Restoring urban watersheds: An update from Los Cipreses

Isabel Macdonald
IAFN Secretariat

The opportunity to participate in the rehabilitation of a degraded area bordering one of the main and most contaminated rivers crossing the capital of Costa Rica has been a truly rewarding experience. IAFN has been acting in collaboration with members of the urban community of Los Cipreses, a neighbourhood some 15 minutes away from the IAFN Secretariat office.

Through contacts in the Watersheds and Biological Corridors Program of the Municipality of San José, IAFN joined this effort in April 2014. The program aims to connect, preserve, and restore sensitive riparian habitat in the San José area of Costa Rica. Highlights of our first year with this project include the planting of 300 trees, comprising 14 different species, and the planting of a community garden in a fiesta that brought the community together.

We are grateful for the leadership of the Cipreses Community Association, our local counterpart. Members of the Association, who long for the recovery of the original forest, originally lived in homes built on the banks of the Río Torres when they carried out a land takeover 20 years ago. The residents were relocated later on to higher grounds to ensure their safety from flooding. However, a legacy of urban deforestation has meant that the banks of the river that their homes border on have been bare of trees and prone to erosion.

A second planting of 250-300 trees has been programmed for the 2015 rainy season. In anticipation of this, four of IAFN’s Costa Rican analog forestry trainers recently visited the site.
to share design ideas for this year’s planting. The trees that have been donated by the Ministry of the Environment include cedro amargo (*Cedrela odorata*), guanabana (*Annona muricata*), ojoche (*Brocimun allicastrum*), roble sabana (*Tabebuia rosea*), cortez amarrillo (*Tabebuia ochraceae*), guaba (*Inga edulis*), lorito (*Cojoba arborea*), sotacaballo (*Zygia longifolia*), and mahogany (*Swietenia macrophylla*).

The analog forestry trainers who inspected the site made additional suggestions, including heliconias, ceibas, guanacastes, cenizaros, cecropias and guarumos, among others. These species grow quickly and provide shade that will help slower-growing trees to survive the elements and help to outcompete the invasive elephant grass that currently dominates the slopes. The local association will also provide input on fruit trees to be included in a food forest.

The Río Torres is currently at the center of an effort to legally formalize the first Costa Rican urban biological corridor: actions in the community of Los Cipreses are part of a bigger project to clean up the city’s rivers, restore biodiversity, link biological corridors, protect the remaining wildlife and raise community awareness on the importance of caring for the land and water.

On April 20th, 2015 the community learned that its efforts had been recognized, with the Ministry of the Environment awarding them the “Blue Flag Ecological Award”. The site has also been chosen as one of the points along a walking tour by the Association of Friends of the River Torres.

In the following days, the Municipality will present a proposal for using part of the Cipreses Association's meeting hall as an eco-center for recycling. This may bring in much needed funds for important community projects such as drainage improvements and road repair. In addition to providing technical and practical assistance, we are requesting donations of books in Spanish for the creation of a children’s library. We are also fundraising towards supporting the maintenance of the site, which Gerardo carries out with great dedication, though currently on a volunteer basis.

If you wish to support the site, please email isabel@analogforestry.org or consider sending a donation through our Paypal account.
Each one teach one: a new cohort of analog forestry trainers

Kitty Garden
IAFN Secretariat

One of the International Analog Forestry Network’s key programs is capacity building activities relating to the practice of analog forestry. For this to expand internationally, it is important to have a solid network of trainers around the world who share their expertise and work with local communities in their regions.

Alongside our network partners, IAFN has been actively accrediting and supporting trainers who can train farmers, NGO staff, policy-makers and other forestry or agroecology practitioners in the analog forestry methodology, providing them with the tools to apply and replicate AF in their work and communities.

One key priority that was identified in 2013 was a series of Training of Trainer events to be held in various countries in order to strengthen this base of expertise. Working with our partners around the world, we supported events in three locations: Sri Lanka, with the Belipola Training Centre, Costa Rica, with the Analog Forest Training Centre, and Ecuador, with Reserva Pambiliño.

The three training of trainers events were held over the course of late 2014 and early 2015, with the Sri Lanka event taking place from August 18th to 23rd with 11 new trainers certified from Sri Lanka and Cameroon. The Costa Rican training of trainers took place on November 17th-21st, and brought together participants from the Mesoamerican and Caribbean regions,
with 9 new trainers certified. Finally, the Ecuadorian event took place from March 15th-19th and resulted in 12 new trainers, primarily from the South American region.

These training of trainer events focused primarily on the ability of candidates to develop, analyze, and evaluate analog forestry designs, as well as general teaching skills and analog forestry theory. All of the sites that held training of trainers were analog forestry sites in their own right, from Belipola Training Centre, the first ever demonstration site to apply the analog forestry concept, the Analog Forest Training Centre in Costa Rica, the preeminent site in Latin America, and the relatively newer Pambiliño sites, which you can read about in this bulletin article. Participants took full advantage of their surroundings with field activities that tested their knowledge and gave them ideas about how to run their own trainings in the field.

The ultimate goal of these events is to spread analog forestry knowledge and practice through a kind of multiplier effect: by bringing these highly qualified and motivated people together, information was shared not only in the classroom, but throughout the event among participants. By building a community of practice and encouraging connections between this new network and the communities in which they work, we hope to take analog forestry practice to the next level.

Please visit our Trainer’s Network page to learn more about our group of analog forestry trainers around the world. For more information, please contact the IAFN Secretariat at info@analogforestry.org.

Greetings from the Chair: IAFN in 2015
Grover Stock
Chairperson, IAFN

Welcome to our first newsletter of 2015! The International Analog Forestry Network is an organization that is helping to heal the life support systems of the planet and we’ve been busy expanding our reach and our organization to meet the ever-increasing demands for regenerative approaches to forest restoration and food production.

The last year’s work has focused on strengthening our network by carrying on a series of three “training of trainers” workshops: one in Sri Lanka at the Belipola Centre, another in Costa Rica at Finca Fila Marucha, our Central American training centre, and a third in Ecuador with our South American partners. These trainings produced 37 newly certified trainers who will now carry on the work of AF worldwide. Welcome to all of our newly certified trainers!

It will be exciting to see how many new practitioners they can bring into the fold and how many new ecosystems and watersheds these new AF trainers and their students can begin to restore!
Our FGP standards were finally approved by IFOAM in 2014 and we are currently working on improving the standards, creating a farmer to farmer certification standard, and inviting international certification agencies to inspect for the Forest Garden Products.

We have continued to grow our alliance with the Rich Forest program in order to create collaborative efforts with the business community that will help support our training and other outreach strategies.

We would also like to announce the addition of two new members of our Board of Directors. Trudy Jurianz is co-director of the Belipola Training Centre in Sri Lanka, where, as a certified analog forestry trainer, she organizes trainings and grows food for the local market in a forest garden setting at our oldest analog forestry demonstration site.

Anthony Dufty is the sustainable management coordinator for Port Philip and Westernport CMA Victoria, Australia, where he works to restore degraded landscapes using the AF method. We are very lucky to have Trudy and Anthony on the Board team and look forward to many productive collaborations with them!

Thanks to all of you who are restoring mangroves or making corridors for the monkeys and birds or increasing the economic productivity of the land. Thanks to all of you who are spreading the positive, solution-based principles of analog forestry to an ever-growing audience.

May your plantings thrive and your harvests be abundant, may the places that you are beckoned to touch reflect the beauty of the forest organism that serves as our model in analog forestry design!

Tea farming: Major potential for analog forestry

Wirsiy Eric Fondzenyuy
CENDEP

Analog forestry is a methodology that is highly applicable for smallholder tea farmers in Cameroon. CENDEP, an IAFN partner in Cameroon recently held a series of workshops on analog forestry and related topics with a group of farmers in Ndu, in the North West Region of
Cameroon, where smallholder tea producers have come together to form a cooperative society.

The overall goal of the workshops was to introduce these farmers to the analog forestry method and provide ongoing support over a period of several months to assist them in adopting analog forestry practices in their tea farms. This was primarily done through a series of workshops between November 2014 and February 2015. **Not only did these workshops serve as an important platform for creating awareness of these methods, they also helped to bring producers together** and strengthen the cooperative bond and knowledge sharing among the group.

Farmers and practitioners measuring contour lines for analog forestry designs. Photo: CENDEP

The first workshop centred on an introduction to analog forestry and the tea processing cycle. In addition to a technical discussion of analog forestry and the idea of mimicking forest structure within a production system, the participants also took practical steps such as discussing species that could be used on tea farms in their regions. Participants also discussed the cycle of activities on their farms throughout the year, and broke off into groups to discuss how to coordinate local farm trainings and outreach.

The second and third workshops had a markedly practical approach, focusing on nursery management, seed saving, and compost practices on the tea farms. While participants were already quite familiar with nursery management, they reviewed best practices for collecting seeds from various species at different times of year. Another major activity was the use of A-frames to measure contour lines. Planting trees along contour lines is important for reducing erosion and improving soil fertility.
Another theme that was discussed throughout the three workshops was how to market and process tea, with a special focus on how to reach value-added markets through organic production. The role of the Rich Forests group was discussed as a way to make connections between producer groups and potential market partners. Forest Garden Product certification was another solution that was identified for reaching value-added markets for tea. Participatory Guarantee Systems, which is a way for producers to obtain the benefits of third-party certification without the sometimes prohibitive costs of certification and outside inspections was discussed as well.

These workshops also contributed to the cooperation between local tea farmers, which has benefits for both improving farming practices as well for taking action together to benefit from local initiatives. One such activity is support for tea farmers in the region for small-scale tea farmers from the European Union. The EU program has already supported the creation of a tea processing unit. The increased cooperation between tea farmers of the region will allow them to take full advantage of this new processing unit for their marketing activities, while they also implement analog forestry activities on their farms.

Trees of Sri Lanka
Ngoh Michael Lyonga
Tropical Plant Exploration Group

August 2014 was my second international trip out of my country, Cameroon, and my first outside of the African continent. I have no regrets at all that I took part in this expedition to the great country of Sri Lanka. During this trip we had seed exchange activity with our international friends at Belipola Centre. I came back with so much enthusiasm, determined to get more involved in conservation by playing a key role. My role involves designing TroPEG’s first demonstration site at Diongo Village, training others in conservation techniques, and creating awareness of the reality of climate change.

Learning from the experience of Dr. Ranil Senanayake, a senior researcher and frontliner in the action of conservation, we in TroPEG think that a little way we can impact our community is creating analog forestry demonstration plots. Analog forestry is a silviculture technique that is holistic in its approach as it considers trees within a forest ecosystem to be one component (1%) and that for forest to have full capacity we need to consider other life forms (99%). Also, planting trees is just the first step in restoring a degraded forest and for it to have its full beauty and capacity we have to allow nature to self-

A child planting one of the new trees in the Diongo village demonstration site. Photo: TroPEG
complicate - by this we mean introducing other life forms within the community to express the complexity of real pristine forest vegetation. It is in this backdrop that we thought it wise to start planting our first international trees in our demonstration site in Diongo village, a few kilometres from Kumba, Cameroon.

Going back in time some five decades, our parents used to plant trees, which was a kind of continuity for the long tree planting tradition established by early humans, who domesticated useful plants around the settlement area. This always permitted them to harvest from trees they planted and in addition have useful trees beside settlements.

Today the case seems different as young people in my generation are gradually losing this tree planting ability. This could partially be attributed to their mindset, which is influenced by the reality of today. People think going urban means separating themselves from trees and forests. Some have completely lost patience with long term achievements, such as waiting for trees to grow: because of the fast pace of life, people think planting a tree whose fruits you have to wait five years to enjoy is a waste of time.

We should remember that most of the fruit trees we enjoy today around us were planted by our great-grandparents. If we do not teach these digital age kids to plant, it’s going to be worse in the future, hence let us start earth greening with kids alongside. Our tree planting in March 2015 included excited kids who wanted to be part of the planting exercise in our demonstration site.

Pambiliño Reserve: A story of balance
Oliver Torres
Reserva Pambiliño

Last year, IAFN launched a new instalment of its demonstration sites program. In our 2014 call for proposals, we invited applications from around the world for new sites where people would restore degraded ecosystems using analog forestry. We received many excellent proposals and have been privileged to support some truly remarkable work around the world. The following is two articles are brief updates from one of our partners in Ecuador and another in Costa Rica:

A place where people come together to balance the ecological functions of the forest, the production of food for self-sustenance, education, and local community initiatives. This place is Reserva Pambiliño, located in the Chocó bioregion of Ecuador at the foot of a mountain 550 metres above sea level (masl). Pambiliño is a project that principally focuses on conservation and ecological restoration.

Reserva Pambiliño works closely with the Mashpi community. One initiative we’re working on is strengthening the Community Tourism Association of the Río Mashpi. Activities have included the construction of camping areas and training events with community members on topics related to tourism. We’ve also held various workshops on topics relating to cacao
cultivation and sustainable activities that expose community members to alternative economic possibilities. Pambilino also maintains a close relationship with the communities of the area and is an active member of community assemblies and the Committee for the Sustainable Use and Conservation Areas.

Working in cooperation with governmental and non-governmental organizations, and in a permanent collaboration with the Fundación Imaymana, **Pambilino has been a key player in the designation of the Sustainable Use and Conservation Area** (Áreas de Conservación y Uso Sustentable, ACUS), which is 33,000 hectares in size and was recognized by the Municipality of Quito in July 2010. The ACUS territory covers a range of altitudes from 550-1800 masl, and a limitless diversity of ecoregions that vary between cloud forest and lowland rainforest. Pambilino has also promoted the protection of four important smaller watersheds in the area surrounding the Mashpi, Guaycuyacu, Sahuangal, and Pachijal Rivers, and currently carries out biological monitoring activities within the ACUS.

**In Pambilino, we’ve applied the analog forestry methodology to restore riparian forests and the degraded soils** of former pastureland have been transformed into rich soils that support the production of 140 species of trees and edible plants. These species are distributed among demonstration sites which exemplify the potential of human coexistence with nature in which food production, on-site education, and the ecological functions of the native ecosystem are balanced.

The restored parcels have been designed with a dominant species, such as cacao, coffee, or cardamom, in combination with other native and exotic species. The native species include large trees such as the sande tree (Brosimium utile) or the copal tree (Dacryodes cupularis). The seeds of these trees of these trees were collected in the native forest, while seeds of introduced species were exchanged with the Río Guaycuyacu Reserve and other local inhabitants. These introduced species include varieties of zalak, or species of Eugenia, Garcinia, or Musa, among others.
Currently, there are 3 restored parcels, which add up to a total of 4 hectares. The oldest restored area, 6 years old, was restored thanks to a small water source which supplies water for human consumption as well. Another parcel of intermediate age is dominated by fine aromatic cacao, and was planted two and a half years ago, which currently produces a large variety of food products, even as the cacao trees are just beginning to give fruit. Finally, a third parcel, dominated by cardamom production, is currently being established. The main challenge in this parcel is the low fertility of the soil, as the land consists of a pasture with slopes of between 60% and 70% inclination. To address this, we’ve designed terraces with tree species that act as green fertilizer that are established by means of planting stakes along contour lines, which will function as living barriers to collect organic matter and avoid excessive nutrient loss by runoff. Each plant also has its own localized terrace for the same purpose.

These three parcels make up a living and learning space for dozens of students, local inhabitants, and visitors who come to Pambiliño. Analog forestry is a tool we use in Pambiliño that is essential for transferring knowledge, since it helps us to conceptualize natural and dynamic processes. Moreover, analog forestry has allowed us to record the ongoing process of forest restoration that we’re experiencing. In this way, analog forestry has become an ideal tool for us in Pambiliño for transferring our experimental knowledge in ecological restoration, using concepts that facilitate learning about the architecture and functions of the forest.

Family Food Security, Biodiversity, and Sustainability

Geovanny Quirós

UNAFOR Costa Rica

The current model of production for small producers, which is oriented towards the demands of intermediaries by means of monocultures of tobacco, coffee, or pineapple, makes it impossible to reconcile the three goals of agricultural production, biodiversity, and sustainability. Indeed, government policies have brought about the disappearance of the campesino sector in favour of those same intermediaries and transnational food producers.

New plantings in Finca La Célula. Photo: Geovanny Quirós
In this context, any small producer who wants to resist this disappearance must innovate in order to utilize their land to its full capacity. This means introducing a large variety of species and allowing them to grow in order to produce food for humans, all the while guaranteeing the sustainability of the agroecosystem. **This is where analog forestry comes in: it's a highly practical and functional technique for bringing together the available resources.** The end goal is to ensure the coexistence of a family's food security, biodiversity, and environmental restoration. This methodology allows for uninterrupted production without having to invest in fertilizers and pesticides that are expensive and bad for the planet.

In simple terms, we plant everything we eat, and leave and take care of species that are useful for local fauna. We respect and take good care of pollinators and use natural pest control. We also don't use pesticides or fertilizers that break down the ecosystem's functioning. If we can be self-sufficient, we can do it in harmony with the natural environment.

**Finca La Célula, located in Cerbatana de Puriscal, Costa Rica, has been implementing a model of analog forestry** whose main objective is food security for the family living there. That explains the emphasis on agroforestry species such as tubus (Montanoa guatemalensis) or moringa (Moringa oleifera). These are mixed with agricultural crops like banana, plantain, sugarcane, cassava, Itabo and beans, as well as citrus and fruit trees. In addition, we protect species that are part of the area's natural regeneration, such as guarumo (Cecropia spp.), targuás (Croton spp.), and pico de pájaro (Hamelia patens). As we don't use pesticides, the pollinating wasps have no problem getting established on our farm. Also, we've been planting species that produce abundant flowers and are non-toxic for bees.

*IAFN thanks all authors for their contributions. Photos are by the author of the respective articles, except where noted. To contribute to a future IAFN bulletin, please contact Adam Kabir Dickinson, Knowledge Management Officer at [kabir@analogforestry.org](mailto:kabir@analogforestry.org)*