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National Botanic Garden of Wales: Biodiversity or Bust*

### **Objective 3 of the GSPC The ecosystem approach to the conservation and sustainable use of biodiversity**

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Kew is responding, amongst other GSPC objectives, to Objective 3, Targets 11, 12 and 13.

*Target 11: No species of wild flora endangered by international trade.*

There are not many species in the UK which fall within this category. It mostly evokes control from the Convention of International Trade of Endangered Species (CITES) and EU controls on trading of plant species under threat entering the UK. It is often very difficult for customs officers to know whether a species is endangered or not. Kew is involved with training Custom & Excise Officers to have the knowledge of which plants are listed and therefore controlled and to be able to identify the plant or parts of the plant. The challenge is how to ensure that CITES is effectively enforced. For example, wooden blinds made from the endangered ramin or roots being brought in that are supposed to be ginseng but are actually different species. Both of these may enter the UK in forms other than the plant. Importers may go to some length to disguise the import using visual and chemical techniques. In the future DNA barcoding will be used to identify species.

*Target 12: 30% of plant-based products derived from sources that are sustainably managed.*

Consumer pressure has ensured that suppliers of plant products are now more likely to know whether their plants have come from sustainable sources. The development of Fair Trade and Organic is generally good, but even so the production may not be sustainable produced or biodiversity considerate. Cocoa, used in confectionary and more recently for its cardiovascular medicinal properties has growing issues which can translate to other crops. To obtain high yield agriculture, the crop must be grown in low biodiversity conditions (less competition) and conversely if grown in high biodiverse conditions the crop yield is low. Creative ways to have both high yield and high biodiversity need to be established, many be with species that can give extra value to the community.

Education and public opinion has caused a shift in awareness on the need for sustainable production and this has pushed supermarkets and others to source and state whether their products are sustainably produced. Pot pourri entering the UK is now mostly sustainably sourced. There are still many challenges however; herbal products, and Chinese Medicine in particular, may have only a quarter of its species sustainably sourced. Sustainability issues still need to be addressed.

*Target 13: The decline of plant resources, and associated indigenous and local knowledge, innovations and practices that support sustainable livelihoods, local food security and health care, halted.*

Public interest is growing in ‘farmers markets’ and ‘natural’ products and this increases demand for these natural or herbal species.

Kew is working in Jamestown, South Africa to provide traditional healers with a sustainable source of plants. Currently, there is major community displacement and few qualified doctors. Traditional healers are incredibly important as HIV levels rise and doctors are in short supply. Traditional medicine using natural plant products is relied upon with estimations of 166 species and 575 tonnes being used (annually?), this encourages illegal use of endangered species. By providing land where medicinal plants can be cultivated, the pressure on wild populations is reduced. Communities have been taught how to cultivate these species (maintaining their active ingredients) whilst incorporating their cultural practices of blessing the seeds and the land and they are then given follow up support to maintain the project’s success.

We need to work on projects that support local livelihoods. For example, cocoa has many proven medicinal properties. Asia and Africa are key growing areas for cocoa but the profits from these systems have typically gone to Europe and America. If cocoa is grown in a low diversity system the growers are completely dependent on this one crop. Reading University and Kew are working together on a project to develop a high diversity growing system that provides more potential income for growers.

### **Summary**

Meeting these targets and carrying out the work requires a large amount of taxonomical knowledge. We must encourage and train new taxonomists even in this age where children have lost the link with plants in their lives.

In summary – can we meet the targets for Objective 3 by the 2010 deadline? Probably not – but we should be able to get close, due to people wanting it to happen.

*Write up by Sue Hunt and Natasha de Vere*