

**WWF Ecomakala**  
**Sustainable charcoal to protect**  
**Virunga National Park**



Illegal logging for charcoal production is one of the biggest threats to Virunga National Park in the Democratic Republic of Congo (DRC), Africa's first national park and World Heritage Site. WWF's Ecomakala project supports people living in the surroundings of the park to plant trees in woodlots, providing an alternative and sustainable source of energy.

**Background**

Virunga National Park, established in 1925, is one of the most remarkable places on the planet. It has the greatest variety of wildlife found anywhere in Africa, with more than 200 species of mammals including elephants, chimpanzees and gorillas.

But in the last two decades, the park has come under huge pressure. The Rwandan genocide in 1994 and the civil wars that have raged across the region since 1996 brought an influx of refugees and widespread migration from rural areas to urban centres.

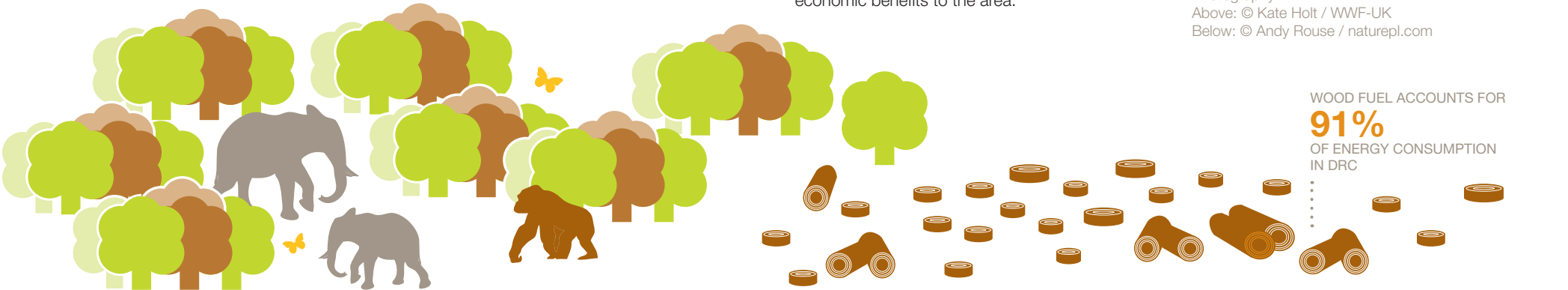
The growing population has meant a massive rise in demand for wood fuel – which accounts for more than 91 per cent of energy consumption in DRC, as access to electricity is very limited. As a result, the price of a bag of charcoal (known locally as *makala*) has quadrupled since 2001. In the nearby city of Goma, around 80 per cent of charcoal sold comes from Virunga National Park.

Outside the park, the area is almost completely deforested. In 2007 WWF set up a large-scale reforestation project, called Ecomakala, in order to prevent further loss and degradation of forests within the park. In alignment with NGP principles, the project has brought social, environmental and economic benefits to the area.



Encroachment threatens Virunga National Park, home to endangered animals like mountain gorillas.

Photography  
Above: © Kate Holt / WWF-UK  
Below: © Andy Rouse / naturepl.com



“The Ecomakala project has contributed to the local economy of the population of Kirumba and the protection of ecosystems and the environment in general. From 2008 to 2012 we have realized 479 hectares with 237 planters, which means 1,076,640 trees planted.”

**Kambala Mbafumoja, president, OPERL planters' association, Kirumba**

### The project

The Ecomakala project aims to protect the forests of Virunga by planting trees in the surrounding area, providing an alternative and sustainable supply of charcoal for people living in and around large towns such as Goma, Beni and Butembo.

The project gives small landowners financial and technical support to establish woodlots, usually of around one hectare, preferably on marginal agricultural land. Funds are channelled through local farmer-planters' associations, set up by the Ecomakala team. The associations are paid for installing nurseries, growing seedlings and distributing them to the planters.

Planters receive money in instalments for planting out seedlings, growing trees and maintaining the plantations. They can choose what trees to grow, but it should be a species that has the potential to produce charcoal from the fourth year onwards and that coppices (grows back after cutting down), such as acacia and eucalyptus. The necessary seeds and bags are provided by Ecomakala.

Ecomakala's field foresters visit each site to check its suitability, give advice on species selection, and continue to monitor the plantations as they're established. The farmer-planters' associations are trained in setting up nurseries, producing seedlings, preparing fields and planting, as well as in plantation management and sustainable harvesting. The project is also helping farmer-planters' associations to access markets and sell their charcoal more profitably.

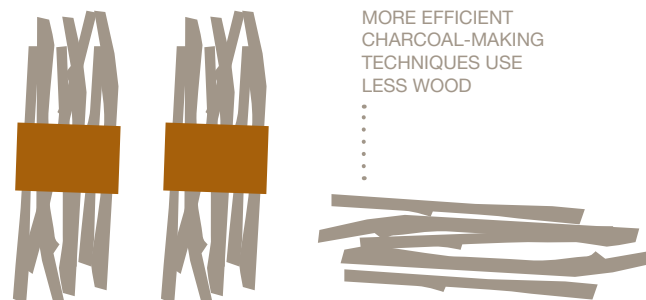
In addition, the Ecomakala project trains participants in more efficient charcoal-making (carbonization) techniques, while still using traditional kilns (stacks of wood covered by earth). Careful stacking procedures and the use of chimneys and vents to regulate air flow means charcoal can be made using less wood.

While the project mainly focuses on smallholders, it also supports larger landowners to establish plantations of around 10-20 hectares; these account for about 7 per cent of the total area reforested to date. Ecomakala has also run an agroforestry scheme, supporting farmers to grow cocoa – which thrives in shade – alongside trees. Fast-growing temporary shading plants are grown while the permanent shading trees become established.



Larger trunks (above) will be kept to produce timber in the future, while smaller diameters are coppiced for charcoal.

Photography © Hicham Daoudi / WWF-CARPO



“The population in Rutshuru is glad about the reforestation from Ecomakala after the massive deforestation that took place by refugees that fled the Rwandan genocide in 1994.”

**Jerome Tanzi, president, Rutshuru planters' association**

### Benefits

To date, over 6,000 hectares have been reforested through the Ecomakala project: 5,571 hectares of woodlots and 912 hectares of agroforestry plantations. With the first commercial harvesting taking place in early 2013, the project is still in its infancy. But as the trees reach maturity, it will bring a range of social, economic and environmental benefits:

- By providing an alternative source of charcoal, the project will limit deforestation in Virunga National Park, reducing the impact on the park's remarkable biodiversity and on the climate. The availability of an alternative fuel source will allow park authorities to clamp down on illegal logging.
- Plantations for charcoal and agroforestry will give small landowners an alternative source of income.
- The project will support poverty alleviation by enabling local people to develop a profitable forestry sector. They will develop their skills and capacity in forestry and charcoal-making, while marketing their charcoal through local cooperatives increases profits.

The success of Ecomakala has led other landowners to establish their own woodlots. Assuming these are appropriately located and managed according to NGP principles, this will multiply the project's positive impact.

### Next steps

Reforestation is continuing: the project aims to establish around 20,000 hectares of woodlots, and continues to support agroforestry development. The Ecomakala team is also giving further training in improved harvesting and carbonization methods.

One challenge is making sustainably produced fuelwood competitive with wood sourced free (if illegally) from Virunga. Incentives such as a reduction in VAT on sustainable charcoal could help to level the playing field, along with stronger enforcement against illegal logging. The project is also looking to increase the value of the established plantations by integrating them into carbon finance mechanisms, such as REDD+ and the Clean Development Mechanism (CDM).

Alongside the Ecomakala project, WWF runs an award-winning efficient woodstoves project in Goma. WWF is training local businesses to build and sell cheap stoves that halve the amount of charcoal needed. This means a big saving for poor households, and further reduces the pressure on Virunga's forests. Since 2007, 47,000 stoves have been produced.

SINCE 2007

**47,000**

AWARD-WINNING EFFICIENT  
WOODSTOVES HAVE BEEN PRODUCED,  
REDUCING CHARCOAL USE



Tree seedlings are grown in nurseries then distributed to farmers to plant out in woodlots.

Photography © Hicham Daoudi / WWF-CARPO