

# Environment is JICA's priority



**ENVIRONMENT is our concern and the priority of the Japan International Cooperation Agency (JICA). JICA has been providing a series of projects to protect PNG's natural environment in recent years in response to the requests by the PNG government. From 2010 onwards, JICA spends over 40 percent of its aid disbursements in environment and climate change sectors, running the total of seven projects. Today, we would like to introduce the three out of those projects.**



## NCD waste management project, 2011-2016



Our project, J-PRISM started in February 2011 and is scheduled to run up to February, 2016. J-PRISM, or in its official title: **"The Japanese Technical Cooperation Project for Promotion of Regional Initiative on Solid Waste Management in Pacific Island Countries"** covers 11 countries, including Papua New Guinea (PNG) where it focuses on Port Moresby.

J-PRISM is a capacity development project. Under this project JICA is mainly dispatching experts from Japan to advice and guide the Waste Management Division staff in NCDC and inviting the staff to train in Japan and regional countries.

It is interesting to note how solid waste management (SWM) evolved. A few centuries ago, the people living in an area would pack up and move to another place when their garbage piled up. Then four hundred years ago the governor of Manhattan, New York decided that it would be more appropriate to move the waste to other areas and he designated 5 areas as dumping sites for the city's waste. In the 1800's municipalities in the larger cities began to offer collection services and in Japan the first law on SWM was adopted in 1900. Basically SWM is necessary to protect the public health.

Towards the end of the last century it became evident that our earthly resources were not infinite and we would need to consume them more wisely. We also realized the polluting effect that poor waste management had on our health and surrounding environment. Technical aspects related to SWM had to be improved to protect the environment. And waste generators had to be made more aware of our precious resources and poor over-consumption habits.

SWM covers the discharge, collection, transport, intermediate treatment and sanitary landfill of the solid waste. Each of us living in Port Moresby within our daily activities, generate about 0.6 kilograms of waste a day; made up of food leftovers, paper, clothes, plastics and metal containers. But we hardly stop and think about how this waste is being managed?

A lot of resources go into this management and it costs NCDC about 12 million Kina annually. Also in NCDC we do not have any intermediate treatment for waste and the waste is just dumped at Baruni and set on fire. And we collect around 60% of the total generated wastes, with the rest being burnt in the streets or discarded in public spaces.

**BEFORE**



NCD waste management project-Baruni dump before

**AFTER**



NCD waste management project-Baruni dump now

We have three outputs in our project; to improve the disposal facility at Baruni, to improve the collection system and to improve WMD's capacity to plan and monitor and the SWM operations.

Since about 30 years the solid waste is being transported to Baruni. Presently a group of about 300 people, the waste pickers make their livelihoods by removing the metal cans, plastics and other valuables from the waste arriving at Baruni and selling them. The waste then was openly burnt, with no regard to the surrounding environment and public health. Those passing by the site surely recall the continuous black smoke emitting from there and the security threats to passing vehicles.

Today the open fires have ceased and there is no black smoke hovering over Baruni. Two waste cells are being constructed at the site to allow for air to penetrate the waste layers that will be disposed there, collect and discharge the gas and leachate that will be produced from the disposed waste and to hasten the waste stabilization. While the construction is ongoing, the waste continues to arrive at the site and is now being disposed of in a much better manner. These are the achievements of the project's first output.

Our second project output promotes the improvement of the waste collection. Efficient waste collection depends to a great extent on how the waste generators discharge their waste from their premises. It is important that the waste is discharged only on the scheduled collection days and at the determined discharge points. The waste should also be put in appropriate containers and not loosely discharged. Waste collection is an expensive activity, and in the case of Port Moresby it involves operating on average 80 trucks per day of different types and employing around 300 drivers and workers to collect and transport the waste. It is therefore very important to operate this large force in an efficient manner.

The project is supporting WMD to increase its communication with the general public on the one hand, and upgrading its monitoring of the private collection companies, hired by WMD for waste collection. Our goal is to increase the waste collection rate and improve the quality of service.

Our third project output calls for better management of the solid waste system through planning and increased monitoring capabilities. Last year NCDC adopted the SWM plan for Port Moresby up to the year 2024. This plan will set out the improvement targets and identify the required facilities, manpower resources and budget required for SWM for the next ten years. Within this output the project team has also implemented a number of surveys to determine the waste amounts and their composition. The project team is also working with eight schools in Port Moresby under the 3R HEART program to education the students on waste reduction, re-use and recycling.

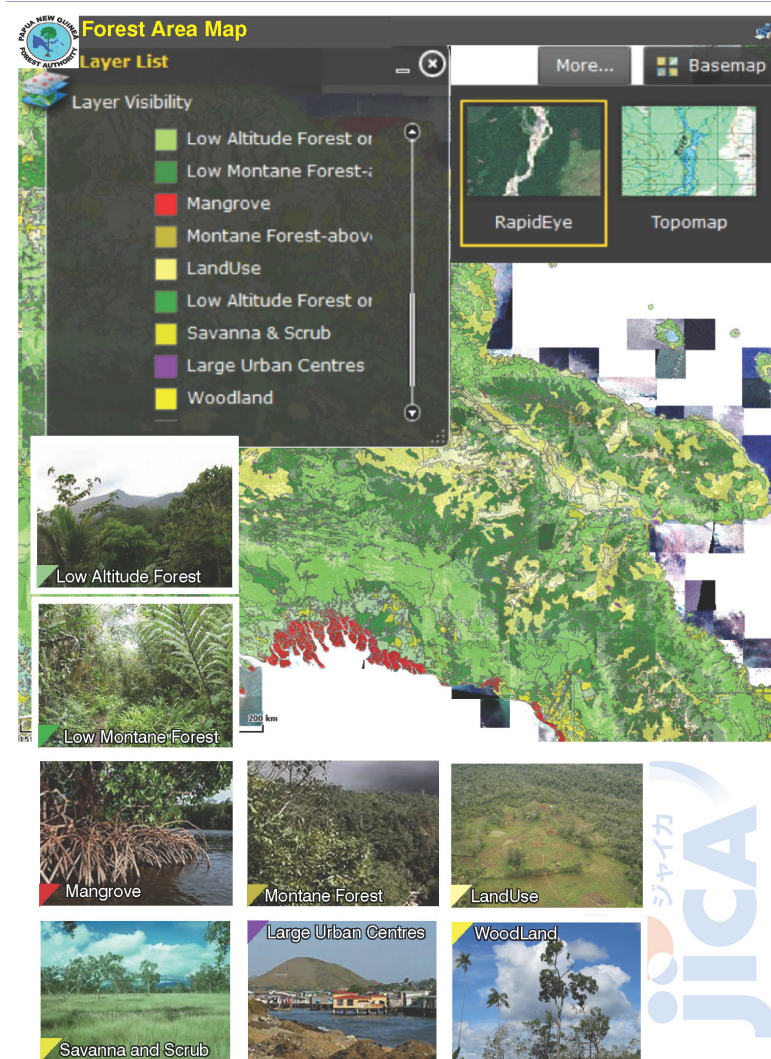
This will be the last year of our project. We have ambitious plans to implement pilot projects for composting of market green waste and introducing community participation in planning of solid waste collection systems. We will also be making more efforts to increase public awareness on SWM.

There is a lot still to be done and WMD will continue through the J-PRISM project to develop the skills to manage the solid waste efficiently. And to the waste generators; please think twice before purchasing new goods; consider ways to reduce your waste, and separate recyclable materials from other wastes to encourage recycling. We have a common goal; to keep Port Moresby clean and healthy!



## Forestry database projects, 2011-2014 & 2014-2019

JICA has been working as a partner with the Papua New Guinea Forest Authority (PNGFA) to develop its capacity to monitor PNG's vast forest resources. It is said that PNG contains the second largest unlogged tropical forest in the world. But there was no robust forest monitoring system in PNG, despite the fact that the alarming rate of loss and degradation of PNG's forest has been reported in the last decades and that the sustainable management of forest resources has become an impending issue. The situation has been aggravated by the difficulties to conduct the comprehensive forest survey due to in-accessibility of land in PNG's rugged terrains where road infrastructure is non-existent. Having those backdrops, the PNG government requested JICA assistance to address this challenge. Then the project named 'The Capacity Development on Forest Resource Monitoring for Addressing Climate Change in Papua New Guinea' started in 2011 to help strengthen the capacity of PNGFA to an appreciation of the vastness of the country's forest resources so it could be monitored over time as part of PNG's commitments to addressing global warming. The project was implemented for the duration of three years from 2011 to 2014, and it was combined with the Japanese



Forest data map showing different types of natural forests and land in Papua New Guinea'

Grant Aid Program (K 22 million) that provided the project with remote sensing data, Geographical Information System (GIS) equipment, and training programs for the officers of PNGFA and other relevant government agencies.

Under this project, the JICA-PNGFA team has successfully developed a Nation-wide Forest Base-map which covers the 37 million hectares of forest in PNG. The team has also established a PNG Forest Resource Information Management System (PNG-FRIMS) based on a GIS system with remote sensing technology. The project has also contributed to determining the national definition of forest of PNG. It is now determined for the administrative purposes that land spanning more than one hectare with trees higher than three meters and a canopy cover of more than ten percent is defined as forest in PNG.

The project also touched upon another important issue - carbon and climate change. It has been reported that the Green House Gas (GHG) in the atmosphere has been constantly increasing to cause the global climate to change. The globe is warmer and has been causing various effects like rising sea levels, severe weather patterns triggering more disasters and so on. Facing this climate change, the importance of protecting forest resources has been re-emphasized, because the forests mitigate the emission of carbon. The PNG government has been a proactive advocate on this issue. In 2005, PNG together with nine other countries proposed an agenda called "Reducing emissions from deforestation in developing countries and approaches to stimulate action", now known as "REDD+". To support this stance of the PNG government voiced on the international stage, the JICA-PNGFA team has been participating in various workshops and meetings in and out of PNG to provide information and technical advice to serve the national interest of PNG.

The JICA-PNGFA team has now moved on to the second stage under the new project titled 'Capacity Development Project for Operationalization of PNG-FRIMS [Forest Resource Information Management System] for Addressing Climate Change' which started in August, 2014. Under the previous 2011-2014 Project, the JICA-PNGFA team has developed the forest data base. Now it is time to operationalize it under this new project over the next five years. Under this new project, the JICA-PNGFA team aims to achieve the following three outcomes.

Firstly, the JICA-PNGFA team will pursue expansion of the PNG-FRIMS. In fact, the Forest Basemap 2012 in the PNG-FRIMS has been already used for designing a national forest inventory that will be further improved by on-the-ground survey conducted by UN Food and Agriculture Organization (FAO) and European Union (EU) over the next five years. The JICA-PNGFA team will upgrade the PNG-FRIMS

regularly by integrating the outcome of this inventory survey, information from satellite remote sensing and logging operations and forest information provided from other relevant governmental departments such as the Department of Agriculture and Livestock, Mineral Resource Authority and the Department of Environment and Conservation.

Secondly, the team will improve the process of forest planning. The National Forest Plan (NFP) encompassing Provincial Forest Plans is reviewed every five years taking into account of the resource inventory and needs of the nation. The PNG-FRIMS will enable this process in a cyclic and objectively verifiable manner. Such utilization of the PNG-FRIMS in daily business of the PNGFA is expected to make significant contribution to the process for the next round of the NFP review.

Thirdly, the team expects the project to contribute to other forest related activities. The outcomes of the project can be utilized to enhance REDD+ related activities undertaken in PNG. For example, the Base-map 2012 has been already utilized for a feasibility study of REDD+ Pilot in Central Suau of Milne Bay Province assisted by the Secretariat of the Pacific Community and German International Development Agency (GIZ).

Do those outcomes (Forest Base-map, PNG-FRIMS) change your life in PNG? Our answer is, yes. If you are an owner of an outlying land or island in rural areas where you cannot easily access information, a PNGFA officer will be able to show some imageries of a patch of your land on the laptop computer screen right away. The colour of the imageries indicates land cover (dense forest, open savannah forest, grass land, or gardening site) and vegetation vitality. This technology will be used by PNGFA to enhance monitoring of the logging operation and forest clearance in remote area. Similarly, if you need help for identifying coordinates of certain area of land or boundaries, PNGFA will be able to provide some assistance with handheld Global Positioning System (GPS) device. Moreover, some of the infrastructure data-set of the PNG-FRIMS have huge potential for use in other sectors. If you are interested in planning to build a road, bridge or dam, or if you are engaged in sectors like mining, agriculture, tourism or wildlife conservation, you will be able to have clear imageries of the combination of 10 meter-pitch contour map, selection of less-clouded LANDSAT imageries at 30 meter resolution, as well as cloud free imageries compiled from Japanese RADAR sensor, known as PALSAR, mounted on ALOS and ALOS II satellites at 10 meter resolution. These imageries will be no comparison to the current PNG topographic maps with 40 meter-pitch contour at 1:100,000 scale.

Finally we need to note that there is a limit of financial resources and human capacity in this project. But we believe that our ambitious JICA-PNGFA team should be able to bear many fruits in PNG's forest management and bring about hopes for PNG's future generations.

## Biodiversity Conservation Project, 2015-2019



In June this year, JICA will commence a project to help the Conservation and Environment Protection Authority (CEPA) build its capacity to protect the rich biodiversity of Papua New Guinea. This project is titled **'the Project for Biodiversity Conservation through Implementation of the PNG Policy on Protected Areas'**. The project is in response to a passionate call in 2012 from Environment, Conservation and Climate Change Minister Honourable John Pundari who called for assistance from development partners to help protect PNG's environment. In response to this, JICA dispatched to PNG a basic information survey team in 2013. After consultation with the JICA team, CEPA requested as-

stance in the area of capacity development for biodiversity conservation. The Japanese government accepted the request, and after further consultation in 2014 between JICA and CEPA and all other stakeholders, CEPA and JICA agreed to commence this project.

PNG is proud of being one of the countries with the richest biodiversity in the world. It is said that PNG has over 5% of the world's biodiversity in less than 1% of the world's total land area. The people in PNG have been living in this rich biodiversity for thousands of years. Today, over 80% of the 7.3 million people in PNG are in rural areas and are still directly dependent on the natural environment for their subsistence and livelihoods. Therefore, we all recognize that protection and conservation of PNG's biodiversity is a life-and-death matter to the people in PNG.

The CEPA-JICA team will work on the new project in June this year and will be implemented over the next 5 years with approximately 12 million Kina (550 million Yen) funding from the Japanese Government. Funding from JICA will comprise of the dispatch of technical experts, training, machinery and facilities, and some funding is expected from the PNG government. JICA through this project will assist the CEPA to implement the PNG Policy on the Protected Areas (PPA) commencing this year. The PPA is aimed at addressing issues related to biodiversity conservation by supporting the development and management of the National Protected Areas Network in PNG. In addition JICA will work with CEPA as a partner to help build the institutional capacity of CEPA in the management of Protected Areas (PA) to enhance national-level PA governance and sustainable use of natural resources by local communities in the model areas.

The overall goal of the project is to set up effective management of the Protected Areas Network by applying the models of protected areas management. To achieve this goal, the project aims to achieve four outcomes; (1) to strengthen institutional framework including formulation of PPA Action Plan and establishment of the National Conservation Council; (2) to enhance the terrestrial PA management model at Varirata National Park and the surrounding Koari area; (3) to develop a model of establishing a new marine PA; and (4) to raise awareness of the people about biodiversity conservation.

This is a technical cooperation project. As in all other JICA's technical cooperation projects, the underlying aim of this project is to build a capacity of officers of the PNG government. The JICA team will work in partnership with counterpart officers of the PNG government, providing advices, on-the-job trainings and training programs in PNG and Japan. JICA team will work with government officers who are responsible for biodiversity conservation, including CEPA, Central Provincial Administration, Kairuku-Hiri District Administration and Koari Local Level Government.

The people of the communities where the project is sited are also JICA team's important partners. The team will consult with the local community members to seek their voices on issues related to biodiversity conservation, aiming at raising their awareness on how best all the stakeholders can work together to protect PNG's biodiversity and at the same time improving the livelihood of the people in and around the protected areas.

Varirata National Park and the surrounding Koari area are one of the focuses of the project. The rehabilitation of the Variata National Park is one of the top priorities in the first half of the project period. The current run-down visitors' center will be renovated so that the Park can be revived as the major recreational and educational park for the people in Port Moresby City, National Capital District and Central Province as it once used to be so.

JICA's concern is not only protection of natural environments but also improvement of livelihood of the people surrounding the protected areas. For this reason, the JICA team plans to give a hint on how the people and the environment can live harmoniously. The people can protect the environment while improving their livelihoods. One such idea is a program called the Man and Biosphere Program or MAB promoted by UNESCO. The MAB idea divides the designated area into three zones; the core zone for strict protection of environment; the buffer zone for scientific and educational activities; and the transitional zone for the people to engage in sustainable economic activities. However, more discussions need to be done with the people in Koari, who are the main stakeholder in this project, to think about if such an idea is viable in their land. Our concern is twofold; biodiversity conservation and the current and future generations of the people living in such beautiful and precious natural environments.

The CEPA-JICA team also plans to raise awareness of the people on the importance of protecting PNG's invaluable biodiversity through consultation meetings, workshops, and other various events and means including disseminating information through internet and various media outlets. The team also appeals to the private sector for their participation, because we value their ongoing contribution to protecting the environment and supporting the people in PNG. Our team embraces advice or contributions in any form to this project.