ecosystems efficiently over wide areas, countries should make further use of satellite and remote sensing technologies such as JJ-FAST, an area where Japan has advanced technology and experience. Efforts should also focus on innovations such as the use of new satellites to be launched in the future, integrated operation with drone data and deforestation prediction using AI, etc..

(3) Formulation/utilization of Networks and Human Resources Development of Leaders with Japan's Experiences

- 1) Working through the framework of SATREPS (Science and Technology Research Partnership for Sustainable Development), universities and research institutes will focus their international joint research on issues in nature conservation fields such as land and forest management and biodiversity conservation. SATREPS will also contribute to the formulation of an international research network.
- 2) Under the framework of the JICA Development Studies Program "AGRI-Net", JICA will try to transform Japanese experiences to Explicit Knowledge (see "3. The Significance of Japan and JICA's efforts") and utilize it for the human resources development of leaders in the nature conservation sector in partner countries over the medium- to long-term while formulating international network of such leaders.

(4) Linkage with Other Global Agendas, Such as Climate Change Action

- 1) This Global Agenda directly contributes to climate change adaptation and mitigation measures through the conservation of forests, peatland and blue carbon, etc., and will be implemented simultaneously with the Global Agenda 'Climate Change Action'. Future measures for the advanced processing and use of wood, urban forestry, etc. focused on the carbon stock of forests and wood will also be considered.
- 2) A variety of direct and indirect factors extending across other sectoral issues are involved in the decrease and degradation of the natural environment. For this reason, the implementation of this Global Agenda will be carried out in conjunction with the other related Global Agendas. Specifically, the following areas will be considered: nature-positive supply chains in agricultural development; sustainable fisheries, including fisheries resource management; ecotourism as an alternative

livelihood in the tourism sector; water pollution control for wetland conservation in environmental management; and Eco-DRR for forest conservation works and storm surge control in disaster management.

6. Other Considerations

(1) Novel Coronavirus and Nature Conservation

The crisis of the zoonotic novel coronavirus (COVID-19) has brought a renewed awareness of the risks of wildlife-to-human transmission of infectious diseases such as Ebola and SARS. The number of human infections with infectious diseases has increased steadily since the 1960s, with three to four new types of infection emerging each year. 70% of infectious diseases are said to be of animal origin.

Outbreaks of zoonosis occur through contact between wildlife and humans (or humans via livestock), which increases the risk of contact due to deforestation, the fragmentation of wildlife habitats, etc.²⁴ Given that the cost of preventative measures such as environmental conservation measures is estimated to be only 1/100th of the damage caused by a pandemic, the conservation and restoration of the natural environment are important from a 'one health'²⁵ perspective.

(2) Negative Impact of the Novel Coronavirus on Nature Conservation Promotion

The heavy economic impact of the novel coronavirus pandemic, particularly for vulnerable local residents, has increased the development pressure on natural resources such as forests. To reduce this impact, considerations will be taken to provide additional economic incentives for the conservation of those natural resources.

²⁴ Preventing the next pandemic - Zoonotic diseases and how to break the chain of transmission (UNEP 2020).

²⁵ Infectious diseases that can be transmitted from animals to humans and from humans to animals (zoonosis) account for about half of all infectious diseases, and doctors and veterinarians are at risk of coming into contact with zoonosis in their activities. Under current initiatives, those involved in human, animal and environmental health will work together to address these cross-sectoral issues. (From the website of the Ministry of Health, Labour and Welfare)

What is the JICA Global Agenda?

JICA's cooperation strategies for global issues. JICA, with its partners, aims to show global impacts realizing the goals set under JICA Global Agenda. JICA Global Agenda and its goals will be shared among partner countries and various actors, enhancing dialogue and collaboration, therefore, maximizing the development impacts. Through these efforts, JICA will comprehensively contribute to the achievement of the SDGs by 2030 as well as realize Japan's Development Cooperation Charter which focus on "human security," "quality growth," and "addressing global challenges".



Nibancho Center Building, 5-25 Nibancho,
Chiyoda-ku, Tokyo 102-8012, Japan
Email: gegdn@jica.go.jp



Japan International Cooperation Agency (JICA) is an international cooperation organization that is centrally responsible for the implementation of bilateral assistance among Japan's Official Development Assistance. JICA cooperates with about 150 countries and regions around the world.

https://www.jica.go.jp/english/our_work/thematic_issues/index.html