

Mitsui & Co. Environment Fund FY2019 Activity Grants List

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Improving sanitation in poor areas by shifting to urine-diverting sanitary toilet technology for human waste

Grant recipient: Nippon International Cooperation for Community Development /
Period: 1 year / Value: ¥2.335 million / Main activity location: Kenya

Project outline

This activity aims to improve sanitation in the poorest areas of Kenya by promoting the shift to EcoSan toilet technology, a sanitary toilet with a separate human waste disposal system, which is useful for improving sanitation. The project involves building sanitary toilets that convert excrement into organic fertilizer in the Kogoni sub-district, Kisumu County, Kenya, as well as training people to build EcoSan toilets and conducting educational activities for locals on how to use the toilet.

Social issues to be solved

Today, 2.3 billion people worldwide lack access to proper toilet facilities. Every year 1.4 million people, mainly in poor areas, die from waterborne diseases such as cholera and diarrheal illness due to contamination of soil and groundwater sources by open defecation.

This project will carry out a shift to EcoSan toilet technology, which is useful in solving sanitation problems, in the Kogoni sub-district, where the groundwater levels are high and soil contamination by excrement is likely to occur.

Contribution to solving social issues

- Through awareness-raising of the EcoSan toilets built by this activity and the training of EcoSan toilets builders who will be trained in the process, this project will contribute to the popularization of EcoSan toilets in the Kogoni sub-district, and to the improvement of the sanitary environment of the area.
- In addition, this activity will contribute to solving the sanitary and environmental problems not only in the target area, but also in other areas through the spreading of similar activities to other areas by the residents.
- As shown above, this activity aims to improve the water and sanitation environment by eliminating open defecation (SDG Goal 6) and addressing the waterborne diseases that may be caused by such actions (SDG Goal 3).



Considering measures to reduce marine waste by studying the urban Arakawa River

Grant recipient: Arakawa River Clean-aid Forum / Period: 3 years

Value: ¥4 million / Main activity location: Arakawa River

Project outline

This project will contribute to solving the marine waste problem by ascertaining the volume of domestic river waste that is generated and examining measures to suppress its generation. The amount of river waste generated per unit of population will be ascertained by investigating waste that ends up in the Arakawa river via riverside communities located along one of the Arakawa tributaries. In addition, a cleanup event will be held to educate the public about the river and marine waste problem.

Social issues to be solved

It's said that more than 8 million tons of plastics are spilled into the ocean each year globally, and it is necessary to reduce this spillage while it is still at an early stage. Reportedly, more than 60% of marine waste originates as urban waste that flows into the sea along riverbeds. Marine waste generated in Japan is estimated at 20,000 to 60,000 tons, but these calculations are based on data collected overseas, and there have been almost no case studies on the volume of river waste generated per unit of population in Japan. Therefore, this project will survey the Arakawa River, which has one of the highest riverside populations in Japan, to ascertain the volume of river waste that is generated.

Contribution to solving social issues

- The collection and transmission of data on the volume of river waste generated in Japan—data that has been insufficiently available until now—to be shared with groups such as those in charge of river management in order to serve policymaking and initiatives for reducing river and marine waste. Additionally, the utilization of survey results in contributing to the reduction of river and marine waste by exploring and implementing concrete, medium- to short-term measures of controlling runoff.
- The raising of awareness concerning the river and marine waste problem through the organization of cleanup events.
- As mentioned above, this project will contribute to the reduction of river and marine waste, as well as to controlling the outflow of waste into the surrounding environment and the minimization of adverse effects on environmental health (SDG Goal 12). It will also contribute to sustainable use of the ocean (SDG Goal 14).



Strengthening regional resource circulation systems and the capacity of areas affected by large-scale typhoons to adapt to climate change through agroforestry and afforestation

Grant recipient: Helping Hands and Hearts Japan / Period: 2 years
Value: ¥7 million / Main activity location: The Philippines

Project outline

This project seeks to implement agroforestry, afforestation activities and the sale of agricultural products via self-help organizations in the Filipino province of Leyte, which has suffered major typhoon damage, with the aim of contributing to forest conservation and the circulation of forest and water resources in the region. It will also seek to establish means of sustainable forest and farm management for local farmers, strengthening their ability to respond to large-scale disasters.

Social issues to be solved

The huge typhoon that struck the Philippines in 2013 claimed more than 7,300 casualties and cost the country about \$900 million. Climate change is suspected to have played a role in the occurrence of such a huge typhoon, and considering the progression of the climate change issue, a typhoon of the same scale may be likely to reoccur in the future. Farmers who have relied upon monoculture farming in the Philippines have been unable to switch toward other crops and leave their farms, which has destabilized their lives. In addition, damaged forests have not been restored, meaning soil erosion and a loss of biodiversity. Therefore, ways of implementing agroforestry and afforestation, which are sustainable farming methods, will be disseminated to local farmers in order to improve their ability to adapt to such crises.

Contribution to solving social issues

- Farmers who participate in this project will learn how to implement agroforestry based on the combination of multi-cropping and livestock raising, which will enhance their ability to respond to future typhoons and other forms of disasters.
- Promoting the sale of agricultural products via self-help organizations will help stabilize local agricultural management and promote revitalization of disaster areas. As part of these organizational activities, this project will promote participation by women and utilize microcredit to establish ways for residents to realize independence both now and in the future.
- If this project is used as a model case in other regions subject to high risk of climate change-induced disasters, it can be expected to contribute to the establishment of highly resilient local communities.
- As mentioned, this project will contribute to the conservation of forest resources through agroforestry and afforestation (SDG Goal 15) and improve the ability of locals to adapt to disasters that are exacerbated by climate change (SDG Goal 13). Through these activities, it will also contribute to the empowerment of women (SDG Goal 5) and the establishment of means by which residents can realize independence (SDG Goal 1).



Researching and raising awareness in relation to the popularization of renewable heat energy use, including biomass heat

Grant recipient: Biomass Industrial Society Network / Period: 3 years / Value: ¥7 million / Main activity location: Japan

Project outline

This project will contribute to enhancing the effectiveness of Japan's measures against global warming by conducting research on advanced examples of renewable energy use in the heat sector, which accounts for about half of all final energy consumption, as well as making policy recommendations. In addition, symposiums will be carried out for heads of global warming countermeasures in government and public offices, private companies, and the media, make proposals to economic organizations and set targets for the expansion of renewable heat use, provide information to member companies, and conduct a wide range of educational activities through the production of a website and booklet.

Social issues to be solved

Japan is the world's fifth largest emitter of greenhouse gases, and there is a critical need to take appropriate and urgent measures against global warming. The use of renewable energies in the heat sector, which accounts for about half of the final energy consumption, requires cooperation from the national and local governments, industry, and citizens. With that in mind, research and educational activities will be carried out to raise awareness of the importance of renewable energy heat utilization among policy makers and other stakeholders.

Contribution to solving social issues

- As a result of this activity, the importance of sourcing heat from renewable energy will be recognized by policy makers and other stakeholders, which will lead to further policy discussions on the use of renewable energy heat.
- By spreading awareness of the importance of renewable energy heat use, including biomass heat use, not only among policymakers and other stakeholders, but also among industry and the general public, we can encourage each stakeholder to act and contribute to combating global warming in Japan.
- As mentioned above, this activity will contribute to increasing the share of renewable energy in the heat sector in Japan (SDG Goal 7). By contributing to the reduction of greenhouse gas emissions from the thermal sector, this will contribute to the mitigation of climate change in Japan (SDG Goal 13).



Establishing a bio-carbonization system for local industrial waste and building an environmental improvement and carbon fixation system using biochar

Grant recipient: Miyagi University of Education / Period: 2 years / Value: ¥6.438 million / Main activity location: Miyagi prefecture

Project outline

This project involves the installation of equipment for bio-carbonizing waste bamboo from the fishing industry in Matsushima Bay, Miyagi Prefecture, and development of materials to improve the marine environment using the biochar that the equipment generates. The project will also provide environmental education on the bio-carbonization of waste bamboo, spread awareness of local industry and sustainability issues, and develop human resources who will be responsible for creating a sustainable society.

Social issues to be solved

According to the Basic Plan for Promoting Biomass Use, which was adopted by the Cabinet in 2010, 8 million tons of wood left over in forest land is generated annually. This is thought to be almost completely unused and is often disposed of as waste without being effectively put to use. In Matsushima Bay, Miyagi Prefecture, more than 40,000 pieces of waste bamboo are generated every year from aquaculture shelves, but they are not used effectively. Therefore, for this project the bamboo waste will be bio-carbonized and used to improve the marine environment, realizing resource recycling in the region. Environmental education will also be carried out in the region to spread understanding of local resource recycling.

Contribution to solving social issues

- This project will involve building a process in which waste bamboo from the fishing industry is bio-carbonized for utilization as a material to improve the marine environment, establishing a resource cycle within the region, and promoting the improvement of the marine environment and carbon fixation.
- Environmental education on these activities will be provided to local students and citizens to help them understand local industry and environmental issues, and to develop human resources that will be responsible for creating a sustainable community.
- It is hoped that by spreading the results of these activities and raising awareness of their importance, there will be an expansion of efforts to contribute to the environment through the effective use of unused biomass resources in the region.
- As described above, these activities will not only achieve resource recycling within the Matsushima Bay area (SDG Goal 12) but will also improve the marine environment in the bay, thereby contributing to carbon fixation (SDG Goals 13 and 14). In addition, environmental education will be carried out, contributing to the development of human resources that will be responsible for creating a sustainable community (SDG Goal 4).



Providing environmental education with the purpose of spreading mobility-type off-grid power systems to areas without electricity as well as Japanese communities

Grant recipient: Class for Everyone / Period: 2 years

Value: ¥5.5 million / Main activity location: Tanzania and Japan

Project outline

Through the development and diffusion of off-grid power supply systems, this project will promote the utilization of electric power while contributing to the establishment of highly resilient communities. It will seek to develop mobility-type off-grid power supply systems that will be useful in disasters and which are less susceptible to panel theft and will involve environmental education on how to construct and utilize these systems at schools and communities in non-electrified parts of Tanzania. A similar environmental education will also be provided in certain Japanese schools and communities as a means of establishing countermeasures against natural disasters.

Social issues to be solved

Electricity is one of the most important parts of the infrastructure that supports human life, but nearly one billion people in today's world are still without access to it. Tanzania's domestic electrification rate is 32.8%, which is lower than the average in Sub-Saharan African nations, and its electrification rate among rural communities is even lower at 16.9%. Furthermore, even in those areas where electrical infrastructure has been implemented, power supplies may be cut off in the event of natural or man-made disasters. Thus, this project will develop and popularize a mobility-type off-grid power supply system that can be used widely and for general purposes, and which will function even amid disasters.

Contribution to solving social issues

- This project will expand access to electricity by developing and diffusing mobility-type off-grid power systems in the non-electrified parts of Tanzania. In addition, as residents confer on the ways in which they will utilize electric power, Class for Everyone will conduct awareness-raising activities in local communities, which will help these communities become more resilient.
- Also, by providing environmental education in relation to these mobility-type off-grid power systems in Japanese schools and communities, this project will contribute to the development of disaster-resistant areas in Japan as well.
- As mentioned, this project will promote the utilization of electricity and the introduction of clean energy through the use of mobility-type off-grid power supply systems (SDG Goal 7). Also, by allocating power supply systems to schools and surrounding communities, it will help improve education in these areas (SDG Goal 4). Furthermore, since these power systems retain functionality even in the event of a disaster, this project will contribute to the increased resilience of these communities in the face of natural disasters, which are becoming more prevalent as a result of climate change (SDG Goals 11 and 13).



Restoring and conserving by supporting the spread of Jussara palm (*Euterpe edulis*) agroforestry in Brazil's Atlantic Forest

Grant recipient: VERSTA / Period: 3 years

Value: ¥4.5 million / Main activity location: Brazil

Project outline

This project will contribute to forest conservation and climate change control by introducing native Jussara palm agroforestry in the Atlantic coastal area of Brazil. It will seek to expand the fields where agroforestry is introduced and provide guidance to participating local farmers in their cultivation efforts. Additionally, it will develop hands-on training for Japanese youth to support the dissemination of agroforestry, contributing to the development of human resources who can continue to support these activities.

Social issues to be solved

Conservation of forests, which absorb about 2.6 billion tons of carbon dioxide annually, is a crucial aspect of the fight against climate change. In the Atlantic coastal area of Brazil, which was formerly a vastly forested region, forest area has decreased to 7% amid the progression of logging activities and efforts to develop the region. However, due to the high market transaction price of Jussara palm shoots, illegal logging is being continuously implemented. Thus, this project will seek to introduce agroforestry, which balance agriculture and forestry, and promote its use among local farmers.

Contribution to solving social issues

- The expansion of fields where agroforestry has been introduced will contribute to the cultivation of Jussara palm in areas suitable for its cultivation, as well as contribute to methods of sustainable forest management being established among local farmers.
- As a result, forests that have been illegally logged will be regenerated and maintained, enhancing their ability to continue absorbing CO₂.
- By conducting hands-on training for local agroforestry dissemination support activities among Japanese youth, it will contribute to the cultivation of human resources who can continue to support the dissemination of agroforestry.
- As mentioned, this project will contribute to the realization of forest conservation through agroforestry (SDG Goal 15) and the solution of climate change issues by maintaining sources of CO₂ absorption (SDG Goal 13). Furthermore, it will contribute to the cultivation of human resources who can support forest conservation and lay the foundation for expanded activities for the next generation (SDG Goal 4).



Establishing a sustainable bamboo charcoal village in Myanmar

Grant recipient: Association of Japan Myanmar Mutual Cooperation/
Period: 2 years / Value: ¥7 million / Main activity location: Myanmar

Project outline

This project aims to provide a source of income for people in mountainous areas of Myanmar, where bamboo resources are abundant and also a cause of forest degradation. This will be achieved by teaching locals the traditional Japanese art of charcoal making. First, Japanese charcoal artisans will train charcoal-making instructors at a model bamboo charcoal kiln on the outskirts of Yangon, selecting bamboos and areas suitable for charcoal production. Then, Japanese charcoal makers and the charcoal-making instructors will train people in the art of making bamboo charcoal and bamboo vinegar.

Social issues to be solved

In Myanmar, deforestation and slash-and-burn agriculture have led to a significant decrease in forest coverage, from 58% in 1990 to 43% in 2015, and a corresponding decrease in ecosystem services. As a result, the Myanmar government has banned the export of logs, a major export industry, and has clamped down on illegal logging. This has caused the production of hardwoods and teak to plummet from 2,105,000 m³ in 2012-13 to 268,000 m³ in 2017-18, reducing employment for those in the forestry industry and adding to the problem of poverty in mountainous areas of Myanmar, a country which has been one of the poorest in the world. To address this issue, this project will promote the use of Japanese techniques for making bamboo charcoal and bamboo vinegar solution so that people can earn cash income while preserving forest resources.

Contribution to solving social issues

- Through this activity, by practicing the Japanese bamboo charcoal and bamboo vinegar production techniques at a local model factory, the project will provide a means of earning cash income without resorting to deforestation and slash-and-burn agriculture, while also conserving forest resources in the target area.
- These techniques will be deployed in the mountainous regions of Myanmar through technical education in model factories and through awareness-raising video materials and manuals that will be created as part of the project.
- As mentioned above, this activity contributes to the sustainable use and management of forest resources (SDG Goal 15), while at the same time securing cash income for people living in the target area (SDG Goal 1).



Establishing economic independence for indigenous people of the Amazon through beekeeping projects

Grant recipient: Rainforest Foundation Japan / Period: 2 years

Value: ¥4.8 million / Main activity location: Brazil

Project outline

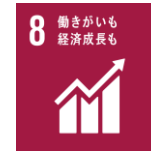
This project will support independent beekeeping projects by the indigenous indio people of the Amazon rainforest with the goal of striking a balance between economic independence and protection of the rainforest. In addition, the commercialization of sustainably harvested honey within Brazilian society will promote understanding of the importance of indio life and of tropical rainforests.

Social issues to be solved

Although a monetary economy has not yet been established in the upper reaches of Brazil's Xingu River, a tributary of the Amazon, modernization is progressing rapidly, and the indigenous indio people of the region require a means of becoming economically independent without losing touch with their traditional culture and lifestyle. Additionally, tropical rainforest land is being reduced due to development, and it is necessary to find balance between conservation of the rainforest and the indio people's economic independence. Rainforest Foundation Japan introduced a local beekeeping project in 2017 and built a means by which honey that was produced could be brought to market in 2019, but the business is not yet self-sustaining. This project seeks to further develop the results that have been achieved thus far, and to establish a system for indio people to continue these beekeeping operations, handling all aspects from harvest to distribution in a sustainable and independent manner.

Contribution to solving social issues

- By establishing multiple model cases of independent beekeeping projects, this project will realize a means by which indigenous indio people can become economically independent without damaging the rainforest.
- The commercialization of sustainably harvested honey in Brazilian society will create opportunities for Brazilian and international communities to gain understanding of and respect for indio life.
- As mentioned, this project will support the economic independence of indigenous indio people and contribute to the correction of disparities that they experience (SDG Goal 10). In addition, beekeeping projects will be developed without harm to the rainforest, thereby contributing to ecological conservation (SDG Goal 15).



Creating a place where hikikomori can receive job training through the establishment of a wood fuel production and supply service that uses driftwood

Grant recipient: Toyama Prefectural University / Period: 3 years /
Value: ¥2.751 million / Main activity location: Toyama prefecture

Project outline

This project will be implemented in Kurobe City, Toyama Prefecture, and involves taking driftwood that is normally incinerated as waste, and instead converting it into wood fuel. It will then be utilized as a place of employment training for hikikomori. The project will aim to achieve effective use of resources and reduced carbon emissions in the region, and at the same time, promote the activation of hikikomori in the community.

Social issues to be solved

In Japan, approximately 600,000 cubic meters of driftwood is generated every year, which is enough wood to heat 230,000 homes for one year. Driftwood is regularly disposed of, and most of it is incinerated as industrial waste, costing a large amount of money, labor and energy.

At the same time, there are said to be more than 1 million hikikomori in Japan, yet the systems to support the social activation of these people is insufficient. This project will aim to turn driftwood into wood fuel and use it as a place for job training for hikikomori



Contribution to solving social issues

- This activity will make effective use of driftwood in the target region and at the same time enable hikikomori to play an active role in society.
- To create a sustained impact, a system will be developed to enable the driftwood-based wood fuel production to be independently carried out even after the end of the project period. This will contribute to the establishment of a biomass energy system in Japan and to the mitigation of the effects of climate change. It will also contribute to the self-reliance of hikikomori, who will be placed in charge of operations.
- As mentioned above, this activity will contribute to the effective use of resources by converting driftwood into wood fuel (SDG Goal 12). It will also contribute to the supply of biomass energy, which will lead to the mitigation of climate change (SDG Goals 7 and 13), along with promoting the social activation of hikikomori (SDG Goal 8).



Conducting an energy utilization learning program focused on renewable energy at Naruko Onsen

Grant recipient: Spatto Naruko Onsen Natural Energy / Period: 3 years

Value: ¥1.484 million / Main activity location: Osaki City, Miyagi Prefecture

Project outline

This project seeks to provide a learning program on the topic of renewable energy, promoting a general understanding of the subject and developing human resources who can take responsibility for revitalization and development in the Naruko Onsen area of Miyagi Prefecture. The learning program will focus on teaching the basics of climate change and renewable energy in an easy-to-understand manner and will involve experiments, on-site tours and a consideration of utilization methods in the latter half of the program, with the goal of realizing the use of geothermal and biomass energy in the target area.

Social issues to be solved

In promoting renewable energy, it is important for local residents to understand the characteristics of the place in which they live and to utilize renewable energy in a way that is suitable for the region. However, in the Naruko Onsen area of Miyagi Prefecture, where the grant organization is active, there is a lack of understanding concerning the importance of regional resources and geothermal energy, even though the region is home to hot springs which can be utilized for geothermal energy production. Therefore, this activity will provide a learning program focused on renewable energy to children who live in the region.



Contribution to solving social issues

- The promotion of understandings regarding the importance of local resources, renewable energy and climate change among children in the target area.
- The cultivation of a sense of belonging to a local community among local children through their understanding of local resources, which will contribute to the cultivation of human resources who can take responsibility for regional revitalization and development in the future.
- As mentioned, this project will contribute to local children's understanding of the importance of local resources, renewable energy and climate change by providing them with an education on such topics (SDG Goals 4, 7 and 13). By having the children who receive such an education take responsibility for the region in the future, it will continue to be developed sustainably through the utilization of renewable energy (SDG Goal 11).



Developing an environmental learning program alongside university students for sustainability in the Lake Hachiro basin

Grant recipient: Hachiro Project / Period: 3 years
Value: ¥4 million / Main activity location: Akita Prefecture

Project outline

This project seeks to create an environmental learning program, which uses Lake Hachiro as a field of study, alongside university students in Akita Prefecture. Additionally, it is intended to cultivate human resources who can lead in the development of sustainable communities and societies by continuing to implement the created programs for the benefit of young people (including elementary, junior high and high school students) in the Lake Hachiro basin.

Social issues to be solved

The town of Hachirogata, which once boasted the second largest surface area among all Japanese towns, was formerly rich in natural resources and served as a place where local children could learn about the environment before it was subjected to reclamation. After reclamation, residents began to lose interest in Lake Hachiro, and opportunities to learn about local resources in the area began to disappear. Thus, by providing opportunities to convey the history of Lake Hachiro's reclamation and the current state of the Lake Hachiro basin, as well as to reflect on the surrounding region and its environment, this project will cultivate human resources who are motivated to solve environmental issues while improving the sustainability of the Lake Hachiro basin.

Contribution to solving social issues

- The development and implementation of an environmental learning program alongside university students in the Lake Hachiro region, which will contribute to the cultivation of human resources who can lead in the development of sustainable communities in the Lake Hachiro basin.
- The provision of opportunities to learn not only about local environmental issues, but also global environmental issues such as climate change, which will contribute to the cultivation of human resources who can take responsibility for solving such environmental issues in the future.
- Additionally, an environmental learning program about the history and current state of Lake Hachiro, which was subjected to one of the most prominent Japanese reclamation projects, will be useful for teaching an understanding of the connection between people, nature and society.
- As mentioned, this project will not only seek to cultivate human resources who can play a role in sustainable community development in the Lake Hachiro basin (SDG Goals 4 and 11) but will also contribute to conservation of the Lake Hachiro basin through the implementation of an environmental learning program (SDG Goal 6).