Strategy for Regional Collaboration 2014-2016

APFORGEN

ASIA PACIFIC
FOREST GENETIC
RESOURCES PROGRAMME

Citation
APFORGEN. 2014. Strategy for Regional Collaboration 2014-2016. Asia Pacific Forest Genetic Resources Programme. APAFRI and Bioversity International, Serdang, Malaysia,

Contributing organizations
Forestry and Wildlife Research Institute, Forestry Administration, Cambodia
Research Institute of Forestry, Chinese Academy of Forestry, China
Institute of Forest Genetics and Tree Breeding, India
Forest Research Development Agency, Indonesia
Forest Research Institute Malaysia
Forest Research Institute, Myanmar
National Forests Division, Department of Forests, Nepal
College of Forestry and Natural Resources, University of the Philippines Los Baños
Sri Lanka Forestry Institute
Royal Forest Department and Department of National Parks, Wildlife and Plant Conservation, Thailand
Viet Nam Academy of Forest Science

Published by
APAFRI and Bioversity International

The Asia Pacific Association of Forestry Research Institutions (APAFRI) is an association of Institutions with an active interest in forestry research, conservation, management and other forestry related matters in the Asia Pacific. Its objective is to promote collaboration among institutions to enhance and increase the forestry research and conservation capacity in the Asia Pacific.

Bioversity International is a global research-for-development organization. We deliver scientific evidence, management practices and policy options to use and safeguard agricultural biodiversity to attain sustainable global food and nutrition security. We work with partners in developing countries where agricultural biodiversity can contribute to improved nutrition, resilience, productivity and climate change adaptation. Bioversity International is a member of the CGIAR Consortium, a global research partnership for a food secure future.

ISBN 978-92-9255-008-0

Cover Photo: *Koompassia excelsa* provides habitat for giant honey bees
Credit: R. Jalonen

SAFEGUARDING THE UNIQUE FOREST GENETIC RESOURCES OF ASIA AND THE PACIFIC

Forest genetic resources (FGR) are the heritable materials maintained within and among tree and other woody plant species that have current or potential economic, environmental, scientific or societal value. Genetic diversity enables tree species to resist abiotic and biotic threats and adapt to changing environments, and forms the basis for present and future selection and breeding programmes. It contributes food sources for humans and animals, including at times when annual crops fail. Yet, information on genetic diversity is available on less than 1% of the estimated 80,000-100,000 tree species on Earth, as shown in the first report on the ***State of the World's Forest Genetic Resources***, published by FAO in June 2014.

According to the report, Asia harbors the highest number of tree species and subspecies among the world's continents. Asia also has the highest number of tree species that are actively managed, for diverse purposes such as timber, non-timber forest products, energy and other ecosystem services – a reflection of the enormous cultural diversity of human populations in the continent. Yet Asia also has more threatened tree species than any other continent, numbering more than 1700. The high prevalence of endemism in Asia and the Pacific makes the region's tree species extremely vulnerable to habitat degradation which undermines their ability to provide food, other goods and ecosystem services for the region's 4.4 Billion people and rapidly growing economies. The Pacific Islands are particularly threatened by climate change because of sea-level rise and salinization.

In recognition of the unique ecological and socio-economic value of the region's Forest Genetic Resources and the urgency to conserve them, the ***Asia Pacific Forest Genetic Resources Programme*** (APFORGEN) has developed and agreed on a Strategy for Regional Collaboration to support the implementation of the ***Global Plan of Action for the Conservation, Sustainable Use and Development of Forest Genetic Resources***.

Photo: One of the world's oldest restored tropical forests at the campus of Forest Research Institute Malaysia - Credit: R. Jalonen

What is the Global Plan of Action on Forest Genetic Resources?

The Global Plan of Action on Forest Genetic Resources (FGR) is a strategic framework for the conservation and sustainable use of genetic resources of trees and other woody plants. It is based on the findings of the first-ever ***State of the World's Forest Genetic Resources*** report, published by FAO in June 2014. The report was developed on the basis of 86 country reports covering 85 percent of the world's forested area, input from regional consultations and a series of thematic studies developed by experts around the world.

The Global Plan of Action on FGR was agreed on by the FAO Commission on Genetic Resources for Food and Agriculture in its 14th session in January 2013, and subsequently adopted by FAO Conference in its 38th session in June 2013. The Commission of Forestry, the highest FAO Forestry statutory body, recommended the implementation of the Global Plan of Action on FGR in its 22th session in June 2014.

The Global Plan of Action has 27 Strategic Priorities, grouped into four areas: (1) improving the availability of, and access to, information on FGR, (2) conservation of FGR (*in situ* and *ex situ*), (3) sustainable use, development and management of FGR, and (4) policies, institutions and capacity-building. The Strategic Priorities for Action constitute a comprehensive global programme of work. They can assist countries in integrating FGR conservation and management needs into wider policies, programmes and frameworks of action from local to national, regional and global levels, and in developing sound technical and scientific programmes for the successful management of FGR.

Implementation of the Global Plan of Action will strengthen the sustainability of FGR while contributing towards the Aichi Biodiversity Targets and the Sustainable Development Goals.

The Commission on Genetic Resources for Food and Agriculture, in its 14th session, requested FAO to develop an implementation strategy for the Global Plan of Action on FGR, and encouraged the mobilization of adequate financial resources, preferably from voluntary contributions, particularly to support developing countries in the implementation of the Global Plan of Action.

The Global Plan of Action on FGR is available from http://www.fao.org/3/a-i3849e.pdf

Photo: *Neobalanocarpus heimii* is highly valued for its timber and has become threatened - Credit: S.L. Lee

Regional collaboration and coordination is of utmost importance for the conservation and sustainable use of tree species whose distribution does not follow national boundaries and which hold great potential for improvement and enhanced sustainable use across countries but are, at the same time, threatened by illegal cross-border trade and unsustainable resource acquisition. Through regional networking it is possible to gain synergy in research and conservation activities and avoid overlapping efforts. The importance of regional networking for the conservation and sustainable use of Forest Genetic Resources was recognized in the State of the World's Forest Genetic Resources report and in the Global Plan of Action on FGR.

APFORGEN, established in 2003, is the only network in Asia and the Pacific that specifically focuses on the conservation and sustainable use of FGR. Its broad membership in the region and achievements to date make it ideally placed for coordinating the implementation of the Global Plan of Action on FGR in the region in close collaboration with FAO.

OBJECTIVES

In a meeting of its National Coordinators in September 2014, APFORGEN identified three objectives for a Strategy for Regional Collaboration to support the implementation of the Global Plan of Action on Forest Genetic Resources for the years 2014-2016.

1. Political and financial support mobilized for the implementation of the Global Plan of Action on Forest Genetic Resources in Asia and the Pacific

Although FGR in many Asian countries have been severely depleted, there is limited recognition about their ecological and societal importance, including for timber production and adaptation to and mitigation of climate change. Political and institutional support for conserving the resource base have not kept pace with the economic development in the region. Conservation and the enhancing of sustainable use of FGR are restricted by inadequate funding and limited institutional and human capacities.

This objective has the following targets:

- Strategic priorities of the Global Plan of Action on FGR are recognized and supported by high-level policy makers and relevant international organizations and incorporated into relevant national and regional planning and implementation processes
- Funding is secured for implementing the strategic priorities of the Global Plan of Action in the region
- Funding is secured to sustain APFORGEN
- Regional Training Centre is established for strengthening capacities in research, conservation and management of FGR in the Asia-Pacific Region

The work under this objective contributes, in particular, to the following Strategic Priorities of the Global Plan of Action on FGR:

- Establish and strengthen educational and research capacities on FGR to ensure adequate technical support to related development programs (Strategic Priority 21)

- Reinforce regional and international cooperation to support education, knowledge dissemination, research, and conservation and sustainable management of FGR (Strategic Priority 24)
- Promote public and international awareness of the roles and values of FGR (Strategic Priority 26)
- Strengthen efforts to mobilize the necessary resources, including financing, for the conservation, sustainable use and development of FGR (Strategic Priority 27)

2. Conservation and sustainable use strategies developed for regionally important and threatened tree species

Tree genera of *Dalbergia and Shorea*, native to Asia, include many highly valuable tree species that are important for timber production. Some species such as *Shorea stenoptera*, *S. macrophylla* and *S. robusta* also serve as sources of non-timber forest products (resins and oil production from seed) and generate income for local communities. However, because of their high economic value and growing demand for timber and agricultural land, these species are threatened by overexploitation, illegal logging and habitat conversion. *Dalbergia cochinchinensis* and *Shorea stenoptera*, among many other species in their genera, are classified as threatened on the IUCN Red List of Threatened Species. Their conservation status is further hampered by unsustainable seed collection practices, limited natural regeneration and limited interest to plant the species for plantations industry because of their slow growth. There is an urgent need for concerted efforts to conserve these species and their genetic diversity and to develop strategies for their sustainable use across their distribution range, to contribute to local, national and regional economies. There are existing models for conserving and sustainably using the tree genetic resources through involving local communities and contributing to their livelihoods, and such models could be adapted to other species and countries in the region.

This objective has the following targets:

- Genetic diversity and phylogeography of *Dalbergia spp.* and *Shorea spp.* is assessed
- Germplasm of *Dalbergia cochinchinesis* and related species is collected from each country within their distribution range to support their conservation *in situ* and *ex situ*, tree breeding and sustainable use in the region
- Regional species and provenance trials are established for *Dalbergia spp.* and *Shorea spp.* for gene conservation and tree breeding purposes
- Regional networking and partnerships related to conservation, management and sustainable use of common priority species are enhanced (including but not restricted to *Dalbergia* and *Shorea spp.*)

The work under this objective contributes, in particular, to the following Strategic Priorities of the Global Plan of Action:

- Establish and strengthen national FGR assessment, characterization and monitoring systems (Strategic Priority 1)
- Promote the establishment and development of efficient and sustainable *ex situ* conservation systems, including in vivo collections and genebanks (Strategic Priority 6)
- Develop and implement regional *in situ* conservation strategies and promote ecoregional networking and collaboration (Strategic Priority 11)
- Reinforce regional and international cooperation to support education, knowledge dissemination, research, and conservation and sustainable management of FGR (Strategic Priority 24)

Photo: Seedlings of native fruit tree species in a community nursery, Malaysia - Credit: R. Jalonen

3. Tree seed programmes strengthened to facilitate ecosystem restoration, support local livelihoods and climate change adaptation and mitigation

Well-functioning supply systems for tree seed are crucial for forestry, agroforestry and forest and landscape restoration. Close to 5 million hectares were planted annually to trees between 2000 and 2010, according to the Global Forest Resources Assessment of FAO.

Many countries in Asia and the Pacific have established large-scale national tree planting and restoration programmes with the aim of restoring and reforesting millions of hectares of land, such as the Great Green Wall of China, the Green Mission of India and the National Greening Programme of the Philippines. Such programmes require huge amounts of quality tree seed and seedlings, especially of native tree species which are preferred for ecosystem restoration. Using planting material of appropriate origin is also crucial for adaptation to climate change.

Photo: *Garcinia indica* (wild mangosteen) fruiting in the forests of Western Ghats, India - Credit: E. Hermanowicz

However, there is widespread lack of awareness about the importance of quality seed and lack of quality seed sources. Lack of, or poorly enforced, regulations on forest reproductive material have in many cases resulted in mass production of seedlings of unknown origin and quality, often with narrow genetic base, and in their uncontrolled transfer within and across national borders.

Discontinued government and donor support for national tree seed supply systems and the prevalence of tree farms by small-holders in the region justify the development of market- or demand-driven decentralized seed supply systems. Decentralized seed supply systems can both help meet the demand for seed and provide income for local communities, and there are already promising models in the region that could be tested and adapted in other countries.

Tree breeding for multiple purposes, including increased productivity of timber and other tree products and resistance to abiotic and biotic threats, can importantly contribute to provision of livelihoods, addressing land scarcity and adapting to climate change. Countries in the region can benefit from both collaborative breeding programmes for species of common interest and from sharing of expertise. Documenting and sharing past experiences, both successes and failures, in tree planting and breeding is important for strengthening capacities, improving practices and programme outcomes, and using resources efficiently.

This objective has the following targets:

- Strengthened, demand-driven tree seed programmes for ecosystem restoration, plantation and agroforestry
- Strengthened multi-purpose tree breeding programmes in support of provision of ecosystem services, climate change adaptation and livelihoods
- Policy-level support for institutionalizing tree seed supply systems

The work under this objective contributes, in particular, to the following Strategic Priorities of the Global Plan of Action:

- Develop and reinforce national seed programmes to ensure the availability of genetically appropriate tree seeds in the quantities and of the (certified) quality needed for national plantation programmes (Strategic Priority 12)
- Promote restoration and rehabilitation of ecosystems using genetically appropriate material (Strategic Priority 13)
- Develop and reinforce research programmes on tree breeding, domestication and bioprospection in order to unlock the full potential of FGR (Strategic Priority 16)
- Promote the participation of indigenous and local communities in FGR management in the context of decentralization (Strategic Priority 22)

These objectives are in line with the ***Draft Strategy for the Implementation of the Global Plan of Action on FGR***[1], which foresees action in, among other issues, advocacy and international awareness, development and support of relevant global and regional networks, and supporting countries in the development of national and regional strategies and in securing adequate and sustainable funding for the implementation of the Global Plan of Action on FGR.

APFORGEN extends its support to the Draft Strategy for the Implementation of the Global Plan of Action and strongly recommends its adoption and implementation.

APFORGEN has established three Working Groups to implement the objectives of the Strategy for Regional Collaboration. Membership of the Working Groups is open to interested parties. More information about the Working Groups is available from www.apforgen.org

1 Discussed at the Third Session of the Intergovernmental Technical Working Group on FGR, 7-9 July 2014. Available from http://www.fao.org/3/a-mk449e.pdf

Photo: Forest fruits provide an important source of livelihoods to local communities - Credit: E. Hermanowicz

ACHIEVING IMPACT

To implement the Global Plan of Action on Forest Genetic Resources promptly and effectively and to harness the full potential of Forest Genetic Resource for sustainable development in Asia and the Pacific in the post-2015 era, APFORGEN seeks to:

- Achieve institutionalized recognition for the contribution of FGR to livelihoods, economies and climate change adaptation and mitigation, and enhance the integration of conservation and sustainable use of FGR into relevant processes and programmes at all levels. These include but are not restricted to, national forest and land use policies and legislation, National Forest Programmes, National Biodiversity Strategies and Action Plans (NBSAP), National Adaptation Plans for climate change, REDD+, ASEAN, and South Asian Association for Regional Collaboration (SAARC).
- Establish partnerships with research, extension and education institutions, civil society organizations and the international community to pool expertise, share good practices, build on synergies and raise the visibility of FGR
- Strengthen human capacities through the establishment of a regional training centre on FGR, development of training courses and modules, and mentoring and scientific exchange programmes, to cultivate the next generation of experts in FGR conservation and management in Asia and the Pacific
- Establish a new funding mechanism that pools resources from within the region, to create an operational fund for the network and help mobilize additional resources for the implementation of the Global Plan of Action on FGR, and to demonstrate the region's commitment for improving the conservation and sustainable use of its FGR

APFORGEN cordially invites countries and institutions in the region, the private sector, and the international community to join its cause and invest human and financial resources for the implementation of the Global Plan of Action on FGR in the region. Sustained commitments that help transform FGR research and management in the region from project-based towards programme-based approaches and facilitate coherent, long term planning and actions will be particularly valuable.

ASIA PACIFIC FOREST GENETIC RESOURCES PROGRAMME (APFORGEN)

APFORGEN is a regional programme and network with a holistic approach to the conservation and management of forest genetic resources in Asia and the Pacific. The broad objective of APFORGEN is to promote the management of tropical forest genetic resources more equitably, productively and sustainably in the member countries. Its aim is to enhance technical, scientific cooperation, training and information exchange among the member countries, through linking and providing technical support to national forest programmes, research institutions, NGOs and individuals interested in the conservation and management of forest genetic diversity in the region.

APFORGEN was established in 2003 through the initiative of Bioversity International and the Asia Pacific Association of Forestry Research Organizations (APAFRI), with APAFRI hosting the secretariat with a modest seed funding from Bioversity International.

Fourteen countries in Asia and the Pacific (Bangladesh, Cambodia, China, India, Indonesia, Lao PDR, Malaysia, Myanmar, Nepal, Pakistan, Philippines, Sri Lanka, Thailand and Vietnam) are members of the network. Since its inception, they have participated actively in the network activities through providing updates of the status of Forest Genetic Resources in their countries, organizing and participating in workshops, meetings, training courses, symposium and planning of joint activities. In 2006-2011, APFORGEN implemented a regional project for strengthening national capacities in the conservation and management of Forest Genetic Resources, with funding from the International Tropical Timber Organization.

Photo: APFORGEN's National Coordinators share the interest for conserving the region's unique forest genetic resources - Credit: APAFRI

APFORGEN

ASIA PACIFIC
FOREST GENETIC
RESOURCES PROGRAMME

CONTACTS:

APAFRI Secretariat
Syuqiyah Abd Hamid
c/o Forest Research Institute Malaysia
52109 Kepong
Selangor Darul Ehsan
Malaysia
Tel: (603) 62 797 586
syuqiah_apafri@frim.gov.my
www.apafri.org

Bioversity International
Riina Jalonen
PO Box 236 - UPM Post Office, Serdang
43400 Selangor Darul Ehsan
Malaysia
Tel: (603) 89 423 891
Fax: (603) 89 487 655
r.jalonen@cgiar.org
www.bioversityinternational.org

APAFRI

Bioversity International