ISSUE 26 JANUARY – JUNE 2014

ISSN 1475-8245

samara

The International Newsletter of the Partners of the Millennium Seed Bank Partnership

www.kew.org/msbp/samara

Multiscale action for medicinal plants:

implementing the Global Strategy for Plant Conservation on a human dimension

By Gary Martin (Director, Global Diversity Foundation)

Almond seed (*Prunus dulcis*) germinating PHOTO: M. EL HAOUZI

Aloe vera gel for burns. Aspirin for fever and pain relief. Quinine for malaria. All around the world – and on a daily basis – people continue to take plant-derived remedies for what ails them. With the growing popularity of herbal medicine and a global human population that has breached the 7 billion mark, it is inevitable that we are putting increasing pressure on medicinal plants and the world's floristic resources in general.

When a group of plant conservation specialists gathered in Dublin, Ireland in late May 2009, this reality was very much on our minds. As members of the Liaison Group of the Global Strategy for Plant Conservation (GSPC), we had come together to respond to a request from the Conference of Parties of the Convention on Biological Diversity (CBD) to update the strategy, which had been adopted in 2002.

One small group, in which I was fortunate to participate, focussed on GSPC targets that explore the relationship between the conservation of useful plants and the knowledge, practices and innovations of indigenous peoples and local communities (including targets 9 and 13).

Five years on, the time has come to assess the impact of our recommendations and more importantly our actions. Representatives of the Parties to the Convention and other concerned individuals will be gathering in Montreal in June for the 18th meeting of the CBD's Subsidiary Body on Scientific, Technical and Technological Advice. Among other activities, this event will allow countries to showcase their efforts to conserve plant resources towards implementing the GSPC. Because of the specific mention of botanical resources used for health care in target 13, the customary use, wild harvesting and international trade of medicinal plants should figure prominently in these case studies.

Taking action at a national level

In Morocco, the Global Diversity Foundation is working with diverse partners to ensure that medicinal plant conservation has the prominence it deserves. The 12th largest exporter of medicinal and aromatic plants in the world, Morocco faces the challenge of conserving biodiversity while encouraging rural peoples to benefit economically from wild-crafting and value-adding activities. Morocco is keen to expand its share of a $15 billion global market while mainstreaming biodiversity conservation throughout the value chain.

With funding from the UK Darwin Initiative and the Critical Ecosystems Partnership Fund, we are addressing trade in medicinal roots and its impact on plant conservation and local livelihoods in the Middle and High Atlas mountains. In May 2014, we joined forces with our partners in this venture – the Moroccan Ministry of Energy, Mines, Water and Environment, Cadi Ayyad University in Marrakech, the Scientific Institute in Rabat and High Atlas Foundation – to convene a workshop on implementing the GSPC in Morocco organised with Botanic Gardens Conservation International. This meeting provided an opportunity to review case studies of medicinal plant conservation in Morocco.

The most ambitious of these projects is the UNDP/GEF Medicinal and Aromatic Plants Programme, which aims to integrate biodiversity in the value chains of medicinal and aromatic plants in Morocco. Four of

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ROYAL BOTANIC GARDENS

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Morocco's most commercialised plants in diverse regions are the focus of the three-year project: oregano (*Origanum elongatum*) in the Rif Mountains, pellitory (*Anacyclus pyrethrum*) in the Middle Atlas, thyme (*Thymus saturejoides*) in the High Atlas, and rosemary (*Romarinus officinalis*) in the eastern part of the country.

Practicing plant conservation at a local level

As the sun rises over Imegdale, an Amazigh community in the High Atlas mountains south of Marrakech, there is a new feature on the landscape. A two hectare plant nursery is starting to green the arid lands surrounding the village, with a water basin, drip irrigation system, greenhouse and sprouting almond and walnut seedlings. Imegdale is home to hundreds of seasonal collectors of medicinal and aromatic plants, especially local species of artemisia, lavender and thyme. They are keen to explore cultivation of these wild-harvested species as well as domesticated medicinal and aromatic plants. Along with the almond and walnut trees, plants produced in the community plant nursery will be distributed in coming years to many families who live in the dispersed villages that make up Imegdale.

Some 300 km to the northeast, a plant nursery in Ait M'hamed will have another story to tell. Amazigh plant harvesters in this Middle Atlas community seek pellitory (*Anacyclus pyrethrum*) root above all other medicinal plants. The region witnessed yields that declined by more than 75% over the last decade as commercial value and harvesting pressure soared. A small plot of 10,000 almond and 10,000 walnut seedlings for distribution in the community promises some economic relief in coming years, but there is even greater enthusiasm for a planned half hectare nursery that will be dedicated to pellitory and other medicinal plants. An enrichment planting scheme for private lands and well-managed commons will hopefully restore the *Anacyclus* population while continuing to support livelihoods based on customary harvest.

Global Diversity Foundation and High Atlas Foundation are collaborating on the creation of these nurseries, which are part of a broader development and research initiative that blends agroforestry, biodiversity and hydrology. Learning techniques of seed saving and germination, whether for wild or domesticated species, is part of the capacity building programme for the community researchers who also tend the community nurseries.

Conserving plants on a global scale

Local initiatives and national programmes, such as the ones in Morocco that I have briefly described, are the lifeblood of the GSPC. They ensure it will be implemented in harmony with the Strategic Plan for Biodiversity 2011-2020 and with other relevant programmes of work of the CBD.

Conducting research on medicinal plants and promoting their conservation have become more complex over the past decades. Concerns about improper use of both local knowledge and sovereign botanical resources permeated debate on plant-derived pharmaceutical products and generated a notable side effect – a dampening of international collaboration on medicinal plant research.

One sign of this new era of medicinal plant study is the emergence of innovative research paradigms – such as one being developed by MedPlant, a research project exploring the evolution and sustainable use of medicinal plant diversity – which bring together research institutions, private companies and non-profit organisations to explore new interdisciplinary approaches and technologies.

The process of developing best practices, which may have seemed slow and tortuous at times, has yielded new initiatives that hold the promise of achieving the conservation, sustainable use and equitable trade of plants and animals as proposed by the CBD. The vision of the GSPC – to promote human activities that support the diversity of plant life, which in turn nurtures and improves our livelihoods and well-being – is what we must all keep in mind as we contemplate the future of medicinal plants.

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Young Amazigh women filling planting bags in the community nursery PHOTO: I. TEKGUC

Hassan Ait Ba, community researcher from Imegdale, showing the plant nursery he helped create to Hassan Rankou of Kew
PHOTO: I. TEKGUC