



Forest Values

Innovative partnerships for forest restoration

How to create sustainable value-added which not only protect rainforests and provide people with long-term alternatives, but also generate sources of income? How can local cooperatives be organised more efficiently? These are two of the challenges the project ForestValues is facing, posed by very different value-added chains. Another is how to improve the marketing of honey from the rainforests of Guatemala? One thing is for sure: There is no lack of fresh supplies since young and old people alike are enthusiastic about beekeeping! The reforestation, too, is making huge progress.

Newsletter #3 - September 2018

Networking is the name of the game



Adolescents, too, look after the bees which means that whole families are invested in beekeeping and the ForestValues project.

for beekeeping is contagious. It is vital that apiarists form committees to make the marketing of the precious honey more efficient, particularly on the national level. Other value-added chains and processes are being continuously enhanced, too. Networks and cross-links start fledging on a small scale and extend from there, stretching across all areas and levels. In this respect, the network meeting at the OroVerde office is an important event – which is also true for the Bonn Challenge meeting in Guatemala City. The exchange of expertise at eye level regarding possible cooperations, different financing models and lessons learned from other projects is an ongoing process. The main goal of these efforts is the restoration of forests; 133 hectares of bio-diverse agroforestry systems as well as 111 hectares of land which have already been reforested with native tree species as part of the ForstValues project testify to that.

It hums and buzzes like crazy – which is not that surprising given the fact that the ForestValues team is surrounded by 20 bee colonies whose ever-industrious inhabitants are busy whirring and whizzing around their hives, situated in the middle of the rainforest. Thanks to the ForestValues project, apiarist Don Antonio gets support and important know-how from an expert apiarist, Don Maco, whose enthusiasm



Left: In the beginning, the seedlings are small. Right: ... and this is what they look like a couple years later.



Supported by:



The project is supported by the International Climate Initiative (IKI) of the German Federal Ministry for the Environment, Nature Conservation and Nuclear Safety (BMU). The contents of this publication do not necessarily reflect the position of the Ministry.

Based on a decision of the German Bundestag



All three project areas – the Sierra del Lacandón national park, the Sierra de las Minas biosphere reserve and the Bocas del Polochic wildlife reserve – are incredibly biodiverse.

OroVerde and its partners are busy implementing the ForestValues project in three different regions.

Sierra del Lacandón national park

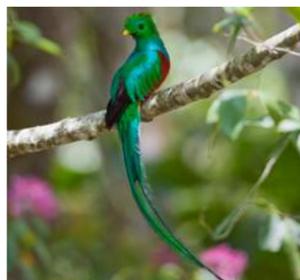


The Sierra del Lacandón is home to jaguars as well as a lot of other animals. Around 270 species of birds have been counted here so far.

This national park in Northern Guatemala was founded more than 25 years ago. It consists of lowland and mountain rainforests, wetlands and grasslands. The rainforests within the core zone are only accessible by boat, navigating the Usumacinta River. The core zone is home to jaguars, among other animal species, yet the jaguar population is declining. A couple of years ago, camera trap recordings lead to the estimation that only 39 animals remain in this region. According to the International Union for Conservation of Nature (IUCN), the jaguar is an endangered species in the whole of Northern Guatemala. There is reason for hope, though. One of the project's farmers reported a jaguar sighting in the reforestation area he oversees which is situated south of the core zone.

Apart from jaguars, the Sierra del Lacandón national park is home to a lot of other fascinating animals, such as howler and spider monkeys, ocelots, tapirs and king vultures – an exciting diversity of wildlife which is, apparently, full of surprises: The last time we visited, for example, a group of macaws suddenly made a raucous appearance while our team was right in the middle of an interview ... The birds basically ruined the recording!

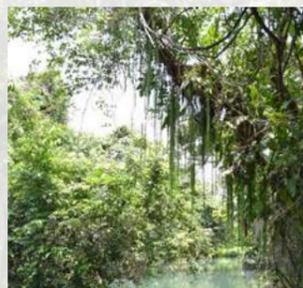
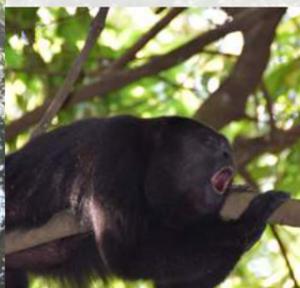
Sierra de las Minas biosphere reserve



In the cloud forests at an altitude of 900 up to 3,000 m, you might catch a glimpse of the colourful quetzal, Guatemala's national bird.

The UNESCO declared the mountain range Sierra de las Minas a biosphere reserve. It encompasses, among other habitats, biodiverse cloud forests and is home to around 885 different species of birds, mammals and reptiles. Here, sightings of quetzals, Guatemala's national bird, are possible – predominantly in the pristine core zone of the area. Already the Maya people worshipped the 'birds of the gods'. The males in particular are true eye-catchers, their scarlet red breasts and up to 1-metre long tails being the most characteristic features. Quetzals tend to nest in old woods where they preferably choose rotten, upright tree trunks of the kind commonly found in untouched tropical cloud forests – Sierra de las Minas is still full of these.

Bocas del Polochic wildlife reserve



The Bocas del Polochic is a cornucopia of diverse animal species, like howler monkeys and loads of different birds.

The wetlands of Bocas del Polochic belong to the RAMSAR wetlands of international importance especially worth protecting. Notably water and wading birds find shelter in this region; they can be spotted easily during a boat trip through the area. Here, the Polochic River flows into Lake Izabal, where manatees roam. The trees along its shores are filled with families of howler monkeys who start howling around 5 am. The sound can reach 90, sometimes even 100 decibels – comparable to the noise of a power saw! – and is still audible many kilometres away. The region around Bocas del Polochic is also an important area for migrating birds. When taking a boat tour, you will see a lot of different bird species along the shores.



Currently, more than 30 communities are involved in activities like beekeeping and honey production, the collection of Maya nuts (the fruit of the breadnut tree) and the improvement of agroforestry systems. These are the biggest successes:

Cocoa

In 2017/2018, the cacao harvested by small-scale farmers from 11 communities within the Sierra de las Minas who already formed community committees was put on the market for the first time. 6,800 kg of fresh cocoa beans were sold which generated a total revenue exceeding 45,000 Quetzales (6,000 US\$). Two cocoa processing s were built to increase the added value of the cocoa beans and create more jobs in the production areas. Both centres have a fermentation and drying plant. The centres for further processing are situated in the communities of Santa Rosa Balandra and Jolomijix I; both lie on the edge of the Bocas del Polochic and Sierra de las Minas reserves. The two centres are equipped with measuring instruments which are used to check the cocoa's quality. The aim is to optimise the level of fermentation, the temperature and moisture content. All in all, there are 250 cocoa producers. Some of them already have their own cropland, others are building new biodiverse agroforestry systems as part of the ForestValues project.



The farmers proudly present their biodiverse agroforestry systems where cocoa plants thrive.

Breadnut trees (Maya nuts)

The project supports the collection and processing of the fruit of the breadnut, an indigenous tree, which exclusively grows in lowland rainforests in parts of Central America, South America, and the Caribbean. Once ground, the breadnut flour is the perfect basis for a lot of gluten-free and high-protein foods like cake, cookies, bread or drinks. Harvesting Maya nuts means picking up the seeds which have fallen off the breadnut trees. The next step is processing them.

One element of the professional support for Maya nut collectors and local harvesting committees is the identification of suitable harvesting methods. Economic and ecological surveys providing information on the admissible harvest yield are part of it, too. The project team compiled an overview of the value-added chain for the economic surveys, as well as a marketing plan to support the committees. One aspect of the ecological survey was the assessment of the environmental compatibility. The outcome was positive, and the Department of the Environment gave its consent. The national nature reserve authority CONAP agreed to the sustainable use of the forest by the communities, including the necessary transport permits, and a management plan for three years. With this permission, the committees planned the marketing of 2,400 kg of fresh breadnut seeds for the current year. On top of that, two drying plants were built which facilitate the sustainable use of Maya nuts from 742 hectares of forest. Finally, the ForestValues team and other like-minded organisations in the Petén region are jointly working on a monitoring survey on the productivity of the breadnut trees in the assigned forests.

Forest restoration

The ForestValues project encompasses the implementation of various reforestation measures. One vital action is the restoration of biodiverse agroforestry systems with cocoa trees. Convincing small-scale farmers to dedicate part of their small crop areas to the cultivation of cocoa was not easy, but in the end, the farmers were highly motivated. Now, cocoa is being cultivated on 176 hectares of land.



Reforestation in Bocas del Polochic
Left: In 2016, the trees were still small.
Right: By mid-2017, they had already grown quite a bit.

The existing agroforestry systems in the three different project areas are being tended to and maintained and new biodiverse systems emerge from soils which formerly served as agricultural land exclusively. In late 2017, 133 hectares of new biodiverse agroforestry systems were added. The recultivation efforts also include the planting of native timber trees like mahogany, which has a high economic and ecological value.

Honey production in full swing

The communities which are part of the ForestValues project benefit greatly from apiculture because it generates an alternative source of income for families and, thus, contributes to the fight against poverty. Another positive effect is that beekeeping boosts the pollination of food crops. There is still more: Promoting apiculture as a sustainable source of income means less exploitation pressure on forests. Thus, honey contributes to the protection of forests and their biodiversity.

Thanks to two years of professional coaching in the areas of honey production, harvesting and marketing, the small-scale farmers produced more than 13 tons of honey which generated a total revenue of over 350,000 Quetzales (around 46,000 US\$). This great success would not have been possible without the hard work and dedication of more than 300 apiarists who are tending to 1,867 beehives in 35 communities within the ForestValues project.



Left: Bee hive stands in the forest.



Right: During a workshop, an expert explains how to do it.

Every community which takes part in the project has founded a committee. These committees support the apiarists during the harvest and coordinate the marketing of the product afterwards. One good example is the community of San Francisco I which harvested twice in 2017. The community's committee was already quite accomplished in marketing procedures and mainly sells honey on the local market. The regional selling price exceeds the export price! Another aspect worth highlighting is that buyers who purchase odd lots are interested in supporting the value-added chain and pay better prices than wholesalers.

Since the quality of the honey harvest is not only to be maintained, but to be improved, the ForestValues project provided the communities with equipment, like mobile honey extractor rooms as well as containers made from stainless steel to guarantee for the purity of the honey.

One of the reasons why the honey production has become such a success story is the participation of all family members. In fact, it is the young adults from the communities who could be described as the 'engine' of the project. According to the Office for National Statistics, young adults belong to the economically most active stratum of the population. Nevertheless, people up to 70 years old also take part in the project and – another important aspect – women engage in beekeeping, too.

From disciple to expert apiarist

The learning process started with the establishment of beekeeping schools as part of an earlier project by the name of APIS. In line with this project, the apiarists started their own bee hive stands, sometimes with two hives already, which they split later. Earlier studies indicated that a sustainable honey production is possible as soon as you have 25 hives per bee stand.

What do the community members learn in beekeeping schools? Those who want to understand every aspect of beekeeping will find out more about the behaviour of the insects and their relevance for the ecosystem. Other topics dealt with during the apiarist training are how to set up a bee hive stand, where to put it, how to look after the queen bee and feed the insects, how to clean and split the hives, how to harvest honey and process the raw product, including information on safety measures and food security as well as the marketing with a special focus on the value chain. This know-how is important because it ensures that in the future, the apiarists-to-be will harvest sustainably produced honey which complements a balanced diet and generates additional revenues that benefit the families of small-scale farmers.



Immediately after harvesting the honey, its water content is determined with a special measuring device.

To promote the development of every single apiarist, it is vital they band together. As part of a group, it is easier for them to improve the marketing strategies and, thus, generate more income. For this reason, the ForestValues team encourages the farmers to build committees and offers further training, always keeping in mind the principles of gender equity and using participative processes. The well-being of the participating families is always at the centre of all efforts.

Beekeeping as an alternative



In this chapter, we will introduce the communities and apiarists who breed bees and produce honey applying the Best Practice Methods (Buenas Prácticas de Manejo Apícolas – BPA – and Buenas Prácticas de Manufactura – BPM – in Spanish).

| Schutzgebiet | Anzahl an Gemeinden | Imker | Bienenstöcke |
|---------------------|-----------------------------|-------|--------------|
| Sierra de las Minas | 18 | 173 | 928 |
| Bocas del Polochic | 9 | 91 | 398 |
| Sierra del Lacandón | 3 Kooperativen und 4 Dörfer | 72 | 469 |

Apiculture has a great potential when it comes to the restoration of degraded land within areas pre-selected by the beekeepers. In a lot of cases, they choose fallow land which used to be cultivated every year.

These areas have an added value since their owners have more reason to protect the resources at hand, as is the case with natural forests where bee colonies find food plants, too. They pay special attention to them which helps re-establishing the balance of the ecosystems. Currently, the project team is launching a process by which areas chosen for this activity are registered in hectares



The apiarists always learn something new from the experts, for example, how they can successfully increase their bee populations.

The honey bee put to the test

To promote beekeeping economically based on scientific facts without disturbing the ecological balance, the team conducted surveys. One of them called 'The impact of keeping and breeding Western honey bees (*Apis mellifera*) on biodiversity' was performed in all three ForestValues reserves.

The findings are promising. The reports suggest that the three surveyed nature reserves are home to up to 20 or more pollinating insects apart from *Apis mellifera*, and they all interact with each other in a certain way, depending on their species and ecological niche. This leads to the conclusion that the competitive system is 'normal' (as in natural) and no indigenous species have been displaced, which manifests itself in the presence of a high number of species

on the same plants. Thus, the survey proves that beekeeping does not have a strong impact on the ecosystem. For this reason, the apiary is subject to less legal restrictions, meaning that less money must be paid for licences.



Good equipment is an integral part of the honey production.

Another result of this survey are instructions for the specialised staff on site on how to continue the surveillance for the biological monitoring, the aim being that natural ecosystems within the surveyed areas remain unaltered.

Every beekeeper has to be registered in the General Apiarists' List (REGAPI) to keep track of who is keeping bees and where.

By the end of 2018, all necessary permits should be on hand to boost the marketing of the honey.



Jochen Flasbarth, Secretary of State for the Environment, tried his hand at a honey extractor.

Creating an international network – learning from experience

Bonn Challenge Meeting in Guatemala

The Bonn Challenge is an international initiative to restore 150 million hectares of degraded and deforested land by 2020. This year, Guatemala hosted the Ministerial Meeting with senior government officials from 19 different Latin American countries, which have already pledged support for this global movement. On 8 and 9 May, these countries presented their measures to achieve their own goals at national level. The restoration of multifunctional forest landscapes is primarily intended to contribute to achieving international climate protection goals. Representatives of OroVerde, Heifer and Defensores de la Naturaleza were among the invited guests at the Ministerial Meeting in Guatemala as advisory partners for the implementation of the initiative in Latin America and the Caribbean.



The attendance at the Bonn Challenge meeting in Latin America was high. The Secretary of State for the Environment, Jochen Flasbarth, was among the participants.

As part of the Bonn Challenge, Guatemala has committed to restore about 1.2 million hectares of forest by 2020. The National Strategy for the Restoration of Forest Landscapes in Guatemala underscores the commitment of the state to adopt and implement this global challenge at local and regional level. The networking with the international initiative offers manifold possibilities for institutional, technical and financial support in the accomplishment of this task.

Through the reforestation of forests and the establishment of near-natural agroforestry systems, the project „Forest-Values - Innovative partnerships for forest restoration“ also makes a concrete contribution to the implementation of the Bonn Challenge in Guatemala.

A chocolate expert visits the project area

Our last newsletter (No. 2) included a report about the well-known chocolate expert Georg Bernardini who made a 'trial chocolate' using cocoa from our project area. He rated it as 'very good'. In February 2018, he travelled to Guatemala to offer his enormous expertise regarding the set-up of the cocoa value chain, but also the production processes and marketing of high-quality chocolate made from fine cocoa in Germany. Bernardini was deeply impressed by the diversity of cocoa cultivation systems and came up with the term 'jungle cocoa'.



Chocolate expert Georg Bernardini was impressed by the biodiversity within the ForestValues areas.

Learning from others: A Best Practice Study on fair-trade organic cocoa

As part of the ForestValues project, OroVerde carries out a Best Practice Study on sustainable and fair-trade organic cocoa. The project team members realised pretty much straight away that they could benefit hugely from other's years of experience and, thus, contacted the Rapunzel Naturkost GmbH, which is a successful pioneer in the trade in organic food in Germany. Rapunzel has maintained a fair-trade partnership with the cocoa farmer-cooperative El Ceibo, Bolivia, for 30 years. OroVerde's questions are as follows: What works especially well? What are the challenges and were they manageable? The ForestValues team in Germany and Guatemala is eager to learn from Rapunzel's experience. The aim is to identify criteria for successful cooperations between the private sector and local smallholder-cooperatives within the scope of a socially acceptable restoration of near-natural forests.



Our goal is that most parts of the value-added chain stay on site, e.g. the drying and the fermentation of the beans.

Already in 1987 did Rapunzel launch the first organic chocolate bar, made from cocoa of the small-scale farmers' cooperative El Ceibo. Rapunzel continues till today to source fair-trade organic cocoa from El Ceibo, using it to produce chocolate bars and cocoa butter. Meanwhile, the cooperative has 1,200 member families and produces its own chocolate bars, too, which are sold on the local and international markets – which proves why it makes sense to look to the long-standing partnership between El Ceibo and Rapunzel for inspiration and input for our own projects. Once again, we would like to thank Rapunzel and El Ceibo for their very friendly, open and constructive support!

Financing models under the microscope



One of the main goals of the project is to come up with new, innovative financing instruments for the near-natural and socially sound restoration of forests. To become less dependent on donations and public subsidies, local value chains are being set up and business models in cooperation with the private sector are being realised. Together with businesses, private investors and other stakeholders, the ForestValues team is busy developing suitable financing models and marketing strategies. We are striving at a triple win situation for the environment, society and businesses/investors alike. Based on the results of the first ForestValues conference, we had a closer look at some financing models, two of which we want to highlight in more detail: cooperatives and crowd funding.



The cooperation with the private sector has many faces. Depending on the partner, completely different models are applicable.

Cooperatives

Big fair-trade cooperatives like dwp eG, GEPA and El Puente as well as multi-stakeholder cooperatives like the PuroVerde eG prove that, in general, the Genossenschaft (cooperative) – a German legal form for a company – can be a suitable and promising form of organisation and investment vehicle. The aim is to bring all the parties involved closer together, from producer to consumer, and enable investments into the whole value-added chain. Funds are in dire need to get the cocoa processing in Guatemala up and running, for example. The money for harvest pre-financing and quality improvements could be sourced from the cooperative's capital. On top of that, sales and distribution or the product marketing in Germany could be organised by way of a cooperative to ensure that the prices are appropriate to guarantee a good income for the small-scale farmers and that the rainforest reserves and their biodiversity are conserved. The next step is the development of an actual business plan using cocoa as an example to show if such a model can be put into practice and if it is profitable.

Crowdfunding

There are four different types of crowd funding: It can be donation-based ('crowd donating'), a product can be pre-financed ('crowd sponsoring'), the crowd lends money and is paid back later including interest ('crowd lending') or the crowd invests money and gets a share of the turnover if the project is successful ('crowd investing'). No matter which of the four types, the most essential aspect of crowd funding is to put a lot of time and effort into advertising. On crowd funding platforms, a short teaser video is de rigueur if you want to present your project in an appealing way. Printings and advertisements (e.g. on Facebook) cause additional costs. These so-called soft costs make up around 12 % of the total costs.

Two special strengths of crowd funding as a financing model for value-added chains are the high marketing value and the cross-selling effects.

Non the less, the potential risks should not to be underestimated. There will be initial costs, developments are rather unpredictable and maintaining the profile on the crowd funding platform can be time-consuming. Despite all that, there are a lot of success stories!



Success stories are needed to promote crowd funding – and the farmers can certainly tell a lot of them!

One of them is about a German start-up called fairafric which acquired investors on the British platform 'Seedrs'. With their financial support, fairafric produces chocolate in Ghana 'from bean to bar'. It was possible to invest amounts of money as small as 10 €. Meanwhile, fairafric produces around 300 chocolate bars per day and exports them into 52 countries – quite a success story, giving an idea of what can happen if all goes well!



Networking meeting in April

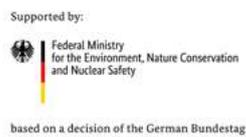
The second meeting 'ForestValues' dealt with topics like tropical forests, sustainable cocoa cultivation and economy and took place at the OroVerde headquarters on April 17th, 2018. It brought together all sorts of stakeholders. This time, we focused on the question: is it possible to protect nature and promote the local development while at the same time earn money with fair-trade organic products?



Julia Krojer from Oikocredit emphasized in her presentation the topic of sustainable investments generating a moderate return through loans to small cocoa growers in Côte d'Ivoire. Julia Schmidt and Florian Hammerstein of the ORIGINAL FOOD GmbH demonstrated the challenges of ecological, social and cooperative economies on the way to the finished product in the market using the example of Kaffa wild coffee from Ethiopia. In the ensuing discussion, it quickly became clear that many aspects play a role in establishing local value chains and successful cooperation between smallholder cooperatives and the private sector, with functioning organizational structures being one of the fundamental success factors on the ground. Further success factors could be summarized under the headings financing, risk management, marketing and certification. The presented practical examples and subsequent discussion with all participants have shown how, despite all the challenges, it is possible to answer the question at the beginning with „yes“.

Project financing

This project is part of the International Climate Initiative (IKI). The German Federal Ministry for the Environment, Nature Conservation and Nuclear Safety (BMU) supports this initiative based on a decision of the German Bundestag.



Further information about the project:
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