



Reina Otsuka served with UNDP as an HRD-UN Volunteer Environment Specialist in Rwanda, and was focused on building human resources, legal frameworks and institutional capacities to implement the Nagoya Protocol in Rwanda.

The Internet of Things: Technology innovation for climate resilience in Rwanda

The Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from their Utilization (the Protocol) was ratified by Rwanda in 2012 and seeks to create greater legal certainty and transparency for providers and users of genetic resources. UN Volunteer Reina Otsuka served with UNDP in Rwanda, supporting the implementation of the Nagoya Protocol.

The Protocol does this by establishing more predictable conditions for access as well as ensuring benefit sharing when genetic resources leave the country. Furthermore, the Protocol creates incentives to conserve and sustainably use genetic resources, enhancing the contribution of biodiversity to development and human wellbeing.

Despite being one of the first countries to have ratified the Protocol, Rwanda's progress towards domesticating the Nagoya Protocol has been

slow to pick up momentum.

Reina Otsuka arrived in Kigali in April 2017, to join UNDP as an HRD-UN Volunteer Environment Specialist. In the first year of her assignment, Reina focused on building human resources, legal frameworks and institutional capacities to implement the Nagoya Protocol in Rwanda.

Reina's many duties involved management and quality assurance of environmental projects to enhance biodiversity and climate resilience through innovation and green economy transition. In addition to many other successful accomplishments, Reina analysed how technologies, both existing and emerging, could support the implementation of the of the Protocol in the country.

Reina saw an opportunity for technology innovation to enhance Rwanda's capacity to adapt to a changing climate. Leveraging her private sector experience and strong strategic partnership and coordination skills, Reina designed and implemented an *Internet of Things (IoT) for Water Management and Climate Change in Rwanda* project.

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The first year was very fulfilling and the duties performed were challenging yet very close to my heart. My positive impression is that I was able to have greater exposure to bigger tasks than one expects as a UN Volunteer. This was a great opportunity while actually contributing to the development of the country. --Reina Otsuka, UN Volunteer Environment Specialist

he pilot aimed to promote technology innovation for weather data collection and test newly emerging technologies for climate adaptation. Reina also successfully organised two Hackathons and developed systems that allows access to weather data and provide tailored information to farmers in drought-prone areas. This information allows farmers to understand the impact of weather on production cycles and better manage biodiversity and climate resilience.



Through her initiative, Reina successfully established new partnerships between the Rwanda Meteorology Agency and the University of Tokyo. To implement her vision, impressively, Raina raised close to US \$300,000 in funding from UNDP's Innovation Facility, the Cabinet Office of Japan and Innovation Norway, all within 6 months.

"I experienced a good mixture of on-the-ground field work, policy work and international work in my assignment.," Reina shares. Reina's contract was extended to a second year and discussion remains ongoing for other opportunities for a third year. Raina says "I believe this is a good outcome from my first year and I would like to thank the Government of Japan, Ministry of Foreign Affairs and UNDO for giving me this valuable opportunity, which I would not have been able to gain by myself.


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For a late starter like me, switching career from the private sector, the Hiroshima Peacebuilders Centre Programme has been a very useful and valuable in terms of giving exposure to the development world and demonstrating how one can perform and stay. I hope the programme will keep providing opportunities to experienced Japanese nationals as an alternative for more conventional ways of entering the UN system. --Reina Otsuka



Reina volunteered in support of Sustainable Development Goal 11 - Make cities and human settlements inclusive, safe, resilient and sustainable, and SDG 10 - Reduced inequalities.

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 <http://www.unv.org/unv-funding-partners/unv-and-japan-partnering-human-resource-development-peacebuilding>

 Sub-Saharan Africa

• Rwanda • UNDP • Human Resource Development Programme for Peacebuilding and Development • Nagoya Protocol

Sustainable Development Goal: [SDG 9: Industry, innovation and infrastructure](#), [SDG 13: Climate change](#), [SDG 17: Partnerships for the goals](#)