**Rikolto and valuable ecosystems**

Valuable ecosystems should be strongly protected, because of the high value of the ecosystem services they provide for current and future generations and for our planet in general.

**Definition**
An ecosystem is a community of living organisms in conjunction with the non-living components of their environment (like air, water and mineral soil), interacting as a system. These biotic and abiotic components are regarded as linked together through nutrient cycles and energy flows.

**Position of Rikolto**
Rikolto firmly believes that it is very important for valuable ecosystems to be strongly protected for two reasons. The first is the high value of the “ecosystem services” they provide for current and future generations, for example providing food and water, regulating the local and global climate, and offering space for recreation/tourism. The second is that the very rapid loss of biodiversity is one of the most pressing global problems that need to be tackled. The conversion of natural ecosystems into agricultural land and urban areas has led to a significant loss of biodiversity. Besides the utilitarian value of the ecosystem services delivered, we subscribe to the idea that species have a right to their continued existence as such, quite apart from whether they have value to the human race or not.

Valuable natural ecosystems should be maintained in their original state and not be converted for other types of land use, such as for the production of food, feed or biomass, for housing, etc. It might be argued that food production is more important than protecting nature and that, therefore, valuable natural ecosystems should in fact be turned into agricultural land. Rikolto disagrees, however, as it is currently possible to produce enough food to feed the world’s population. Moreover, we need these natural ecosystems for their role in the conservation (and dynamics) of biodiversity and for the services they provide, including food production.

If farmers have a historical link with a natural ecosystem and are dependent on it in one way or another, solutions have to be put forward that enable them to earn a decent income, sufficient to meet their needs, while safeguarding the natural ecosystem. Sometimes a solution might lie in supporting organised, sustainable small-scale farming and increasing productivity and profitability for the local farming communities.

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“Policy should stimulate research and breeding by institutions that guarantee free access to genetic material for farmers.”

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Implications for our work

If Rikolto is involved in food chains where food production takes place within or at the boundary of natural ecosystems, the impact of this production on the natural ecosystem should be assessed. Rikolto should systematically draw up an inventory of the valuable natural ecosystems in the regions in which it is operating so as to ensure that our operations do not adversely affect these ecosystems.

The website of the Convention on Biological Diversity (CBD) contains a list of contacts for about 200 countries. Every country where Rikolto is active is included in the list. These national contacts may be approached for additional information about the value of local ecosystems in the countries and regions in which we work: http://www.cbd.int/countries/nfp/default.shtml, http://bch.cbd.int/database/

An inventory of the valuable ecosystems in the countries/regions in which Rikolto is active may also lead to positive action by Rikolto. If “nearby” ecosystems are already under threat, Rikolto could focus its efforts on developing preservation solutions, while providing opportunities for the farming households to maintain or even increase their income. Rikolto could indirectly (by cooperating with partner organisations such as WWF) promote solutions such as (1) supporting ethnic tribes by marketing sustainable products from these ecosystems, (2) ecotourism, (3) payments for ecosystem services and (4) REDD+, for example the Socio Bosque programme in Ecuador (CKDN, 2012).

Rikolto promotes agro-ecological practices that lead to gains in productivity/profitability and resilience of the agricultural system and gains in terms of ecosystem services provided to the surrounding areas. One specific example is the collaboration with WWF in the EcoMakala project in the Democratic Republic of Congo, where agroforestry systems are promoted for rice and coffee production (WWF, 2014).

In Indonesia, Rikolto coordinates efforts with farmers in several ways to redress the imbalance in the ecosystem due to deforestation. Rikolto applies capacity-building strategies to help them achieve their development goals of reforestation. Cover crops are also planted in order to shade the coffee and cocoa plants and restore nutrients to the soil.

As part of a previous Rainforest Alliance project in Vietnam, Rikolto supported small-scale tea farmers in applying the Sustainable Agriculture Standard. This standard requires farmers to protect natural ecosystems and conduct activities to restore degraded ecosystems. Every natural ecosystem, aquatic or terrestrial, has to be identified, protected and restored through a conservation programme, including the reforestation of areas within farms that are unsuitable for agriculture. The standard also requires farmers to create and maintain an inventory of wildlife and wildlife habitats found on their farms, which helps conserve natural ecosystems. Ecosystems that provide habitats for wildlife living on the farm or through which wildlife species pass during their migration have to be protected and restored. Special measures have to be taken to protect threatened or endangered species. Hunting, capturing, extracting and trafficking wild animals has to be prohibited on the farms.

In order to guarantee the conservation of the ecosystem surrounding Lake Apanas in Nicaragua, a strategic source of water for local people and for vegetable production, Rikolto supports the establishment of a Multi-Stakeholder Platform (MSP) for the farmers located in the lake basin. The MSP will form the basis for future sustainable landscaping approaches.

A separate section is devoted to agrobiodiversity, clarifying Rikolto’s position on how agrobiodiversity can be promoted.
Facts and Figures

- Natural ecosystems and the species they contain have a high value for society thanks to the services they provide. These ecosystem services can be categorised as (1) productive (provision of water, food, feed, wood, medicines, etc.), (2) regulating (carbon sequestration, purification of water, air and soil, etc.), (3) cultural (e.g. recreational and spiritual values) and (4) supporting services (e.g. soil formation) (Millennium Ecosystem Assessment, 2014).
- The conversion of natural ecosystems into agricultural land and urban areas has led to a significant loss of biodiversity and ecosystem services. Scientists have indicated that the very rapid loss of biodiversity is one of the most pressing global problems that need to be tackled (Rockström et al., 2009).
- The Frankfurt Declaration (2010) states that the relevance of biodiversity to human well-being is greatly underestimated.
- Species extinction is a natural process and would also occur without human activities. However, biodiversity loss in the last 200 years has accelerated greatly. Today, the rate of extinction of species is estimated to be 100 to 1000 times higher than what can be considered natural (Rockström et al., 2009).
- Since the Industrial Revolution, human activities have become the main driver of global environmental change. If certain thresholds are passed, this could push the Earth system out of the stable environmental state, with consequences that are detrimental or even catastrophic for large parts of the world (Diamond, 2005). Rockström et al. (2009) have identified nine Earth-system processes and associated thresholds which, if crossed, could generate unacceptable environmental change. Their analysis suggests that three of the Earth-system processes — climate change, the rate of biodiversity loss and interference with the nitrogen cycle — have already transgressed these thresholds (Rockström et al., 2009).
- Rockström et al. (2009) conclude that the rate of species loss cannot continue without significantly eroding the resilience of major components of Earth-system functioning.
- The speed of climate change will accelerate the loss of biodiversity. Up to 30% of all mammal, bird and amphibian species will be threatened with extinction this century (Rockström et al., 2009).
- Biodiversity loss interacts with other planetary boundaries, e.g. climate change and ocean acidity, thus reducing the safe boundary levels of these processes.
- Ecosystems that depend on a few or single species for critical functions are vulnerable to

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Disturbances, such as disease, and at greater risk of tipping into undesired states, whereas a rich mix of species underpins the resilience of ecosystems (Rockström et al., 2009).

- In the UN’s Post-2015 development process, the following is mentioned: “9. ... in order to achieve a just balance among the economic, social and environmental needs of present and future generations, it is necessary to promote harmony with nature. ...”

Sources

Abson, D (2014); Models that are simple, elegant and wrong: conceptual framing of the biodiversity food security nexus: http://biodiv2014.sciencesconf.org/resource/page/id/21
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